

2021 Annual Groundwater Monitoring and Corrective Action Report

M.L. Kapp Generating Station
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Prepared for:



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25221077.00 | July 29, 2022

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OVERVIEW OF CURRENT STATUS

M.L. Kapp Generating Station 2021 Annual Report

In accordance with §257.90(e)(6), this section at the beginning of the annual report provides an overview of the current status of groundwater monitoring and corrective action programs for the coal combustion residual (CCR) unit. The groundwater monitoring system for the capped inactive impoundments at the M.L. Kapp Generating Station (KAP) monitors a capped and closed main ash pond. Supporting information is provided in the text of the annual report.

Category	Rule Requirement	Site Status
Monitoring Status – Start of Year	(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Monitoring Status – End of Year	(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Statistically Significant Increases (SSIs)	<p>(iii) If it was determined that there was an SSI over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e):</p> <p>(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and</p>	<p><u>April 2021</u> Boron: MW-301, MW-302, MW-303, MW-304, MW-304A, MW-305, MW-306</p> <p>Chloride: MW-306</p> <p>Field pH: MW-302</p> <p>Sulfate: MW-301, MW-302, MW-304, MW-304, MW-304A, MW-305, MW-306</p>

Category	Rule Requirement	Site Status
SSIs (Continued)		<u>October 2021</u> Boron: MW-301, MW-302, MW-303, MW-304, MW-305, MW-306 Chloride: MW-306 Field pH: MW-302, MW-303, MW-305 Sulfate: MW-301, MW-302, MW-303, MW-304, MW-305, MW-306 Note: See Table 5 for complete results from 2021. List above includes compliance wells at the waste boundary only.
	(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	January 13, 2020

Category	Rule Requirement	Site Status
Statistically Significant Levels (SSL) Above Groundwater Protection Standard (GPS)	(iv) If it was determined that there was an SSL above the GPS for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g) include all of the following:	
	(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;	<p>Molybdenum: In July 2020, molybdenum was initially determined to be at an SSL above the GPS at monitoring wells MW-301, MW-302, MW-304, and MW-305. In the evaluation of the April 2021 and October 2021 monitoring events (October evaluation completed in 2022), molybdenum was again determined to be at an SSL above the GPS for MW-301, MW-302, MW-304, and MW-305.</p> <p>Lithium: In August 2021, lithium was initially determined to be at an SSL above the GPS at monitoring well MW-306, based on samples collected through April 2021. In the evaluation of the October 2021 monitoring results (completed January 2022), lithium was again determined to be at an SSL above the GPS at MW-306. Note: See Table 5 for complete results from 2021.</p>
	(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;	<p>October 12, 2020</p>
	(C) Provide the date when the public meeting will be held for the assessment of corrective measures for the CCR unit; and	<p>To Be Determined</p>

Category	Rule Requirement	Site Status
	(D) Provide the date when the assessment of corrective measures report was completed for the CCR unit.	March 11, 2021
Selection of Remedy	(v) Whether a remedy was selected pursuant to §257.97 during the current annual reporting period and, if so, the date of remedy selection; and	Selection of remedy in progress
Corrective Action	(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	Remedial activities not yet initiated

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1.0 INTRODUCTION

This 2021 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the “Coal Combustion Residuals (CCR) Final Rule” published by the U.S. Environmental Protection Agency (U.S. EPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities*; Final Rule, dated April 17, 2015 (U.S. EPA, 2015) and subsequent amendments. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.100 and 40 CFR 257.90(e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2020 Annual Groundwater Monitoring and Corrective Action Report for the CCR unit.

This report covers the period of groundwater monitoring from January 1, 2021, through December 31, 2021.

The groundwater monitoring system for the M.L. Kapp Generating Station (KAP) monitors a single CCR unit:

- KAP Main Ash Pond (inactive surface impoundment – closed January 2018)

The system is designed to detect monitored constituents at the waste boundary of the KAP CCR unit as required by 40 CFR 257.91(d). The groundwater monitoring system consists of 1 upgradient, 1 sidegradient, and 11 downgradient monitoring wells (**Table 1, Figure 1, Figure 2, and Figure 3**).

2.0 BACKGROUND

To provide context for the annual report, the following background information is provided in this section of the report, prior to the annual report requirement sections:

- Geologic and hydrogeologic setting
- CCR Rule monitoring system

2.1 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.1.1 Regional Geologic Information

The uppermost geologic formation beneath KAP that meets the definition of the “uppermost aquifer,” as defined under 40 CFR 257.53, is the surficial alluvial aquifer. The alluvial aquifer is composed of glacial drift, sand, silt, and clay. Immediately underlying the surficial alluvial aquifer is the Silurian bedrock aquifer which consists of limestone and dolomite (Wahl et al., 1978). A map of the regional geology in the area is included in **Appendix A**.

The Mississippi River and associated alluvial aquifers are a major source of surface water and shallow groundwater in the area.

Regional information indicates that groundwater flow within the Silurian dolomite and limestone is to the south-southeast. A map of regional flow is included in **Appendix A**.

2.1.2 Site Information

Soils at the site are primarily sand, silt, and clay to a depth of approximately 25 feet and overlie weathered limestone bedrock. During drilling of CCR wells MW-301 through MW-306, MW-308, and MW-309 the unconsolidated materials were identified as consisting primarily of sand, lean clay, and sandy silt. During drilling of CCR background monitoring well MW-307, installed in April 2020, the unconsolidated materials were identified as primarily clayey sand, silty sand, and silty clay. Limestone bedrock was encountered at MW-306 at a depth of 10 feet below ground surface (bgs) and at MW-310, installed in September 2021, at a depth of 20 feet (bgs). During drilling for CCR downgradient monitoring wells MW-311 and MW-311A, installed in December 2021, limestone bedrock was encountered at approximately 8 feet bgs. The boring logs for monitoring wells MW-301 through MW-311A are provided in **Appendix B**.

Shallow groundwater at the site generally flows to the east; however, historically the groundwater flow direction has been variable and the hydraulic gradient at the water table is generally relatively flat. Shallow groundwater flow on the site is influenced by water levels in a ditch to the south of the pond closure area and a small creek to the east, as well as the Mississippi River water level. The groundwater flow patterns for April 2021 and October 2021 are shown on **Figures 4 and 5**, respectively. In April 2021, the groundwater flow direction in the Main Ash Pond closure area was away from the river due to high river levels. In October 2021, the groundwater flow direction was toward the river.

The groundwater monitoring well network summary is provided in **Table 1**. The sampling event summary is provided in **Table 2**, and the groundwater elevation data for the CCR monitoring wells is provided in **Table 3**. Estimated horizontal gradients and flow velocities for flow at the shallow and deep levels within the aquifer are provided in **Table 4a** and horizontal gradient measurement information is provided in **Appendix C**. A vertical gradient summary is provided in **Table 4b**.

2.2 CCR RULE MONITORING SYSTEM

The groundwater monitoring system established in accordance with the CCR Rule consists of one upgradient (background) monitoring well and 11 downgradient monitoring wells. Background monitoring well MW-307 was installed in 2020 after the recognition that analytical results from MW-306, initially installed as a background well, suggested this well may not represent natural background groundwater conditions at this site. A supplemental background monitoring well, MW-310 is screened in shallow bedrock to evaluate possible geochemical differences between the alluvial and bedrock aquifers. Well MW-310 is not used in the statistical evaluation.

The eleven downgradient wells are MW-301, MW-302, MW-303, MW-304, MW-304A, MW-305, MW-306, MW-308, MW-309, MW-311, and MW-311A. Monitoring wells MW-301 through MW-306 were installed in 2018 at the waste boundary. MW-307 was installed in 2020 as an upgradient background well. In 2021, MW-310 was installed as a sidegradient well and the following monitoring wells were installed to evaluate the nature and extent of groundwater impacts: MW-304A, MW-308, MW-309, MW-311, and MW-311A. The CCR Rule wells were installed in the upper portion of the surficial alluvial aquifer and within the limestone bedrock. Well depths range from approximately 14 to 66 feet bgs.

3.0 257.100(e)(5) GROUNDWATER MONITORING AND CORRECTIVE ACTION FOR INACTIVE CCR SURFACE IMPOUNDMENTS

The owner or operator of the inactive CCR surface impoundments must: (i) No later than April 17, 2019, comply with groundwater monitoring requirements set forth in §§257.90(b) and 257.94(b); and (ii) No later than August 1, 2019, prepare the initial groundwater monitoring and corrective action report as set forth in §257.90(e).

This report is submitted to fulfill the report requirement.

4.0 §257.90(e) ANNUAL REPORT REQUIREMENTS

Annual groundwater monitoring and corrective action report. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by §257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

4.1 §257.90(e)(1) SITE MAP

A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

A map showing the site location is provided on **Figure 1**. Maps showing the CCR unit and all background (or upgradient) and downgradient monitoring wells with identification numbers for the groundwater monitoring program are provided as **Figure 2** and **Figure 3**.

4.2 §257.90(e)(2) MONITORING SYSTEM CHANGES

Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

Six new monitoring wells were installed during 2021 to characterize site conditions in accordance with § 257.95(g)(1). New wells included three downgradient shallow wells, two downgradient deep wells, and one supplemental background well that is not included in the statistical evaluation.

Monitoring wells MW-304A (installed February 8, 2021), MW-308 and MW-309 (installed April 26-27, 2021), and MW-311 and MW-311A (installed December 2021) were installed to provide information about the nature and extent of groundwater impacts and the horizontal and vertical groundwater flow directions and rates. The monitoring well logs and well construction forms are in **Appendix B**.

Monitoring well MW-306 was transitioned from a background well to a compliance well in 2021. Additional upgradient monitoring well MW-307 was installed in April 2020 because the analytical results to date for the on-site upgradient well (MW-306) suggested that this well may not represent

natural background groundwater conditions at the site. Water level monitoring since the original monitoring network was installed has shown variable flow directions on site. For example, the April 2020 water table map showed flow to the north, and the October 2020 water table map showed flow to the southeast. In response to the variable flow directions and the groundwater quality results for the originally designated upgradient well MW-306, the monitoring system was modified in 2021 to include MW-307 as an upgradient well and designate MW-306 as a compliance well that may be affected by the CCR unit.

New background upper prediction limits (UPLs) were calculated based on monitoring results from MW-307 after four rounds of background monitoring were completed with the April 2021 semiannual monitoring event. Former background well MW-306 was evaluated as a compliance well beginning with the April 2021 monitoring event.

Supplemental background well MW-310 was installed in September 27, 2021, because the analytical results to date for monitoring well MW-306, which is screened in shallow bedrock, suggested that concentrations at this well may be at least partially attributable to differences in geochemistry between the bedrock aquifer and the overlying unconsolidated aquifer. MW-310 is not located upgradient from the Main Ash Pond closure area, but was installed to investigate background conditions in the bedrock aquifer. MW-310 is located approximately 2 miles northeast of the site at a location that appears to be hydrogeologically similar to the MW-306 location. Data from MW-310 is currently being used for comparison purposes and is not being incorporated into the statistical evaluation.

4.3 §257.90(e)(3) SUMMARY OF SAMPLING EVENTS

In addition to all the monitoring data obtained under §§257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

Seven groundwater sampling events were completed for the KAP CCR unit in 2021.

Two semiannual sampling events were completed in April and October 2021, as required by the assessment monitoring program. Additionally, newly installed monitoring wells were sampled during the following events: February (MW-304A), June (MW-308 and MW-309), July (MW-307), early October (MW-310), and December (MW-311 and MW-311A). The new monitoring wells were sampled to further characterize the nature and extent of groundwater impacts in the ash pond closure area.

Groundwater samples collected in the February, April, June, July, October, and December events were analyzed for both Appendix III and Appendix IV constituents, and additional parameters were collected to support the selection-of-remedy process. A summary of the 2021 groundwater sampling events for each background and downgradient well, and the dates the samples were collected is included in **Table 2**.

Chemical analyses for MW-311 and MW-311A were not complete until 2022, and the analytical laboratory reports will be included in the 2022 Annual Groundwater Monitoring and Corrective Action Report due in 2023.

The sampling results for Appendix III and Appendix IV parameters in 2021 are summarized in **Table 5a** and **Table 5b**. Field parameter results for the 2021 sampling events are provided in

Table 6. The analytical laboratory reports received in 2021 are provided in **Appendix D**. Historical results for each monitoring well are summarized in **Appendix E**.

4.4 §257.90(e)(4) MONITORING TRANSITION NARRATIVE

A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels);

Assessment monitoring for KAP was initiated in January 2020 and continued through 2021. An Assessment of Corrective Measures (ACM) was initiated for the KAP CCR units in October 2020 and completed in March 2021. The selection of remedy is in progress.

The ACM was initiated in response to the detection of molybdenum at an SSL exceeding the GPS in monitoring wells MW-301, MW-302, MW-304, and MW-305. Assessment monitoring continued during the ACM and will continue during the selection of remedy and implementation of corrective action program. Lithium was added to the selection of remedy process, following a determination that lithium was at an SSL above the GPS at in the evaluation of the April 2021 monitoring event.

In accordance with the Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act (RCRA) Facilities (U.S. EPA, 2009), the evaluation of whether a parameter has been detected at an SSL exceeding the GPS is based on comparison of the lower confidence limit (LCL) for the mean, calculated from the assessment monitoring results, to the GPS. The LCL evaluation was completed for each Appendix IV parameter that has been detected at a concentration exceeding the GPS in at least one sample result since assessment monitoring was initiated, which includes arsenic, lithium, and molybdenum. The LCLs were calculated with Sanitas™ using historical concentrations measured since assessment monitoring began in January 2020. The LCL evaluations completed for the April and October 2021 semiannual events are provided in **Appendix F**.

The parameters determined to be at an SSL above the GPS are molybdenum and lithium. Molybdenum results were identified as an SSL above the GPS at MW-301, MW-302, MW-304, and MW-305. Lithium results were identified as an SSL above the GPS at MW-306. For arsenic at MW-303 individual sample results in April and October exceeded the GPS, but the LCL for the mean was below the GPS; therefore, there is no SSL above the GPS for arsenic.

LCL calculations were not performed for MW-304A, MW-308, MW-309, MW-310, MW-311, or MW-311A because four results are not yet available for these wells.

4.5 §257.90(e)(5) OTHER REQUIREMENTS

Other information required to be included in the annual report as specified in §§257.90 through 257.98.

Additional potentially applicable requirements for the annual report, and the location of each requirement within the Rule, are provided in the following sections. For each cited section of the Rule, the portion referencing the annual report requirement is provided below in italics, followed by applicable information relative to the 2021 Annual Groundwater Monitoring and Corrective Action Report for the CCR Unit.

4.5.1 §257.90(E)(6) Overview

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit.

The specific requirements for the overview under §257.90(e)(6) are listed and the information is provided at the beginning of this report, before the Table of Contents.

4.5.2 §257.90(e) General Requirements

For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year.

Status of Groundwater Monitoring and Corrective Action Program. The groundwater monitoring and corrective action program is currently in the selection of remedy process, with assessment monitoring continuing.

Summary of Key Actions Completed.

- Statistical evaluation for the October 2020 assessment monitoring event, completed on February 18, 2021.
- ACM completed (March 11, 2021).
- Installation of monitoring wells MW-304A (February 2021), MW-308 and MW-309 (April, 2021), MW-311 and MW-311A (December 2021).
- Installation of supplemental background well MW-310 (September 2021).
- Supplemental sampling and analysis events for newly installed monitoring wells (February, June, July, October, and December 2021).
- The 2020 Annual Groundwater Monitoring and Corrective Action Report was completed June 14, 2021.
- Evaluation of the February monitoring event, completed on June 25, 2021.
- Two semiannual groundwater sampling and analysis events (April and October 2021).
- Submitted documentation for MW-304A into the operating record (May 2021).
- Calculated updated UPLs using a background dataset including data collected through April 2021 at background well MW-307, completed in August 2021.
- Statistical evaluation for the April 2021 assessment monitoring event, completed on August 5, 2021.
- Submitted documentation for MW-308 and MW-309 into the operating record (July 2021).

- Completed Semiannual Progress Report for Selection of Remedy (September 2021).
- Evaluation of the June 2021 monitoring event, completed on October 19, 2021.
- Evaluation of the July 2021 monitoring event, completed on November 22, 2021.

Description of Any Problems Encountered.

- Held multiple rounds of discussions with Iowa-American Water to negotiate an access agreement to install off-site, downgradient monitoring well nest MW-311/MW-311A on Iowa-American Water Property.
- Conflicts between proposed locations of well nest MW-311/MW-311A required relocating, and re-clearing utilities to avoid conflicts with property owner's high pressure water lines.
- Out-of-date County property records required performing a new property boundary survey of the Iowa-American Water property to update County records before installing off-site well nest MW-311/MW-311A.

Discussion of Actions to Resolve the Problems. Not applicable.

Projection of Key Activities for the Upcoming Year (2022):

- Statistical evaluation and determination of any SSLs exceeding the GPS for the October 2021 monitoring event (January 2022).
- Supplemental monitoring events and/or installation of additional monitoring wells as needed to characterize groundwater quality at new monitoring wells installed in 2021 and evaluate the nature and extent of groundwater impacts in support of the ongoing selection-of-remedy process.
- Install a delineation well within the Highway 67 Iowa Department of Transportation right-of-way to evaluate the western extent of potential downgradient groundwater impacts.
- Continue negotiations with the City of Clinton to install a supplemental background well on the new wastewater treatment plant property. The purpose for the supplemental background well is to evaluate the naturally occurring concentration of molybdenum in bedrock and compare that to the molybdenum concentrations in delineation bedrock well MW-311A.
- Continue contacting two additional off-site property owners, Clysar and Vertex Chemical on a monthly basis to request negotiations for access to install additional delineation monitoring wells on the downgradient properties.
- Install additional delineation wells at two additional off-site property locations once access agreements are signed with the property owners.
- Collect supplemental parameters to better define the downgradient chemistry and evolution with flow in support of the ongoing selection-of-remedy process.

- Update conceptual site model based on findings of nature and extent investigation.
- Two Semiannual progress reports for the Selection of Remedy Process (March and September 2022).
- Two Semiannual Groundwater Sampling and Analysis Events (April and October 2022).
- Statistical evaluation and determination of any SSLs exceeding the GPS for the April 2022 monitoring event.
- Submittal of documentation for MW-310, MW-311, and MW-311A into the operating record.

4.5.3 §257.94(d) Alternative Detection Monitoring Frequency

The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the annual groundwater monitoring and corrective action report required by §257.90(e).

Not applicable. KAP is no longer in detection monitoring.

4.5.4 §257.94(e)(2) Alternative Source Demonstration for Detection Monitoring

The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

Not applicable. KAP is no longer in detection monitoring.

4.5.5 §257.95(c) Alternative Assessment Monitoring Frequency

The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the annual groundwater monitoring and corrective action report required by §257.90(e).

Not applicable. Assessment monitoring has been initiated at the site, but no alternative assessment monitoring frequency is proposed at this time.

4.5.6 §257.95(d)(3) Assessment Monitoring Results and Standards

Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under §257.94(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the annual groundwater monitoring and corrective action report required by §257.90(e).

The 2021 assessment monitoring results, background UPLs, and GPSs established for the site are provided in **Tables 5a** and **5b**. As discussed above in **Section 4.2**, beginning with the April 2021 event new UPL values, calculated using results from background well MW-307, were applied for lithium and molybdenum (**Table 5b**).

The laboratory reports are provided in **Appendix D**. Historical monitoring results are summarized in **Appendix E**.

4.5.7 §257.95(g)(3)(ii) Alternative Source Demonstration for Assessment Monitoring

The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

Not Applicable. No alternative source demonstration for assessment monitoring was completed in 2021.

4.5.8 §257.96(a) Extension of Time for Corrective Measures Assessment

The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measure due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

The ACM was initiated on October 12, 2020. The January 8, 2021 certification demonstrating the need for a 60-day deadline extension is provided in **Appendix G**. The ACM was completed on March 11, 2021.

5.0 REFERENCES

Wahl, K.D., G.A. Ludvigson, G.L. Ryan, W.C. Steinkampf, 1978, Water Resources of East-Central Iowa; U.S. Geologic Survey and Iowa Geologic Survey, Iowa, 1978.

U.S. Environmental Protection Agency (U.S. EPA), 2009, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, EPA 530-R-09-007, March 2009.

U.S. Environmental Protection Agency, 2015, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, April 2015.

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**Table 1. Groundwater Monitoring Well Network
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00**

Monitoring Well	Location in Monitoring Network	Role in Monitoring Network
MW-301	Downgradient	Compliance
MW-302	Downgradient	Compliance
MW-303	Downgradient	Compliance
MW-304	Downgradient	Compliance
MW-304A	Downgradient	Delineation
MW-305	Downgradient	Compliance
MW-306	Downgradient	Compliance
MW-307	Upgradient	Background
MW-308	Downgradient	Delineation
MW-309	Downgradient	Delineation
MW-310	Sidegradient	Supplemental Background
MW-311	Downgradient	Delineation
MW-311A	Downgradient	Delineation

Note:

Groundwater data from well MW-310 is not used in the statistical evaluation.

Created by: RM
 Last revision by: RM
 Checked by: TK

Date: 12/14/2020
 Date: 7/8/2022
 Date: 7/18/2022

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**Table 2. Groundwater Sample Summary
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00**

Sample Dates	Compliance Wells						Delineation Wells					Background Wells	
	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-304A	MW-308	MW-309	MW-311	MW-311A	MW-307	MW-310
2/22/2021	--	--	--	--	--	--	A	NI	NI	NI	NI	A	NI
4/5/2021	A	A	A	A	A	A	A	NI	NI	NI	NI	A	NI
6/17/2021	--	--	--	--	--	--	--	A	A	NI	NI	A	NI
7/22/2021	--	--	--	--	--	--	--	--	--	NI	NI	A	NI
10/5/2021	--	--	--	--	--	--	--	--	--	NI	NI	--	A
10/18-19/2021	A	A	A	A	A	A	A	A	A	NI	NI	A	A
12/29/2021	--	--	--	--	--	--	--	--	--	A	A	--	--
Total Samples	2	2	2	2	2	2	3	2	2	1	1	5	2

Abbreviations:

A = Assessment Monitoring Program NI = Not Installed

-- = Not Applicable

Created by: RM Date: 2/1/2021
 Last revision by: JAO Date: 1/5/2022
 Checked by: RM Date: 1/6/2022

Table 3. Groundwater Elevation Summary
IPL - M.L. Kapp / SCS Engineers Project #25221077.00

Ground Water Elevation in feet above mean sea level (amsl)													
Well Number	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	MW-311A
Top of Casing Elevation (feet amsl)	592.13	591.54	592.40	592.12	591.89	592.60	590.83	603.39	588.78	591.24	597.58	587.59	587.82
Screen Length (ft)	10.00	10.00	10.00	10.00	5.00	10.00	10.00	10.00	10.00	10.00	5.00	15.00	5.00
Total Depth (ft from top of casing)	25.20	26.10	27.78	27.25	55.00	27.30	27.20	19.46	19.65	24.11	32.48	27.30	67.53
Top of Well Screen Elevation (ft)	576.93	575.44	574.62	574.87	541.88	575.30	573.63	593.93	579.13	577.13	570.10	575.29	525.29
Measurement Date													
March 28, 2018	577.65	576.62	577.37	577.05	NI	576.58	577.93	NI	NI	NI	NI	NI	NI
May 22, 2018	579.20	579.37	580.00	579.47	NI	579.34	579.47	NI	NI	NI	NI	NI	NI
June 25, 2018	578.57	578.04	577.24	570.77	NI	571.28	576.93	NI	NI	NI	NI	NI	NI
July 25, 2018	577.83	577.62	577.83	577.56	NI	577.52	577.97	NI	NI	NI	NI	NI	NI
October 5, 2018	580.04	579.88	579.74	579.32	NI	579.15	579.46	NI	NI	NI	NI	NI	NI
November 29, 2018	577.55	576.52	578.74	578.43	NI	578.69	579.28	NI	NI	NI	NI	NI	NI
January 10, 2019	577.36	577.05	579.06	578.56	NI	578.84	579.47	NI	NI	NI	NI	NI	NI
February 13, 2019	577.23	576.51	578.90	578.26	NI	578.45	579.40	NI	NI	NI	NI	NI	NI
April 9, 2019	585.25	585.29	584.61	585.25	NI	585.23	585.29	NI	NI	NI	NI	NI	NI
September 6, 2019	--	--	--	--	NI	577.42	--	NI	NI	NI	NI	NI	NI
October 7, 2019	580.97	580.74	581.39	581.62	NI	581.88	582.28	NI	NI	NI	NI	NI	NI
December 10, 2019	577.39	577.41	578.90	578.85	NI	578.89	579.49	NI	NI	NI	NI	NI	NI
February 4, 2020	578.07	577.74	579.58	578.73	NI	578.85	579.31	NI	NI	NI	NI	NI	NI
April 29, 2020	578.76	579.38	580.82	580.95	NI	580.40	580.70		NI	NI	NI	NI	NI
June 4, 2020	578.62	578.29	579.76	579.19	NI	579.20	579.82	595.06	NI	NI	NI	NI	NI
July 7, 2020	577.04	576.36	577.55	577.15	NI	577.21	577.95	593.85	NI	NI	NI	NI	NI
August 7, 2020	--	--	--	--	NI	--	--	593.06	NI	NI	NI	NI	NI
October 22, 2020	577.42	574.64	575.82	575.32	NI	575.25	576.82	592.77	NI	NI	NI	NI	NI
February 9, 2021	--	--	--	--	570.48	--	--	--	NI	NI	NI	NI	NI
February 22, 2021	--	--	--	573.90	573.92	--	--	592.12	NI	NI	NI	NI	NI
April 5, 2021	577.30	577.47	578.57	577.25	577.36	577.16	578.15	594.32	NI	NI	NI	NI	NI
June 17, 2021	--	--	--	--	--	--	--	593.33	576.05	571.84	NI	NI	NI
July 22, 2021	--	--	--	--	--	--	--	592.65	--	--	NI	NI	NI
October 5, 2021	--	--	--	--	--	--	--	--	--	--	588.92	NI	NI
October 18-19, 2021	576.35	573.32	573.97	573.33	573.42	573.20	574.22	590.84	573.43	571.64	589.55	NI	NI
December 30, 2021	--	--	--	--	--	--	--	--	--	--	--	572.33	572.54
Bottom of Well Elevation (ft)	566.93	565.44	564.62	564.87	536.88	565.30	563.63	583.93	569.13	567.13	565.10	560.29	520.29

Notes:
 -- Location not measured NI = Not Installed

Created by: AJR Date: 10/9/2018
 Last rev. by: RM Date: 1/5/2022
 Checked by: MDB Date: 1/14/2022

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**Table 4A. Horizontal Gradients and Flow Velocity
M.L. Kapp Generating Station /
SCS Engineers Project #25222077.00
January - December 2021**

Southeast					
Sampling Dates	h1 (ft)	h2 (ft)	Δl (ft)	Δh/Δl (ft/ft)	V (ft/d)
4/5/2021	580.00	577.16	1800.00	0.002	0.060
10/18-19/2021	577.00	573.20	1437.00	0.003	0.10

Wells	K Values (cm/sec)	K Values (ft/d)	Assumed Porosity, n
MW-301	5.30E-02	150	
MW-302	3.11E-03	8.8	
MW-303	3.56E-03	10	
MW-304	7.92E-03	22	
MW-305	9.92E-04	2.8	
MW-306	4.33E-03	12	
MW-307	1.74E-03	5	
Geometric Mean	5.4E-03	15	

Groundwater flow velocity equation: $V = [K*(\Delta h/\Delta l)] / n$

ft = feet

ft/d = feet per day

K = hydraulic conductivity

n = effective porosity

V = groundwater flow velocity

h1, h2 = point interpreted groundwater elevation at locations 1 and 2

Δl = distance between location 1 and 2

Δh/Δl = hydraulic gradient

Created by: RM
Last revision by: RM
Checked by: NDK

Date: 12/29/2020
Date: 7/8/2022
Date: 7/18/2022

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Table 4B. Vertical Gradients
IPL - M.L. Kapp / SCS Engineers Project #25221077.00
2021

Vertical Hydraulic Gradients	MW-304/MW-304A		MW-311/MW-311A	
	Shallow Well Screen midpoint ⁽²⁾ (feet amsl)	MW-304 569.87		MW-311 579.83
Deep Well Screen midpoint (feet amsl)	MW-304A 539.38		MW-311A 522.79	
Measurement Date	Distance Between Midpoints ⁽²⁾ (ft)	Vertical Gradient (ft/ft)	Distance Between Midpoints ⁽²⁾ (ft)	Vertical Gradient (ft/ft)
April 5, 2021	30.5	-0.003	NI	NI
October 18-19, 2021	29.9	0.003	NI	NI
December 30, 2021	NM	NM	43.5	0.005

Notes:

1: A positive vertical gradient indicates upward groundwater flow. A negative gradient indicates downward flow.

2: The well screen at MW-304 was not fully submerged during the October 2021 sampling event. The well screen at MW-311 was not fully submerged during the December 2021 sampling event. In these cases, the effective screen midpoint is calculated at the midpoint between the water table elevation and screen bottom elevation, and this value is used to calculate Distance Between Midpoints.

NM: Not Measured


NI: Not Installed

Created by: JAO _____
 Last rev. by: JAO _____
 Checked by: RM _____

Date: 1/5/2022 _____
 Date: 2/21/2022 _____
 Date: 2/21/2022 _____

**Table 5A. Groundwater Analytical Results Summary
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00**

Parameter Name	UPL Method	UPL	GPS	Background Well	Delineation Well
				MW-307	MW-304A
				2/22/2021	2/22/2021
Appendix III					
Boron, µg/L	P	20,416		<58	380
Calcium, mg/L	P	181		230	87
Chloride, mg/L	P	121		53	9.7
Fluoride, mg/L	P	0.40		<0.28	<0.28
Field pH, Std. Units	NP	8.31		6.58	7.08
Sulfate, mg/L	P	639		19	65
Total Dissolved Solids, mg/L	P	1,185		860	390
Appendix IV					
Antimony, ug/L	P*	0.29	6	<1.1	<1.1
Arsenic, ug/L	P*	0.82	10	<0.75	2.7
Barium, ug/L	P	61	2,000	310	150
Beryllium, ug/L	DQ	DQ	4	<0.27	<0.27
Cadmium, ug/L	P*	0.14	5	0.21	<0.051
Chromium, ug/L	P*	0.40	100	<1.1	3.1 J
Cobalt, ug/L	P*	0.31	6	3.0	1.30
Fluoride, mg/L	P	0.40	4	<0.28	<0.28
Lead, ug/L	NP*	0.19	15	<0.21	1.1
Lithium, ug/L	P	94	40	3.3 J	3.9 J
Mercury, ug/L	NP*	0.14	2	<0.15	<0.15
Molybdenum, ug/L	P	139	100	<1.3	3.1
Selenium, ug/L	P	4.5	50	<0.96	<0.96
Thallium, ug/L	NP*	0.13	2	<0.26	<0.26
Radium 226/228 Combined, pCi/L	P	1.4	5	3.46	1.02

 Blue highlighted cell indicates the compliance well results exceeds the UPL and the LOQ.

 Yellow highlighted cell indicates the compliance well result exceeds the GPS.

Table 5A. Groundwater Analytical Results Summary
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00

Abbreviations:	LOD = Limit of Detection	DQ= Double Quantification (not detected in background)
UPL = Upper Prediction Limit	LOQ = Limit of Quantification	P = Parametric UPL with 1-of-2 retesting
ug/L = micrograms per Liter	-- = Not measured	NP = Nonparametric UPL (highest background value)
mg/L = milligrams per Liter		NA = Not Analyzed
GPS = Groundwater Protection Standard		

* = UPL is below the LOQ for background sampling. For compliance wells, only results confirmed above the LOQ are evaluated as potential SSIs above background.

Lab Notes/Qualifiers:

J = Result is less than the LOQ but greater than or equal to the LOD and the concentration is an approximate value.

Notes:

1. An individual result above the UPL or GPS does not constitute an SSI above background or statistically significant level above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (USEPA) Maximum Contamination Level (MCLs), if established; otherwise, the values from 40 CFR 257.95(h)(2).
3. Interwell UPLs calculated based on results from background well MW-306.

Created by: <u>NDK</u>	Date: <u>3/9/2021</u>
Last revision by: <u>JAO</u>	Date: <u>1/5/2022</u>
Checked by: <u>RM</u>	Date: <u>1/6/2022</u>
Proj Mgr QA/QC: <u>TK</u>	Date: <u>3/20/2022</u>

\\10.2.18.8\data\Projects\25222077.00\Deliverables\2021 - Federal Annual Report M.L. Kapp\Tables\[Table 5A - February 2021 Groundwater Analytical Summary.xlsx]Table 5A - 2021 Analytica

**Table 5B. Groundwater Analytical Results Summary - Assessment Monitoring
ML Kapp Generating Station / SCS Engineers Project #25221077.00**

Parameter Name	UPL Method	UPL	GPS	Background Well				Supplemental Background Well		Compliance Wells							
				MW-307				MW-310		MW-301		MW-302		MW-303		MW-304	
				4/5/2021	6/17/2021	7/22/2021	10/19/2021	10/5/2021	10/19/2021	4/5/2021	10/19/2021	4/5/2021	10/19/2021	4/5/2021	10/18/2021	4/5/2021	10/18/2021
Appendix III																	
Boron, µg/L	P	280		<230	<58	<58	<58	1,000	1100	14,000	13,000	5,500	6,200	5,200	5,300	11,000	8,900
Calcium, mg/L	P	260		230	210	240	200	100	110	130	130	96	100	170	70	130	78
Chloride, mg/L	P	63		63	77	82	71	81	83	51	53	11	13 F1	11	24	20	26
Fluoride, mg/L	P	DQ		<0.28	<0.28	<0.28	<0.28	<0.28 **	<0.28	0.39 J	<0.28	<0.28	<0.28 F2	<0.28	<0.28	0.45 J	<0.28
Field pH, Std. Units	NP	7.45		6.64	6.66	7.71	6.63	7.20	7.17	6.52	6.69	7.56	7.47	7.19	8.89	6.80	7.40
Sulfate, mg/L	P	29.6		19	19	18	22	120	120	250	310	210	260	470	240	490	300
Total Dissolved Solids, mg/L	P	1,400		930	750	710	770	640	610	690	630	580	510	920	430	920	520
Appendix IV																	
Antimony, µg/L	P*	DQ	6	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Arsenic, µg/L	P*	2.72	10	0.96 J	<0.75	0.98 J	0.99 J	<0.75	<0.75	<0.75	1.7 J	7.1	7.5	14	81	6.6	3.1
Barium, µg/L	P	370	2,000	310	310	290	330	110	96	79	77	92	73	81	220	180	100
Beryllium, µg/L	DQ	DQ	4	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium, µg/L	P*	0.343	5	<0.20	0.11	0.083 J	0.085 J	<0.051	<0.051	0.44	0.22	<0.20	0.11	<0.051	0.064 J	<0.20	0.33
Chromium, µg/L	P*	DQ	100	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt, µg/L	P*	12	6	3.4	3.1	1.6	4.8	0.67	0.68	4.6	5.1	0.19 J	0.30 J	1.0	0.74	1.2	1.1
Fluoride, mg/L	P	DQ	4	<0.28	<0.28	<0.28	<0.28	<0.28 **	<0.28	0.39 J	<0.28	<0.28	<0.28 F2	<0.28	<0.28	0.45 J	<0.28
Lead, µg/L	NP*	0.210	15	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	0.48 J	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
Lithium, µg/L	P	4.42	40	2.5 J	<2.5	<2.5	4.8 J	4.0 J	3.0 J	6.9 J	5.8 J	18	20	47	14	3.2 J	<2.5
Mercury, µg/L	NP*	DQ	2	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Molybdenum, µg/L	P	3.40	100	3.4	<1.3	<1.3	<1.3	2.0	<1.3	430	430	170	200	150	190	650	1,200
Selenium, µg/L	P	DQ	50	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	1.4 J	6.9	<0.96	<0.96	2.7 J	<0.96	<0.96
Thallium, µg/L	NP*	DQ	2	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	0.29 J	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Radium 226/228 Combined, pCi/L	P	3.5	5	0.540	0.629	0.238	1.46	1.080	0.783	0.414	0.861	0.178	0.624	0.415	3.80	2.95	4.77
Additional Parameters - Selection of Remedy																	
Arsenic, dissolved, µg/L				--	--	--	--	--	--	--	--	--	--	3.1	11.0	4.2	2.3
Iron, dissolved, µg/L				460	--	85 J	620	--	<36	670	250	<36	<36	790	130	640	<36
Iron, µg/L				460	--	65 J	620	--	90 J	1,000	1,900	<36	<36	7,000	40,000	3,100	1,100
Magnesium, µg/L				97,000	--	92,000	80,000	--	46,000	33,000	33,000	8,100	10,000	16,000	1,700	22,000	20,000
Manganese, dissolved, µg/L				3,000	--	1,000	2,200	--	300	750	830	120	260	3,000	180	2,300	450
Manganese, µg/L				3,000	--	1,100	2,200	--	310	750	840	110	290	3,000	1,600	2,300	460
Molybdenum, dissolved, µg/L				--	--	--	--	--	--	430	430	170	200	140	200	640	1,200
Potassium, µg/L				430 J	--	320 J	630	--	1,600	3,300	3,200	13,000	9,500	22,000	14,000	25,000	10,000
Sodium, µg/L				16,000	--	17,000	14,000	--	71,000	46,000	46,000	63,000	50,000	81,000	80,000	100,000	62,000
Total Alkalinity, mg/L				930	--	860	800	--	390	220	240	250	190	230	150	160	130
Carbonate Alkalinity, mg/L				<4.6	--	<4.2	<4.6	--	<4.6	<2.3	<4.6	<2.3	<4.6	<4.6	79	<4.6	<4.6
Bicarbonate Alkalinity, mg/L				930	--	860	800	--	390	220	240	250	190	230	69	160	130

Blue highlighted cell indicates the compliance well results exceeds the UPL and the LOQ.
Yellow highlighted cell indicates the compliance well result exceeds the GPS.
Grayscale indicates additional parameters sampled for selection of remedy and evaluation of MNA.

**Table 5B. Groundwater Analytical Results Summary - Assessment Monitoring
ML Kapp Generating Station / SCS Engineers Project #25221077.00**

Parameter Name	UPL Method	UPL	GPS	Background Well				Supplemental Background Well		Delineation Well		Compliance Well				Delineation Wells					
				MW-307				MW-310		MW-304A		MW-305		MW-306		MW-308		MW-309		MW-311	MW-311A
				4/5/2021	6/17/2021	7/22/2021	10/19/2021	10/5/2021	10/19/2021	4/5/2021	10/18/2021	4/5/2021	10/18/2021	4/5/2021	10/18/2021	4/5/2021	10/18/2021	6/17/2021	10/19/2021	6/17/2021	10/19/2021
Appendix III																					
Boron, µg/L	P	280		<230	<58	<58	<58	1,000	1100	490	470	16,000	13,000	15,000	15,000	400	460	480	550	5200	7600
Calcium, mg/L	P	260		230	210	240	200	100	110	89	85	190	130	150	160	84	92	140	170	96	88
Chloride, mg/L	P	63		63	77	82	71	81	83	11	11	18	23	120	190	33	36	39	47	15	17
Fluoride, mg/L	P	DQ		<0.28	<0.28	<0.28	<0.28	<0.28	*+	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	0.34	J	<0.28	<0.28
Field pH, Std. Units	NP	7.45		6.64	6.66	7.71	6.63	7.20	7.17	6.99	7.09	7.31	7.49	7.05	7.24	6.51	6.52	6.79	6.87	7.98	8.38
Sulfate, mg/L	P	29.6		19	19	18	22	120	120	64	72	710	470	270	320	74	86	<2.5	<2.5	120	210
Total Dissolved Solids, mg/L	P	1,400		930	750	710	770	640	610	390	350	1,200	810	970	1,000	530	470	460	580	460	480
Appendix IV																					
Antimony, ug/L	P*	DQ	6	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Arsenic, ug/L	P*	2.72	10	0.96	J	<0.75	0.98	J	0.99	J	<0.75	<0.75	1.8	J	1.7	J	1.6	J	3.1	<0.75	<0.75
Barium, ug/L	P	370	2,000	310	310	290	330	110	96	140	110	100	74	84	84	92	77	210	180	49	21
Beryllium, ug/L	DQ	DQ	4	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium, ug/L	P*	0.343	5	<0.20	0.11	0.083	J	0.085	J	<0.051	<0.051	<0.051	<0.051	<0.36	0.18	<0.051	<0.051	0.14	0.052	J	<0.051
Chromium, ug/L	P*	DQ	100	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt, ug/L	P*	12	6	3.4	3.1	1.6	4.8	0.67	0.68	0.54	0.35	J	0.80	0.33	J	<0.091	0.19	J	1.3	1.2	0.91
Fluoride, mg/L	P	DQ	4	<0.28	<0.28	<0.28	<0.28	<0.28	*+	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	0.34	J	<0.28
Lead, ug/L	NP*	0.210	15	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	0.24	J	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	0.46	J	<0.21	0.34
Lithium, ug/L	P	4.42	40	2.5	J	<2.5	<2.5	4.8	J	4.0	J	3.0	J	2.5	J	23	13	70	89	<2.5	<2.5
Mercury, ug/L	NP*	DQ	2	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Molybdenum, ug/L	P	3.40	100	3.4	<1.3	<1.3	<1.3	2.0	<1.3	17	6.0	650	810	46	57	<1.3	<1.3	<1.3	<1.3	30	160
Selenium, ug/L	P	DQ	50	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	1.00	J	<0.96	<0.96	<0.96	<0.96	<0.96	2.8
Thallium, ug/L	NP*	DQ	2	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Radium 226/228 Combined, pCi/L	P	3.5	5	0.540	0.629	0.238	1.46	1.080	0.783	0.747	0.773	0.429	0.849	0.0138	0.216	0.893	1.10	1.64	2.17	0.155	0.330
Additional Parameters - Selection of Remedy																					
Arsenic, dissolved, ug/L	UPL or GPS not applicable			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, dissolved, ug/L		460	--	85	J	620	--	<36	330	330	880	1,200	<36	<36	340	370	16,000	23,000	--	--	--
Iron, ug/L		460	--	65	J	620	--	90	J	530	350	1,200	2,600	<36	<36	940	650	16,000	23,000	--	--
Magnesium, ug/L		97,000	--	92,000	80,000	--	46,000	30,000	28,000	30,000	21,000	27,000	21,000	52,000	53,000	37,000	41,000	--	--	--	--
Manganese, dissolved, ug/L		3,000	--	1,000	2,200	--	300	680	670	3,200	1,100	370	500	970	1,100	3,100	3,700	--	--	--	--
Manganese, ug/L		3,000	--	1,100	2,200	--	310	680	660	3,200	1,100	410	560	990	1,100	3,100	3,700	--	--	--	--
Molybdenum, dissolved, ug/L		--	--	--	--	--	--	--	--	--	630	800	--	--	<1.3	--	<1.3	--	--	--	--
Potassium, ug/L		430	J	--	320	J	630	--	1,600	2,300	1,800	13,000	11,000	13,000	13,000	1,100	800	3,200	3,000	--	--
Sodium, ug/L		16,000	--	--	17,000	14,000	--	71,000	13,000	18,000	140,000	97,000	120,000	150,000	42,000	43,000	10,000	17,000	--	--	--
Total Alkalinity, mg/L		930	--	--	860	800	--	390	300	430	190	170	380	300	420	470	520	570	--	--	--
Carbonate Alkalinity, mg/L		<4.6	--	--	<4.2	<4.6	--	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	--	--
Bicarbonate Alkalinity, mg/L		930	--	--	860	800	--	390	300	430	190	170	380	300	420	470	520	570	--	--	--

Blue highlighted cell indicates the compliance well results exceeds the UPL and the LOQ.
 Yellow highlighted cell indicates the compliance well result exceeds the GPS.
 Grayscale indicates additional parameters sampled for selection of remedy and evaluator

**Table 5B. Groundwater Analytical Results Summary - Assessment Monitoring
ML Kapp Generating Station / SCS Engineers Project #25221077.00**

Abbreviations:

UPL = Upper Prediction Limit
ug/L = micrograms per Liter
mg/L = milligrams per Liter
-- = Not Analyzed

P= Parametric UPL with 1-of-2 testing
NP= Nonparametric UPL (High background value)
DQ= Double Quantification (not detected in background)
GPS = Groundwater Protection Standard

LOD = Limit of Detection
LOQ = Limit of Quantification

Lab Notes/Qualifiers:

J = Result is less than the LOQ but greater than or equal to the LOD and the concentration is an approximate value.
F1= MS and/or MSD recovery exceeds control limits
F2 = Ms/MSD RPD exceeds control limits
*+ = LCS and/or LCSD is outside of acceptance limits, high biased.

Notes:

1. An individual result above the UPL or GPS does not constitute an SSI above background or statistically significant level above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (USEPA) Maximum Contamination Level (MCLs), if established; otherwise, the values from 40 CFR 257.95(h)(2).
3. Interwell UPLs calculated based on results from background well MW-307.

Created by: RM
Last revision by: RM
Checked by: NDK
Proj Mgr QA/QC: TK

Date: 2/1/2021
Date: 7/8/2022
Date: 7/18/2022
Date: 7/18/2022

Table 6. Groundwater Monitoring Results - Field Parameters
IPL - M.L. Kapp / SCS Engineers Project #25221077.00
January - December 2021

Sample	Sample Date	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-301	4/5/2021	577.30	12.7	6.52	0.20	991	49.4	4.50
	10/19/2021	576.35	15.4	6.69	0.42	1,012	107.4	57.0
MW-302	4/5/2021	577.47	10.4	7.56	0.98	834	122.6	0.02
	10/19/2021	573.32	14.1	7.47	0.23	832	118.8	11.0
MW-303	4/5/2021	578.57	11.6	7.19	0.30	1,306	-57.8	45.4
	10/18/2021	573.97	14.3	8.89	0.25	768	61.5	110
MW-304	4/5/2021	577.25	12.1	6.80	0.11	1,289	-18.1	22.0
	10/18/2021	573.33	15.3	7.40	0.10	868	84.0	110.0
MW-304A	2/22/2021	573.91	12.1	7.08	0.23	628	-153.5	33.1
	4/5/2021	577.35	12.6	6.99	0.45	650	-11.2	2.31
	10/18/2021	573.41	13.2	7.09	0.15	654	10.2	9.60
MW-305	4/5/2021	577.16	12.1	7.31	0.16	1,585	-82.4	2.63
	10/18/2021	573.20	18.9	7.49	0.29	1,224	-85.0	28.5
MW-306	4/5/2021	578.15	11.1	7.05	0.18	1,461	141.9	0.02
	10/18/2021	567.49	15.3	7.24	0.70	1,594	134.4	10.0
MW-307	2/22/2021	592.12	12.5	6.58	0.20	1,563	55.4	0.00
	4/5/2021	594.32	10.3	6.64	0.17	1,627	62.7	0.77
	6/17/2021	593.33	12.4	6.66	0.20	1,565	90.0	0.71
	7/22/2021	592.65	16.0	7.71	0.74	1,712	69.5	0.00
	10/19/2021	590.84	15.3	6.63	1.15	1,501	50.4	13.1
MW-308	6/17/2021	576.05	12.1	6.51	0.30	863	101	48.2
	10/19/2021	573.43	16.2	6.52	1.06	959	61.8	22.7
MW-309	6/17/2021	571.84	18.0	6.79	0.30	961	-91.0	47.2
	10/19/2021	571.64	19.0	6.87	0.16	1,192	124.0	27.3
MW-310	10/5/2021	588.92	14.3	7.20	1.52	1,141	53.7	2.74
	10/18/2021	589.55	13.9	7.17	0.28	1,150	83.5	20.8
MW-311	12/30/2021	572.33	12.4	7.98	3.33	811	6.6	2.88
MW-311A	12/30/2021	572.54	11.8	8.38	0.19	755	-6.0	2.49

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

NA = not applicable

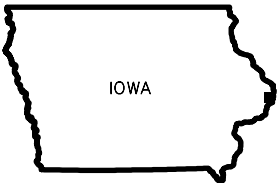
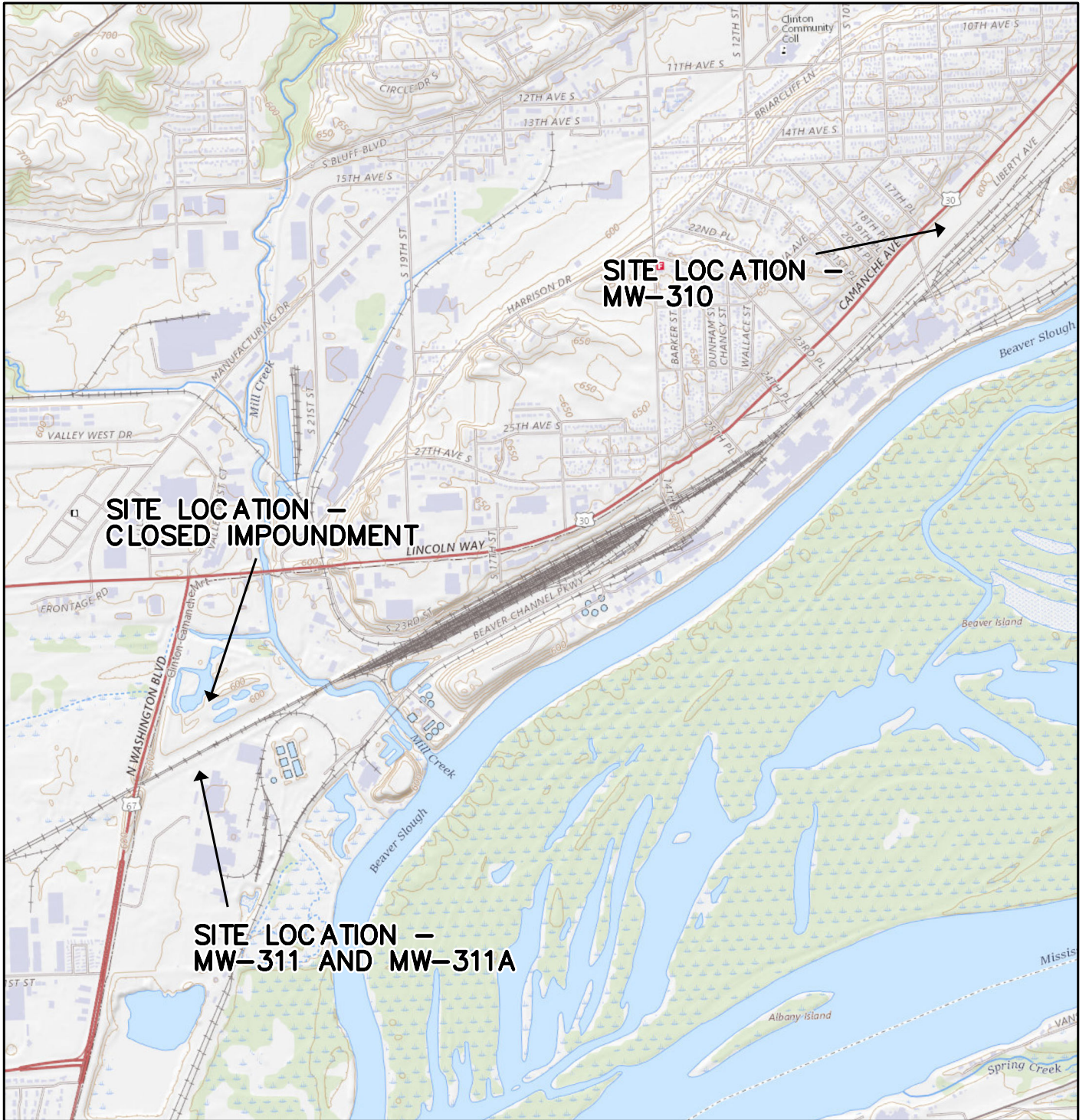
Created by: NDK
 Last revision by: NDK
 Checked by: JAO

Date: 10/25/2021
 Date: 3/4/2022
 Date: 3/7/2022

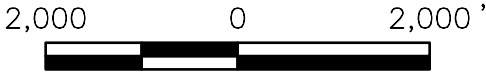
I:\25222077.00\Deliverables\2021 - Federal Annual Report M.L. Kapp\Tables\[Table 6 - Field Parameters.xlsx]GW Field Parameters

Figures

- 1 Site Location Map
- 2 Monitoring Well Location Map
- 3 Monitoring Well MW-310 Location Map
- 4 Water Table Map – April 2021
- 5 Water Table Map – October 2021



USGS THE NATIONAL MAP
AUGUST 2021

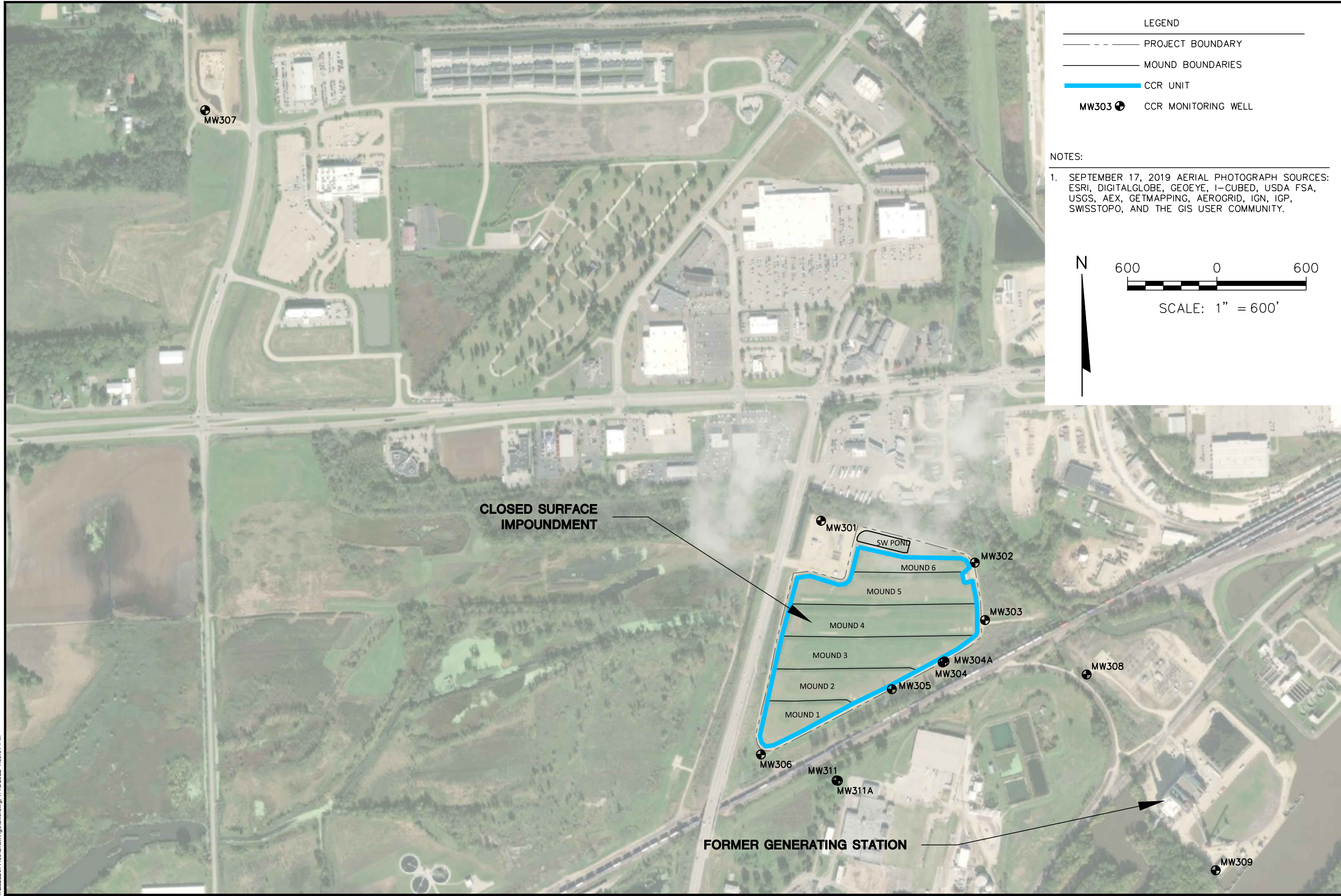


SCALE: 1" = 2,000'



CLIENT	ALLIANT ENERGY ML-KAPP GENERATING STATION 2001 BEAVER CHANNEL PKWY CLINTON, IA 52732	SITE	M.L. KAPP GENERATING STATION 3301 HIGHWAY 67 S CLINTON, IA 52732	SITE LOCATION MAP		
				PROJECT NO.	25220117.00	DRAWN BY:
DRAWN:	02/08/2022	CHECKED BY:	MDB	ENGINEER		
REVISED:	02/09/2022	APPROVED BY:	TK 3/20/2022			

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LEGEND

--- PROJECT BOUNDARY

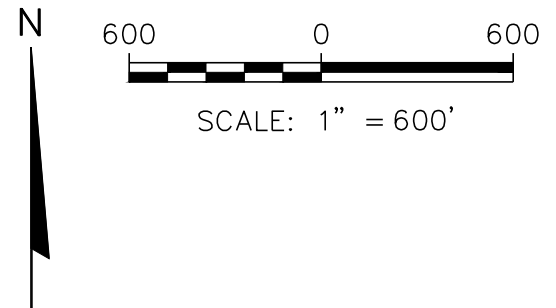
--- MOUND BOUNDARIES

--- CCR UNIT

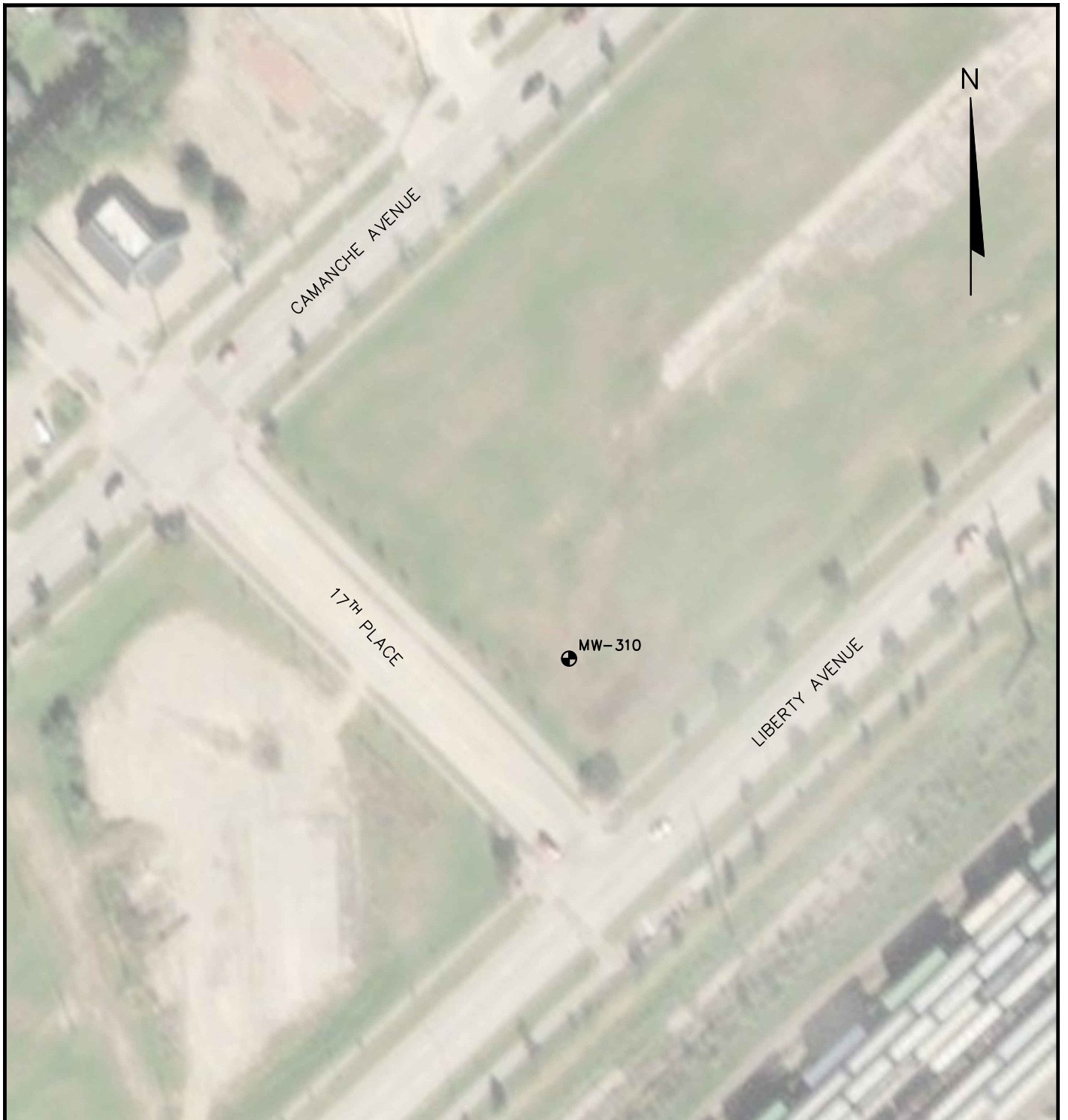
MW303 ● CCR MONITORING WELL

NOTES:

1. SEPTEMBER 17, 2019 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.

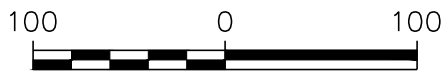


CLIENT	ALLIANT ENERGY ML-KAPP GENERATING STATION 2001 BEAVER CHANNEL PKWY CLINTON, IA 52732	M.L. KAPP GENERATING STATION 3301 HIGHWAY 67 S, CLINTON, IA 52732	MONITORING WELL LOCATION MAP	FIGURE 2
	PROJECT NO. 25222077.00	DRAWN BY: KP/ZTW	ENGINEER	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830
DRAWN: 09/04/2020	CHECKED BY: NK			
REVISED: 06/28/2022	APPROVED BY: TJK	DATE: 07/18/22		



LEGEND

⊕ MONITORING WELL



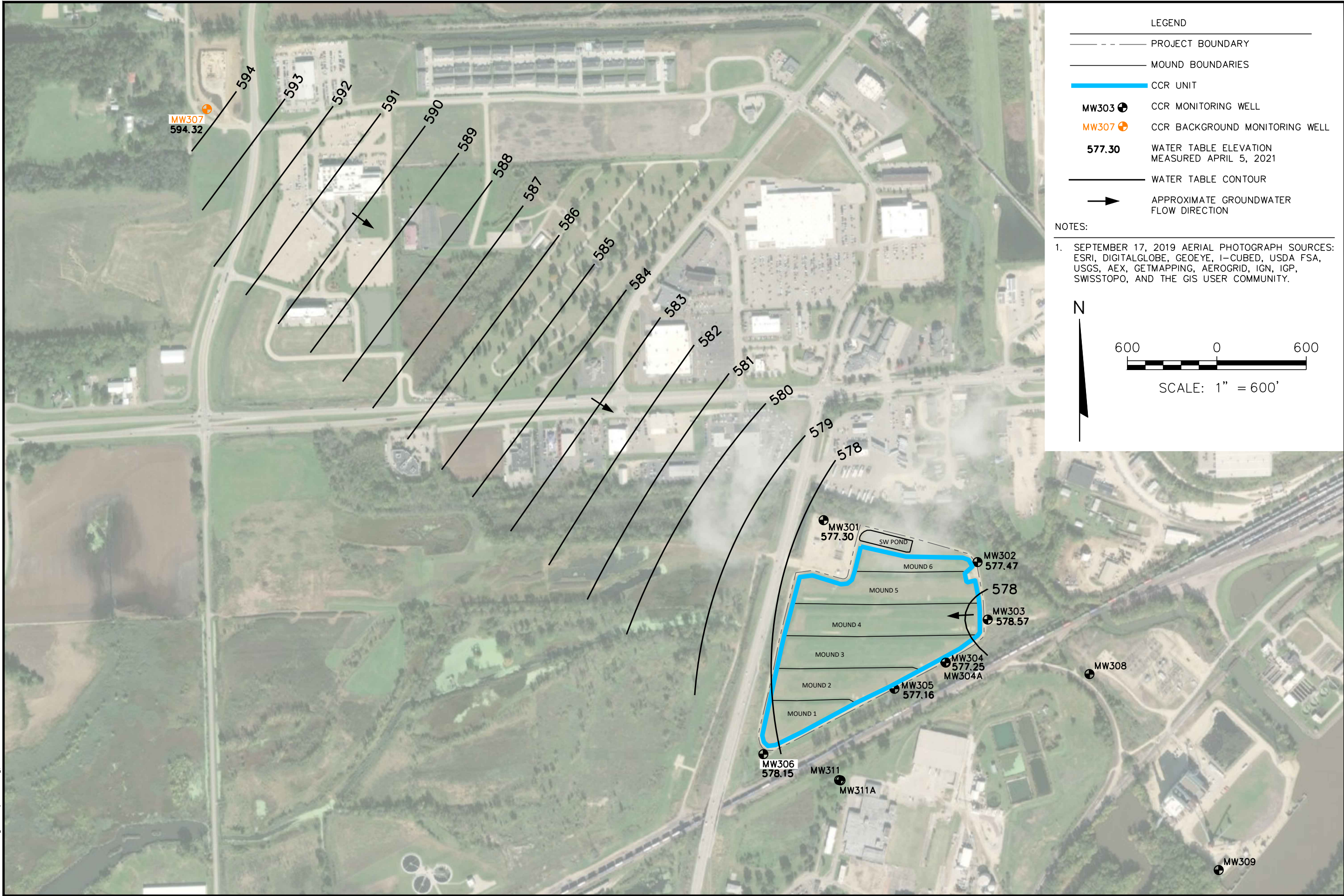
SCALE: 1" = 100'

NOTES

- 2019 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRIID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.

CLIENT	ALLIANT ENERGY ALLIANT ENERGY ML-KAPP GENERATING STATION 2001 BEAVER CHANNEL PKWY CLINTON, IA 52732	SITE	ALLIANT ENERGY 120 17 TH PLACE CLINTON, IOWA	MONITORING WELL LOCATION MAP	
	PROJECT NO. 25222077.00 DRAWN: 12/27/2021 REVISED: 06/28/2022		DRAWN BY: KP CHECKED BY: MDB APPROVED BY: TK 07/18/2022	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE 3

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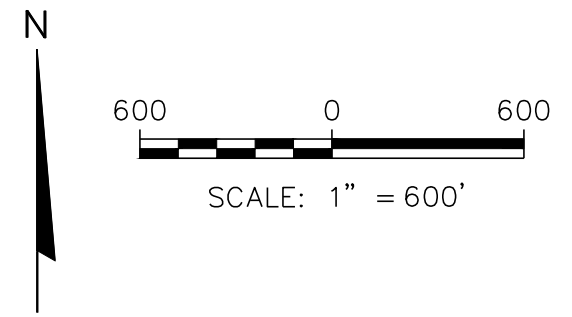


LEGEND

- PROJECT BOUNDARY
- MOUND BOUNDARIES
- CCR UNIT
- MW303 CCR MONITORING WELL
- MW307 CCR BACKGROUND MONITORING WELL
- 577.30 WATER TABLE ELEVATION MEASURED APRIL 5, 2021
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

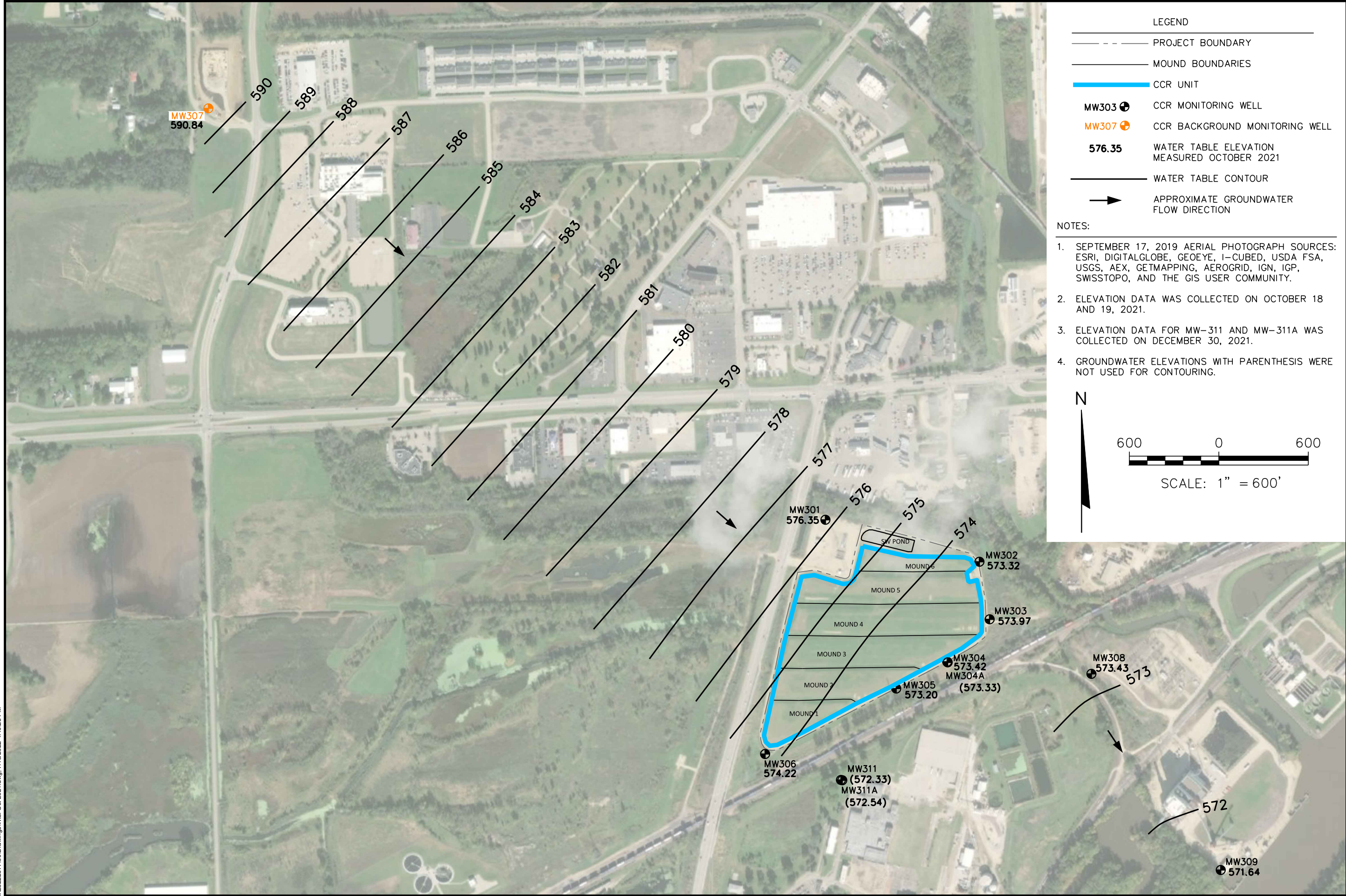
NOTES:

- SEPTEMBER 17, 2019 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRIID, IGN, IGP, SWISSSTOPO, AND THE GIS USER COMMUNITY.



		CLIENT ALLIANT ENERGY M.L. KAPP GENERATING STATION 2001 BEAVER CHANNEL PKWY, CLINTON, IA 52732	
PROJECT NO. 25222077-00		M.L. KAPP GENERATING STATION 3301 HIGHWAY 67 S, CLINTON, IA 52732	
DRAWN: 02/16/2022		ENGINEER	
REVISIONS:		NV TK 7/28/2022 TK 7/28/2022	
DRAWN BY:		ENGINEER	
CHECKED BY:		NV	
APPROVED BY:		TK 7/28/2022	
PROJECT NO. 25222077-00		WATER TABLE MAP APRIL 2021	
DRAWN: 02/16/2022		SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	
REVISIONS:		FIGURE 4	

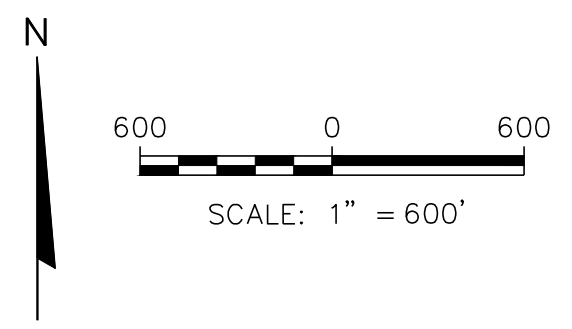
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LEGEND


- PROJECT BOUNDARY
- MOUND BOUNDARIES
- CCR UNIT
- MW303 CCR MONITORING WELL
- MW307 CCR BACKGROUND MONITORING WELL
- 576.35 WATER TABLE ELEVATION MEASURED OCTOBER 2021
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

- NOTES:**
- SEPTEMBER 17, 2019 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRIID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.
 - ELEVATION DATA WAS COLLECTED ON OCTOBER 18 AND 19, 2021.
 - ELEVATION DATA FOR MW-311 AND MW-311A WAS COLLECTED ON DECEMBER 30, 2021.
 - GROUNDWATER ELEVATIONS WITH PARENTHESIS WERE NOT USED FOR CONTOURING.



<p>CLIENT</p> <p>ALLIANT ENERGY M.L. KAPP GENERATING STATION 2001 BEAVER CHANNEL PKWY, CLINTON, IA 52732</p>		<p>SITE</p> <p>M.L. KAPP GENERATING STATION 3301 HIGHWAY 67 S, CLINTON, IA 52732</p>		<p>ENGINEER</p> <p>SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830</p>	
PROJECT NO.	2522077-00	DRAWN BY:	NV	FIGURE	5
DRAWN:	02/16/2022	CHECKED BY:	MDB		
REVISED:	07/18/2022	APPROVED BY:	TK 07/18/2022		

WATER TABLE MAP
OCTOBER 2021



Appendix A
Summary of Regional Hydrogeologic Stratigraphy

Table 2. — Hydrologic units in east-central Iowa

Hydrologic unit	General thickness in feet	Age of rocks	Name of rock units	Type of rock
Surficial aquifers alluvial buried-channel drift	0 to 400	Quaternary (0 to 1 million years old)	Quaternary deposits, undifferentiated	Sand, gravel, silt, and clay Sand, gravel, silt, and clay Till (sandy, pebbly clay) sand, and silt
Pennsylvanian rocks principally confining beds; locally contains waterbearing sandstone	0 to 70	Pennsylvanian (280 to 310 million years old)	Pennsylvanian rocks, undifferentiated	Shale, sandstone, limestone, and coal
Mississippian aquifer	0 to 220	Mississippian (310 to 345 million years old)	Meramecian Series Osagean Series Kinderhookian Series	Limestone and sandstone Dolomite, limestone, and shale Limestone, dolomite, and siltstone
Devonian confining beds	0 to 350	Devonian (345 to 400 million years old)	Yellow Spring Group	Shale, dolomite and siltstone
Devonian aquifer	0 to 400		Lime Creek Shale	Dolomite and shale
Silurian aquifer	0 to 450	Silurian (400 to 425 million years old)	Cedar Valley Limestone Wapsipinicon Limestone	Limestone and dolomite Dolomite, limestone, and shale
Silurian aquifer	0 to 450	Silurian (400 to 425 million years old)	Gower Dolomite * Hopkinton Dolomite Kankakee Limestone Edgewood Dolomite	Dolomite, with some chert and limestone
Ordovician confining beds	300 - 600	Ordovician (425 to 500 million years old)	Maquoketa Shale Galena Dolomite Decorah Formation Platteville Formation	Dolomite and shale Dolomite and chert Limestone and shale Limestone and shale
Cambrian- Ordovician aquifer	400 to 650		St. Peter Sandstone Prairie du Chien Formation Jordan Sandstone St. Lawrence Dolomite	Sandstone Dolomite, sandstone, and shale Sandstone Dolomite
Cambrian confining beds	90 - 290	Cambrian (500 to 600 million years old)	Franconia Sandstone	Shale, siltstone, and sandstone
Dresbach aquifer	157 to 1644		Dresbach Group Galesville Sandstone Eau Claire Sandstone Mt. Simon Sandstone	Sandstone Sandstone, shale, and dolomite Sandstone
Precambrian rocks		Precambrian (600 to more than 2 billion years old)	Crystalline rocks, undifferentiated	Sandstone, igneous and metamorphic rocks.

*Upper part includes the LaPorte City Chert in the northwest part of the report area.

The nomenclature and classification of rock units in this report are those of the Iowa Geological Survey and do not necessarily coincide with those accepted by the U.S. Geological Survey.

Surficial Aquifers

The surficial aquifers are located within the unconsolidated materials above the bedrock surface. They are subdivided into alluvial, buried-channel, and drift aquifers.

The alluvial aquifers are deposits located along present-day watercourses. They consist of sands and gravels interbedded with less-permeable silts and clays and lie beneath the flood plains of larger rivers and creeks. In the eastern half of the report area, the Iowa, Cedar, Wapsipinicon, and Maquoketa Rivers as well as Buffalo Creek alternately flow through narrow bedrock gorges and wide flood plains (fig. 22). Thus the alluvial aquifers occur irregularly in the valleys of these rivers.

The buried-channel aquifers (fig. 23) are the unconsolidated material deposited by ancient streams that carved valleys prior to or between glacial

advances. Many of these ancient valleys were scoured deeply into the bedrock and are much wider than the valleys of present streams (fig. 24). Buried channels may be easily recognized on the bedrock topography map (fig. 25), but are only poorly expressed in the modern landscape. While they are not generally expressed as primary features of present topography, they exert noticeable influences on modern drainage. Prairie Creek near Cedar Rapids, Deep Creek near Preston, and the lower stretches of the Cedar, Wapsipinicon, and Maquoketa Rivers follow the courses of buried channels. See figures 22 and 23. In addition, most of the irregularly occurring alluvial aquifers in the eastern half of the report area are located where modern stream valleys intersect buried bedrock channels.

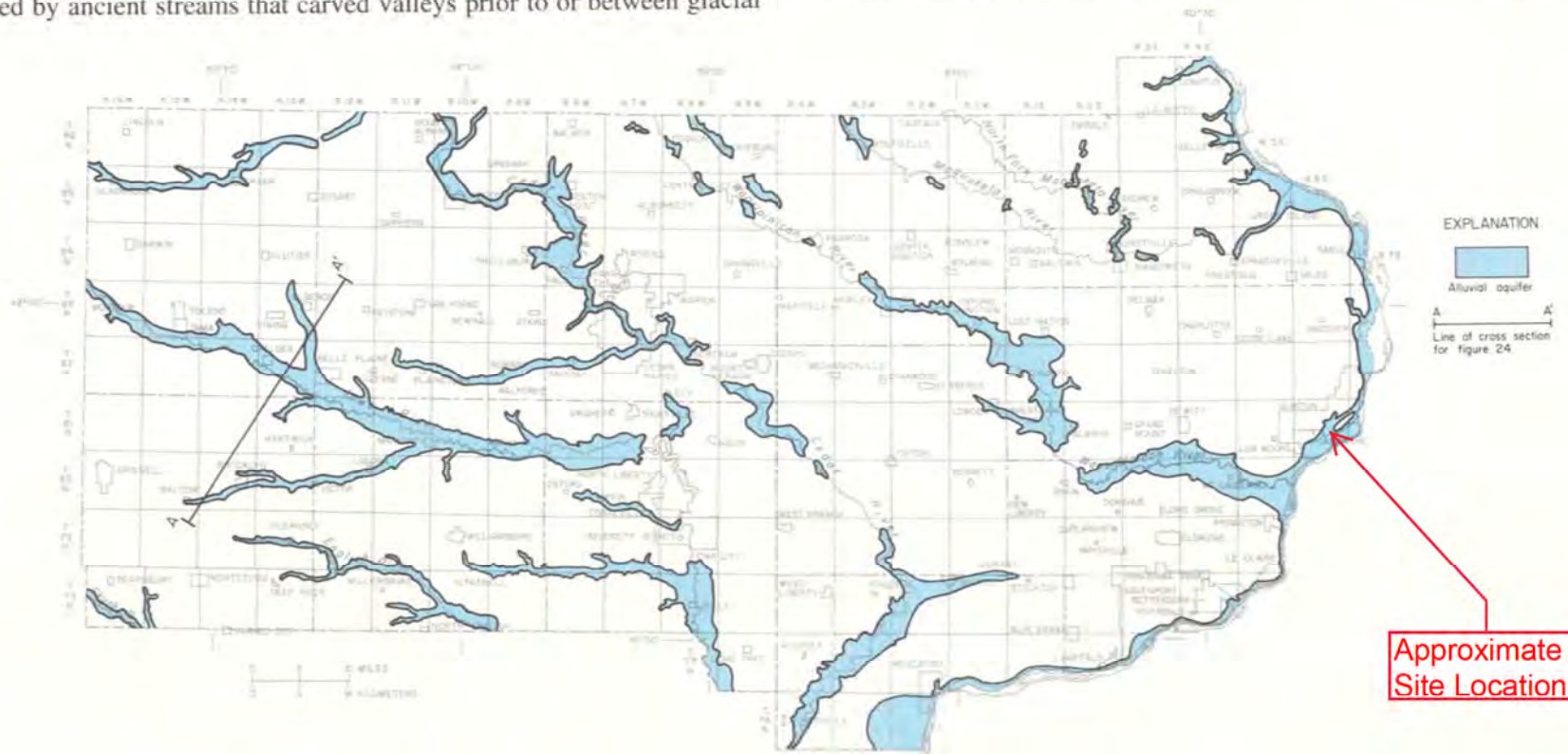


Figure 22.—Areal distribution of alluvial aquifers in east-central Iowa

Bedrock Aquifers

The bedrock hydrogeologic map (fig. 26) shows the aquifers and confining beds that make up the bedrock surface in east-central Iowa. Pennsylvanian confining beds are the bedrock in the extreme southwest corner of the area, in southeast Muscatine County and southwest Scott County, and in other small outlying localities. The Mississippian aquifer is found beneath the surficial deposits in most of the southwest part of the region. The Devonian confining beds comprise the bedrock surface in an area about 25 miles wide extending from the northwest corner to the south-central part of the report area. They have been partly or completely removed in parts of the Belle Plaine and Poweshiek buried bedrock channels.

The Devonian aquifer is the bedrock in a broad belt that parallels the northeast side of the Devonian confining beds. This belt is from 12 to 25 miles wide and extends from northern Benton and Linn Counties to the southern border of Muscatine County. The Devonian and Silurian aquifers are separated by an irregular zone of relatively thin shale occurring near the base of the Devonian and represented by a single line on figure 26.

The Silurian aquifer comprises the bedrock surface over most of the eastern half of the area. In the extreme northeastern border area the Ordovician confining beds are found at the bedrock surface. They also appear in several buried bedrock channels where the Silurian aquifer has been removed locally by erosion.

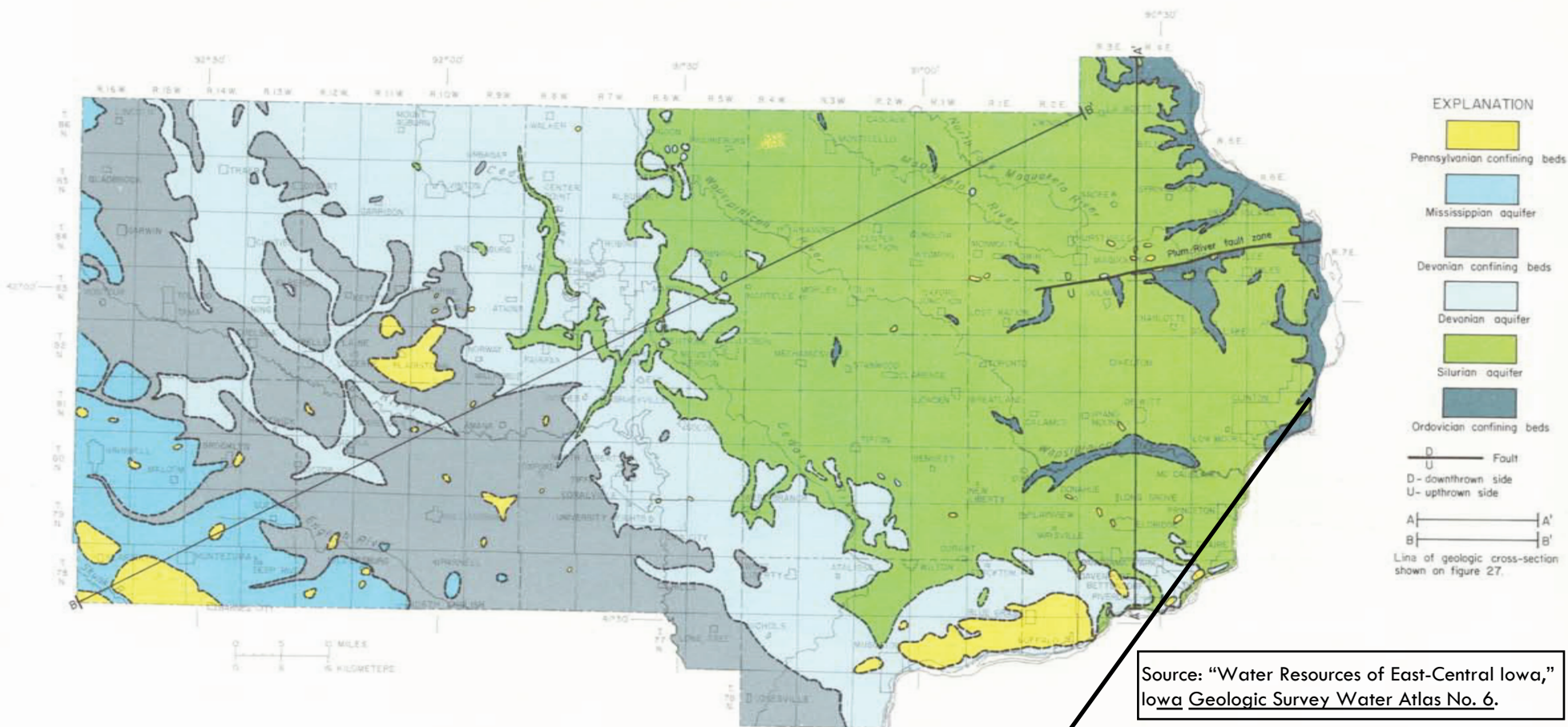



Figure 26.—Bedrock hydrogeologic map

Source: "Water Resources of East-Central Iowa," Iowa Geologic Survey Water Atlas No. 6.

Approximate Site Location



Appendix B
Boring Logs and Well Construction Documentation

Route To: Watershed/Wastewater Waste Management
 Remediation/Rcdevelopment Other

Facility/Project Name IPL - Alliant M.L. Kapp		License/Permit/Monitoring Number SCS#: 25216127.00		Boring Number MW-301	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 2/8/2018		Date Drilling Completed 2/8/2018	
Drilling Method HSA		Unique Well No. MW-301		Borehole Diameter 8.3 in	
DNR Well ID No.		Final Static Water Level Feet		Surface Elevation 589.3 Feet	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		Local Grid Location		Lat _____ " <input type="checkbox"/> N <input type="checkbox"/> E	
State Plane 677,257 N, 2,528,287 E S/C/N		Long _____ " <input type="checkbox"/> S <input type="checkbox"/> W		SE 1/4 of NE 1/4 of Section 22, T 81 N, R 6 E	
Facility ID		County Clinton		Civil Town/City/ or Village Clinton	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	POORLY GRADED SAND, fine to coarse, tan, (fill). Hydrovaced hole to 8 feet. Blind drilled to 8 feet.											
			2												
			3												
			4		SP										
			5												
			6												
			7												
			8												
S1	48		9	LEAN CLAY, dark gray, (10YR 4/1), soft, low plasticity, few organic fibers.											
			10		CL					M					
			11												
			12												
			13												
S2	42		14								M/W				
			15		ML										Depth to water at ~13 feet.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
--	---	-----------------------------

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL - Alliant M.L. Kapp		SCS#: 25216127.00		License/Permit/Monitoring Number		Boring Number MW-302	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical				Date Drilling Started 2/8/2018		Date Drilling Completed 2/8/2018	
Unique Well No.		DNR Well ID No.		Common Well Name MW-302		Final Static Water Level Feet	
						Surface Elevation 588.6 Feet	
						Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>				Local Grid Location			
State Plane 676,976 N, 2,529,320 E S/C/N				Lat _____ ° ' " <input type="checkbox"/> N <input type="checkbox"/> E			
SE 1/4 of NE 1/4 of Section 22, T 81 N, R 6 E				Long _____ ° ' " <input type="checkbox"/> S <input type="checkbox"/> W			

Facility ID	County Clinton	Civil Town/City/ or Village Clinton
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Sample	Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
										Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
				1	POORLY GRADED SAND, fine to coarse, tan, (fill). Hydrovaced hole to 8 feet. Bling drilled to 8 feet.											
		96		2-7		SP										
S1		48		8-12	LEAN CLAY, dark yellow brown, (10YR 4/4), medium stiffness, low to medium plasticity.	CL					M					
S2		36		13-14	POORLY GRADED SAND, fine, yellow-brown, (10YR 4/4). LEAN CLAY with fine sand, brown, (7.5YR 4/3), medium plasticity,	SP CL					M/W					Depth to water at ~14 feet.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

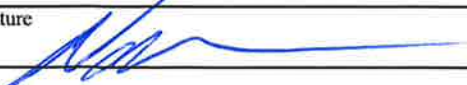
Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL - Alliant M.L. Kapp SCS#: 25216127.00		License/Permit/Monitoring Number		Boring Number MW-303	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 2/8/2018		Date Drilling Completed 2/8/2018	
Unique Well No.		DNR Well ID No.		Common Well Name MW-303	
Final Static Water Level Feet		Surface Elevation 589.7 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 676,590 N, 2,529,389 E S/C/N		Local Grid Location	
SE 1/4 of NE 1/4 of Section 22, T 81 N, R 6 E		Lat _____ ° _____ ' _____ "		Long _____ ° _____ ' _____ "	
Facility ID		County Clinton		Civil Town/City/ or Village Clinton	

Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	POORLY GRADED SAND, fine to coarse, tan, (fill). Hydrovaced hole to 8 feet. Blind drilled to 8 feet.											
			2												
			3												
			4		SP										
			5												
			6												
			7												
			8												
			9	LEAN CLAY, very dark brown, (10YR 2/2), stiff, medium plasticity.											
S1	48		10								M				
			11												
			12	Same as above but dark gray (5YR 4/1) mottled with reddish brown (5YR 4/4).	CL										
			13												
S2	42		14								M/W				
			15												Depth to water at ~15 feet.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature  Firm **SCS Engineers** 2830 Dairy Drive Madison, WI 53711 Tel: (608) 224-2830 Fax:

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL - Alliant M.L. Kapp		SCS#: 25216127.00		License/Permit/Monitoring Number		Boring Number MW-304	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical				Date Drilling Started 2/7/2018		Date Drilling Completed 2/7/2018	
Unique Well No.		DNR Well ID No.		Common Well Name MW-304		Final Static Water Level Feet	
				Surface Elevation 589.4 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>				Local Grid Location			
State Plane 676,306 N, 2,529,104 E S/C/N				Lat _____ " <input type="checkbox"/> N <input type="checkbox"/> E		Long _____ " <input type="checkbox"/> S <input type="checkbox"/> W	
SE 1/4 of NE 1/4 of Section 22, T 81 N, R 6 E				Feet		Feet	
Facility ID		County Clinton		Civil Town/City/ or Village Clinton			

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	POORLY GRADED SAND, fine to coarse, tan, (fill). Hydrovaced hole to 8 feet. Blind drilled to 8 feet.											
			2												
			3												
			4		SP										
			5												
			6												
			7												
			8												
S1	48		9	LEAN CLAY, very dark brown, (7.5YR 2.5/2), stiff, trace organic fibers (wood chips) at 10 feet.	CL						M				
			10												
			11												
			12												
			13	LEAN CLAY with trace silt, very dark gray, (10YR 3/1), medium stiffness, medium plasticity.	CL						M				
S2	48		14												
			15												

I hereby certify that the information on this form is true and correct to the best of my knowledge.

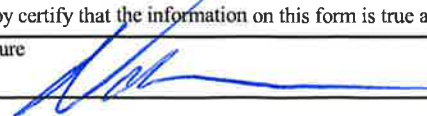
Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL - Alliant M.L. Kapp SCS#: 25216127.00		License/Permit/Monitoring Number		Boring Number MW-305	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 2/7/2018		Date Drilling Completed 2/7/2018	
Unique Well No.		DNR Well ID No.		Common Well Name MW-305	
Final Static Water Level Feet		Surface Elevation 589.4 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 676,126 N, 2,528,763 E S/C/N		Local Grid Location	
SE 1/4 of NE 1/4 of Section 22, T 81 N, R 6 E		Lat _____ ° _____ ' _____ "		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Clinton		Civil Town/City/ or Village Clinton	

Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1	POORLY GRADED SAND, fine to coarse, tan, (fill). Hydrovaced hole to 8 feet. Blind drilled to 8 feet.										
			2											
			3											
			4		SP									
			5											
			6											
			7											
			8											
			9	LEAN CLAY, very dark brown, (7.5YR 2.5/2), soft, low plasticity.										
S1	48		10	Same as above but with trace silt (10-11) and dark brown (7.5YR 3/3).						M				
			11											
			12		CL									
			13											
S2	48		14							M				
			15											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Boring Number MW-305

Page 2 of 2

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S3	42		16	SANDY SILT with gravel, fine to medium sand, fine to coarse gravel, dark yellowish-brown, (10YR 4/6), sub-rounded gravel.	CL									
			17		ML									
			18	POORLY GRADED SAND AND GRAVEL, fine to medium sand, fine to coarse gravel, dark yellowish-brown, (10YR 4/4), subrounded grains.	SP									W
			19											
S4	24		20	POORLY GRADED SAND, fine, very pale brown, (10YR 3/3), (sandstone bedrock).										
			21											
			22	SP										W
			23											
			24	End of Boring at 24.5 feet.										

Depth to water at 16 feet.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL - Alliant M.L. Kapp		SCS#: 25216127.00		License/Permit/Monitoring Number		Boring Number MW-306					
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical				Date Drilling Started 2/7/2018		Date Drilling Completed 2/7/2018		Drilling Method HSA			
Unique Well No.		DNR Well ID No.		Common Well Name MW-306		Final Static Water Level Feet		Surface Elevation 588.1 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>				State Plane 675,687 N, 2,527,883 E S/C/N				Local Grid Location			
SE 1/4 of NE 1/4 of Section 22, T 81 N, R 6 E				Lat _____ " _____ "				Long _____ " _____ "			
Facility ID				County Clinton				Civil Town/City/ or Village Clinton			


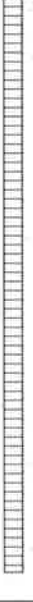
Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments							
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200									
S1	24		1	POORLY GRADED SAND, fine to coarse, tan, (fill). Hydrovaced hole to 8 feet. Blind drilled to 8 feet.	SP																	
			2																			
			3																			
			4																			
			5																			
			6																			
			7																			
			8																			
			9	SILTY SAND, brownish yellow, (10YR 6/6).	SM																	
			10																			
			11	(Weathered Limestone Bedrock).	LIMESTONE																	Hit refusal with geoprobe at 10 feet, switched to HSA.
			12																			
			13																			
			14																			
			15																			

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Firm: SCS Engineers
2830 Dairy Drive Madison, WI 53711 Tel: (608) 224-2830 Fax:

Boring Number **MW-306**

Page **2** of **2**

Sample			Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)	Blow Counts							Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			16	(Weathered Limestone Bedrock). <i>(continued)</i>									Depth to water at ~17 feet.	
			17											
			18											
			19											
			20		LIMESTONE									
			21											
			22											
			23											
			24											
			25		End of Boring at 25 feet.									

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name ML-Kapp		SCS#: 25220117.00		License/Permit/Monitoring Number		Boring Number MW-307	
Boring Drilled By: Name of crew chief (first, last) and Firm Scott Zeien Terracon				Date Drilling Started 4/15/2020		Date Drilling Completed 4/15/2020	
Unique Well No.		DNR Well ID No.		Common Well Name		Final Static Water Level 6.63 Feet	
						Surface Elevation 601.69 Feet	
						Borehole Diameter 8.5" in.	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 680017.03 N, 2524149.7 E S/C/N				Lat _____ ° _____ ' _____ "		Local Grid Location	
NE 1/4 of SW 1/4 of Section 15, T 81 N, R 6 E				Long _____ ° _____ ' _____ "		Feet <input type="checkbox"/> N <input type="checkbox"/> S	
Facility ID		County Clinton		County Code		Civil Town/City/ or Village Clinton, Iowa	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments		
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200			
			1	CLAYEY SAND, fine grained, yellowish brown (10YR, 5/6) with some silt and trace gravel, non-cohesive to slightly cohesive, slightly moist, and loose.	SP											
			3	SILTY SAND, fine grained, dark yellowish brown (10YR, 3/4), trace gravel, cohesive, loose.	SM											Collected 2 samples from the sidewall of the hydrovac borhole between 0 and 8 feet bgs.
			4													
			5													
			6													
			7													
1	23	00 34	9	SILTY CLAY, dark brown to very dark brown (10YR, 3/3 to 10YR, 2/2) with trace fine sand, cohesive, very soft to soft.	CL											
			10													
2	24	02 23	11		CL											
			12													
3	24	02 34	13	Same, with more sand, oxidized color.	CL											
			14													
			15	SANDY LEAN CLAY, yellowish brown to grayish brown, slight green hue (10YR, 5/4 to 10YR, 5/2),	CL											


I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Meghan Blodgett for Matthew Cahalan	Firm SCS Engineers	Tel: Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL-Alliant M.L. Kapp		SCS#: 25220117.00		License/Permit/Monitoring Number		Boring Number MW-304A	
Boring Drilled By: Name of crew chief (first, last) and Firm Randy Radke Cascade Drilling				Date Drilling Started 1/8/2021		Date Drilling Completed 1/9/2021	
Unique Well No.		DNR Well ID No.		Common Well Name		Final Static Water Level 17.8 Feet	
						Surface Elevation Feet	
						Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N				Lat _____ " _____ "		Local Grid Location	
SE 1/4 of NE 1/4 of Section 22, T 81 N, R 6 E				Long _____ " _____ "		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	

Facility ID	County Clinton	Civil Town/City/ or Village Clinton, Iowa
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments						
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200							
S1	60		1	Hydrovaced to ~8' below ground surface																
			2																	
			3																	
			4																	
			5																	
			6																	
			7																	
			8																	
			9																	
			10	LEAN CLAY, dark gray to black with trace sand.		CL														
			11																	
			12																	
			13																	
			14																	
			15																	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm SCS Engineers	Tel: Fax:
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Boring Number MW-304A

Page 2 of 4

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S2	60		16	LEAN CLAY, dark gray to black with trace sand. <i>(continued)</i>	CL									
			17	SANDY SILT, fine grain, gray to brown with trace gravel.	ML						M			
S3	60		18											
			19											
S4	60		20											
			21	POORLY GRADED SAND, fine to coarse grain, grayish brown with gravel and cobbles.	SP						W			
S5	60		22											
			23											
S6	60		24	SILTY SAND, fine grain, light brown to brown with trace gravel and cobbles.	SM									
			25	Same as above but less silt.							W/M			
S6	60		26											
			27	Same as above but dense.										
S6	60		28											
			29											
S6	60		30											
			31											
S6	60		32											
			33	POORLY GRADED SAND, fine grain, light brown to brown with lenses of silt and less dense than above.	SP						W			
S6	60		34											
			35	Same as above.										
S6	60		36	POORLY GRADED SAND, fine to coarse grain, brown with gravel (36 to 39' bgs).	SP									
			37											
S6	60		38											
			39	Same as above but fine grain with cobbles (39 TO 40' bgs).							W			
S6	60		40											

Switched to water @ 15' bgs.

From 22 to 26' bgs, soil was wet, from 26 to 30'

Slight petroleum odor at 35 to 40' bgs.

Boring Number MW-304A

Page 3 of 4

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S7	60		41	POORLY GRADED SAND, fine grain, light brown to brown with lenses of silt and less dense than above. <i>(continued)</i> Same as above but fine to coarse grain, brown with lots gravel and cobbles.	SP									
			42											
			43											
S8	60		44	SANDY SILT, fine grain, brown with gravel and cobbles.	ML									
			45	LEAN CLAY, dark brown with trace gravel and sticks, very dense.	CL									
			46											
			47											
			48	POORLY GRADED SAND, fine to medium grain, orangish brown, very trace gravel.	SP									
49														
S9	72		50	SANDY LEAN CLAY, dark brownish gray, very dense with gravel. Same as above but dark gray	CL									
			51											
			52											
			53											
S10	48		54	SILTY SAND, fine grain, light gray to tannish orange, with gravel (possibly weathered limestone bedrock).	SM									
			55											
S11	60		56	SILT, reddish orange.	ML									
			57											
			58											
			59											
			60											
			61											

Stronger petroleum odor from 40 to 44' bgs.

Soil from 59 to 60' bgs reacts with HCL.

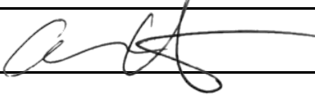
Route To: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other

Facility/Project Name M.L. Kapp		SCS#: 25220117.00		License/Permit/Monitoring Number		Boring Number MW-308	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling				Date Drilling Started 4/26/2021		Date Drilling Completed 4/27/2021	
Unique Well No.		DNR Well ID No.		Common Well Name MW-308		Final Static Water Level 579.1 Feet MSL	
				Surface Elevation 586.1 Feet MSL		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 676,224 N, 2,530,071 E <input checked="" type="checkbox"/> C/N				Lat 41° 48' 36.7"		Local Grid Location	
1/4 of 1/4 of Section , T N, R				Long -90° 14' 9.5"		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	

Facility ID	County Clinton	Civil Town/City/ or Village Clinton, IA
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	Hydrovacced to 8' bgs.											
			2												
			3												
			4												
			5												
S1	48		5	POORLY GRADED SAND, fine to coarse grained, brown, with trace gravel.	SP				2.25	W					Hydrovac hole caved, bottom of hole is at 5 feet
			6												
			7												
			8	LEAN CLAY, dark grayish brown, (2.5Y 4/1), dense, with trace sand, gravel, and roots.	CL										Depth to water at ~7'
			9												
			10												
S2	56		10	POORLY GRADED SAND, fine to coarse grained, brown, (7.5YR 4/3), with lenses of clay, clay is dark grayish brown, (2.Y 4/1).	SP					W					
			11												
			12												
			13												
			14												
			15												

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm SCS Engineers	Tel: Fax:
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Route To: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other

Facility/Project Name M.L. Kapp		License/Permit/Monitoring Number		Boring Number MW-309	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling		Date Drilling Started 4/27/2021		Date Drilling Completed 4/27/2021	
Unique Well No.		DNR Well ID No.		Common Well Name MW-309	
Final Static Water Level 575.5 Feet MSL		Surface Elevation 589.0 Feet MSL		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 674,909 N, 2,530,939 E <input checked="" type="checkbox"/> C/N		Lat 41° 48' 23.4"		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of 1/4 of Section 1 , T N , R R		Long -90° 13' 58.7"		Feet <input type="checkbox"/> S <input type="checkbox"/> W	

Facility ID	County Clinton	Civil Town/City/ or Village Clinton, IA
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	50		1	POORLY GRADED SAND AND GRAVEL, fine to coarse grained, brown.	SP									
			2	SILTY SAND, fine grained, yellowish brown, (10YR 5/4).										
S2	60		3	Same as above but with more sand.	ML				2.25	W				Depth to water at ~ 6.5' bgs. Sampled at 5 - 8.5' and 8.5 - 10' bgs.
			4											
S3	60		5	SANDY LEAN CLAY, black, (2.5Y 2.5/1), trace gravel/rock.	CL									Sampled 10 - 12' bgs and 12 - 15' bgs
			6	Same as above but with more sand and gravel/rock.										
			7	CLAYEY SAND, fine to coarse grained, black, (2.5Y 2.5/1), with trace gravel/rock.	SC									
			8											
			9											
			10											
			11											
			12											
			13											
			14											
			15											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm SCS Engineers	Tel: Fax:
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Route To: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other

Facility/Project Name M.L. Kapp		SCS#: 25220117.00		License/Permit/Monitoring Number		Boring Number MW-310	
Boring Drilled By: Name of crew chief (first, last) and Firm Todd Schmalfeldt Cascade Drilling				Date Drilling Started 9/27/2021		Date Drilling Completed 9/27/2021	
Unique Well No.		DNR Well ID No.		Common Well Name MW-310		Final Static Water Level 589.08 Feet MSL	
				Surface Elevation 595.1 Feet MSL		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 682,681 N, 2,538,494 E S/C/N				Lat <u> </u> ° <u> </u> ' <u> </u> "		Local Grid Location	
NW 1/4 of NE 1/4 of Section 13, T 81N, R 06E				Long <u> </u> ° <u> </u> ' <u> </u> "		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Clinton		Civil Town/City/ or Village Clinton, IA			

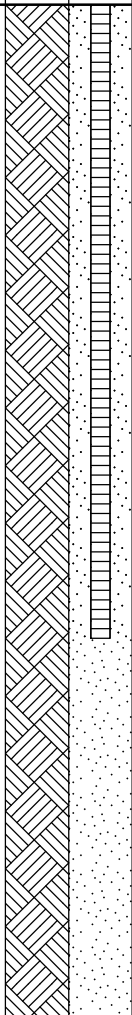
Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S1	0		2.5	Hydrovaced hole to 8 feet below ground surface (bgs) in unconsolidated sediment.											
			5.0												
S2	24		7.5	SILT, light brown, trace gravel.											
			10.0												
S3	60		12.5	Same as above but dark brown with some gray, and with trace fine sand and roots.	ML										
			15.0												
S4	60		17.5	Same as above but dark brown with some gray, and with trace fine sand and roots.											
			20.0												
S5	60		22.5	POORLY GRADED SAND, fine to coarse grained, dark brown.	SP										
			25.0												
S7	22		27.5	Limestone bedrock, tan with red and gray mottling, weathered.											
			30.0												
				Same as above but consolidated with fractures.											
				End of boring at 31 feet.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm SCS Engineers	Tel: Fax:
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Boring Number MW-311

Page 2 of 2

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments		
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200			
			16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Same as above.												
				End of boring at 31' below ground surface.												

W

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name M.L. Kapp		License/Permit/Monitoring Number		Boring Number MW-311A	
Boring Drilled By: Name of crew chief (first, last) and Firm Eric Wetzel Roberts Environmental Services		Date Drilling Started 12/7/2021		Date Drilling Completed 12/8/2021	
Unique Well No.		DNR Well ID No.		Common Well Name	
Final Static Water Level 572.54 Feet		Surface Elevation 585.29 Feet		Borehole Diameter 6" in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 675510.55 N, 2528400.63 E <input checked="" type="checkbox"/> C/N		Local Grid Location	
NW 1/4 of SE 1/4 of Section 22, T 81 N, R 6 E		Lat 41° 48' 30.2323"		<input type="checkbox"/> N <input type="checkbox"/> E	
		Long -90° 14' 31.8888"		<input type="checkbox"/> S <input type="checkbox"/> W	

Facility ID	County Clinton	Civil Town/City/ or Village Clinton
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1 2 3 4 5 6 7	SILT, dark brown (10YR 2/2) with flaky fine grain sand.	ML										Hydrovaced to 8' below ground surface.
			8 9 10 11 12 13 14 15	LIMESTONE, yellow/gold (10YR 7/6) with pores and thin bedding (less than 1mm) of yellow and rust colored layers. Many dissolution pores.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm SCS Engineers 3900 Kilroy Airport Way Long Beach, CA 90806	Tel: Fax:
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Boring Number MW-311A



Page 2 of 4

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			16	Same as above.										
			17											
			18											
			19											
			20											
			21											
			22											
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31											
			32		Same as above.									
			33											
			34											
			35											
			36											
			37											
			38											
			39											
			40											

W

Boring Number **MW-311A**

Page **4** of **4**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			66	Same as above. End of boring at 66' below ground surface.					W					



IOWA DEPARTMENT OF NATURAL RESOURCES
MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: M.L. Kapp Generating Station - Main Ash Pond Permit No.:

Well or Piezometer No: MW-301

Dates Started: 2/8/2018 Date Completed: 2/8/2018

A. SURVEYED LOCATIONS AND ELEVATIONS
B. SOIL BORING INFORMATION
Locations (± 0.5 ft): 677257.43 N, 2528287.27 E
Specify corner of site: NW of parcel 8071940000
Distance & direction along boundary: 146' S
Distance & direction from boundary to wall: 22' E
Elevations (± 0.01 ft MSL):
Ground Surface: 589.32
Top of protective casing: 592.36
Top of well casing: 592.13
Benchmark elevation: 590.75
Benchmark description: BM-1
Name & Address of Construction Company:
Direct Push Analytical
4N969 Old LaFox Road, Unit E
St. Charles, IL 60175
Name of Driller: Patrick Goetz
Drilling Method: 4.5" Auger
Drilling Fluid: N/A
Bore Hole Diameter: 8.25"
Soil Sampling Method: Geoprobe
Depth of Boring: 24.0'

C. MONITORING WELL INSTALLATION
Casing material: PVC
Length of casing: 15.19
Outside casing diameter: 2.38"
Inside casing diameter: 2"
Casing joint type: Flush Threaded
Casing/screen joint type: Flush Threaded
Screen material: PVC
Screen opening size: 0.010"
Screen length: 10'
Depth of well: 22.39
Filter Pack: 10.39' -23.39' bgs
Material: R.W. Sidley
Grain size: #5
Volume: 4.2 cu/ft
Seal (minimum 3 ft length above filter pack): 2'- 10.39' bgs
Material: 3/8 inch bentonite chips
Placement method: Gravity
Volume: 1.75 ft3
Backfill (if different from seal): N/A
Material: N/A
Placement method: N/A
Volume: N/A
Surface seal design: 0'-2' bgs
Material of protective casing: Steel, 4" diameter
Material of grout between protective casing and well casing: sand
Protective cap: 6 inch diameter
Material: Steel
Vented: [] Yes [] No Locking: [x] Yes [] No
Well Cap: 2 inch diameter
Material: plastic with rubber gasket
Vented: [] Yes [x] No

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)
Water level: 14.08 Stabilization Time: 48 days
Well development method: N/A
Average depth of frostline: 4 feet

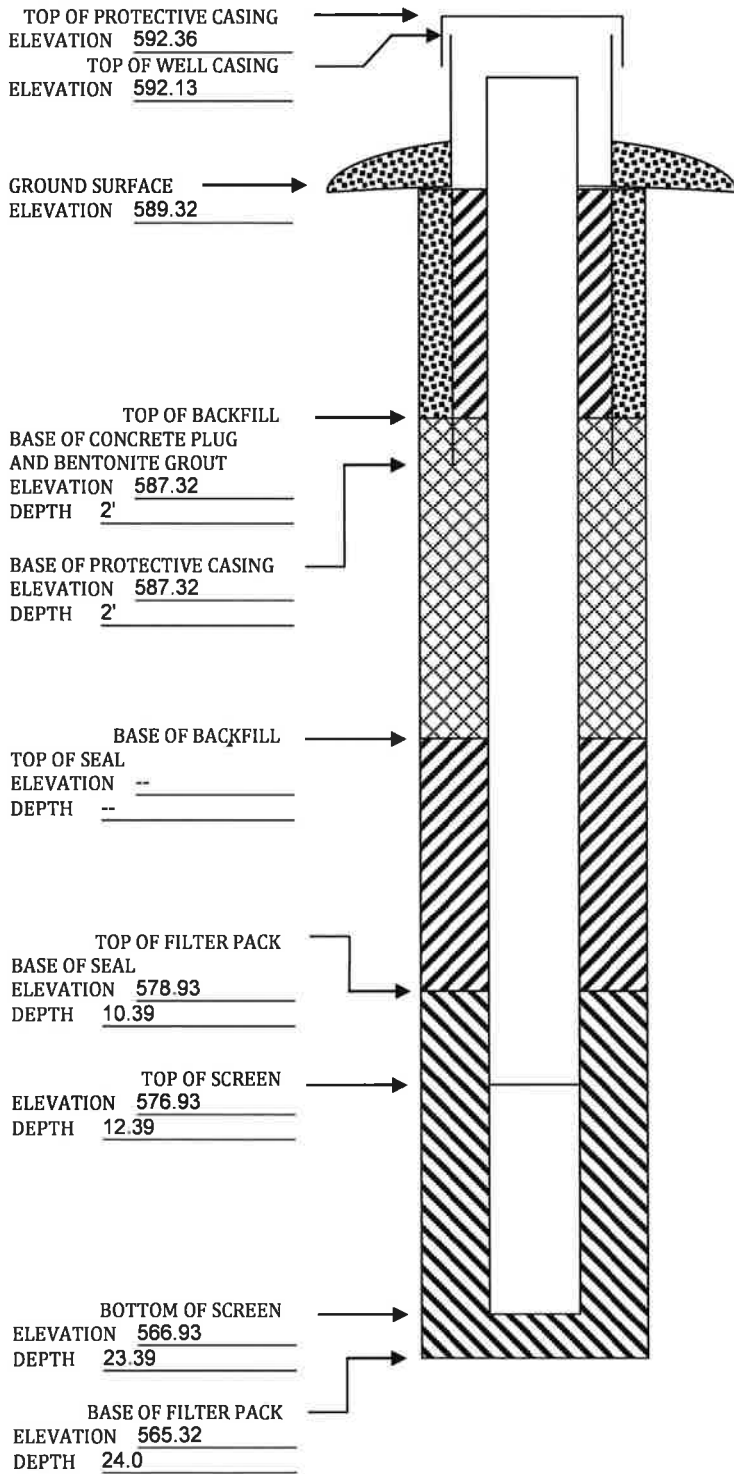
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed for to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E 9th St, Des Moines IA 50319-0034.

Questions? Call or Email: Nina Koger, Environmental Engineer Sr., 515-281-8986, Nina.Koger@dnr.iowa.gov

ELEVATIONS: ± 0.01 ft MSL
DEPTHS: ± 0.1 ft FROM GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL.)





IOWA DEPARTMENT OF NATURAL RESOURCES
MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: M.L. Kapp Generating Station - Main Ash Pond Permit No.: _____

Well or Piezometer No: MW-302

Dates Started: 2/8/2018 Date Completed: 2/8/2018

A. SURVEYED LOCATIONS AND ELEVATIONS	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>676976.06 N, 2529320.21 E</u>	Name & Address of Construction Company:
Specify corner of site: <u>NW of parcel 8071930000</u>	<u>Direct Push Analytical</u>
Distance & direction along boundary: <u>700' E</u>	<u>4N969 Old LaFox Road, Unit E</u>
Distance & direction from boundary to wall: <u>329' S</u>	<u>St. Charles, IL 60175</u>
Elevations (± 0.01 ft MSL):	Name of Driller: <u>Patrick Goetz</u>
Ground Surface: <u>588.58</u>	Drilling Method: <u>4.5" Auger</u>
Top of protective casing: <u>591.81</u>	Drilling Fluid: <u>N/A</u>
Top of well casing: <u>591.54</u>	Bore Hole Diameter: <u>8.25"</u>
Benchmark elevation: <u>590.75</u>	Soil Sampling Method: <u>Geoprobe</u>
Benchmark description: <u>BM-1</u>	Depth of Boring: <u>24.0'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: <u>15.83</u>	Volume: <u>1.86 ft³</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): <u>N/A</u>
Inside casing diameter: <u>2"</u>	Material: <u>N/A</u>
Casing joint type: <u>Flush Threaded</u>	Placement method: <u>N/A</u>
Casing/screen joint type: <u>Flush Threaded</u>	Volume: <u>N/A</u>
Screen material: <u>PVC</u>	Surface seal design: <u>0'-2' bgs</u>
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel, 4" diameter</u>
Screen length: <u>10'</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>23.14</u>	Protective cap: <u>6 inch diameter</u>
Filter Pack: <u>11.14' -23.14' bgs</u>	Material: <u>Steel</u>
Material: <u>R.W. Sidley</u>	Vented: <input type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#5</u>	Well Cap: <u>2 inch diameter</u>
Volume: <u>4.2 cu/ft</u>	Material: <u>plastic with rubber gasket</u>
Seal (minimum 3 ft length above filter pack): <u>2'-11.14' bgs</u>	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8 inch bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>16.00</u>	Stabilization Time: <u>48 days</u>
Well development method: <u>N/A</u>	
Average depth of frostline: <u>4 feet</u>	

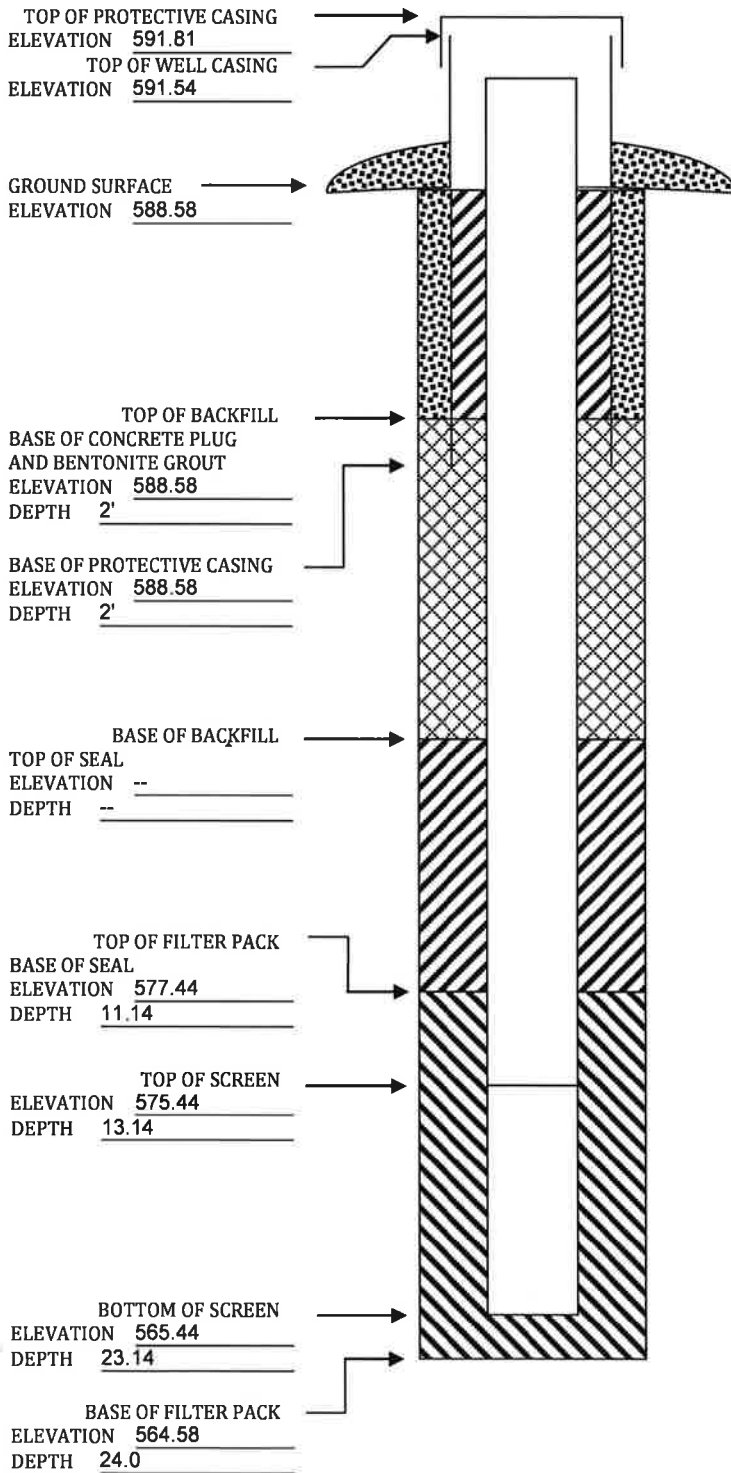
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed for to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E 9th St, Des Moines IA 50319-0034.

Questions? Call or Email: Nina Koger, Environmental Engineer Sr., 515-281-8986, Nina.Koger@dnr.iowa.gov

ELEVATIONS: ± 0.01 ft MSL
DEPTHS: ± 0.1 ft FROM GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL.)





IOWA DEPARTMENT OF NATURAL RESOURCES
MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: M.L. Kapp Generating Station - Main Ash Pond Permit No.: _____

Well or Piezometer No: MW-303

Dates Started: 2/8/2018

Date Completed: 2/8/2018

A. SURVEYED LOCATIONS AND ELEVATIONS	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>676590.31 N, 2529388.67 E</u>	Name & Address of Construction Company:
Specify corner of site: <u>NW of parcel 8071930000</u>	<u>Direct Push Analytical</u>
Distance & direction along boundary: <u>687' E</u>	<u>4N969 Old LaFox Road, Unit E</u>
Distance & direction from boundary to wall: <u>730' S</u>	<u>St. Charles, IL 60175</u>
Elevations (± 0.01 ft MSL):	Name of Driller: <u>Patrick Goetz</u>
Ground Surface: <u>589.73</u>	Drilling Method: <u>4.5" Auger</u>
Top of protective casing: <u>592.69</u>	Drilling Fluid: <u>N/A</u>
Top of well casing: <u>592.40</u>	Bore Hole Diameter: <u>8.25"</u>
Benchmark elevation: <u>590.75</u>	Soil Sampling Method: <u>Geoprobe</u>
Benchmark description: <u>BM-1</u>	Depth of Boring: <u>25.5'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: <u>15.11'</u>	Volume: <u>2.43 cubic feet</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): <u>N/A</u>
Inside casing diameter: <u>2"</u>	Material: <u>N/A</u>
Casing joint type: <u>Flush Threaded</u>	Placement method: <u>N/A</u>
Casing/screen joint type: <u>Flush Threaded</u>	Volume: <u>N/A</u>
Screen material: <u>PVC</u>	Surface seal design: <u>0'-2' bgs</u>
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel, 4" diameter</u>
Screen length: <u>10'</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>25.11'</u>	Protective cap: <u>6 inch diameter</u>
Filter Pack: <u>13.11'-25.11' bgs</u>	Material: <u>Plastic</u>
Material: <u>R.W. Sidley</u>	Vented: <input type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#5</u>	Well Cap: <u>2 inch diameter</u>
Volume: <u>4.2 cu/ft</u>	Material: <u>plastic with rubber gasket</u>
Seal (minimum 3 ft length above filter pack): <u>2'-13.11' bgs</u>	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8 inch bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>15.47</u>	Stabilization Time: <u>47 days</u>
Well development method: <u>N/A</u>	
Average depth of frostline: <u>4 feet</u>	

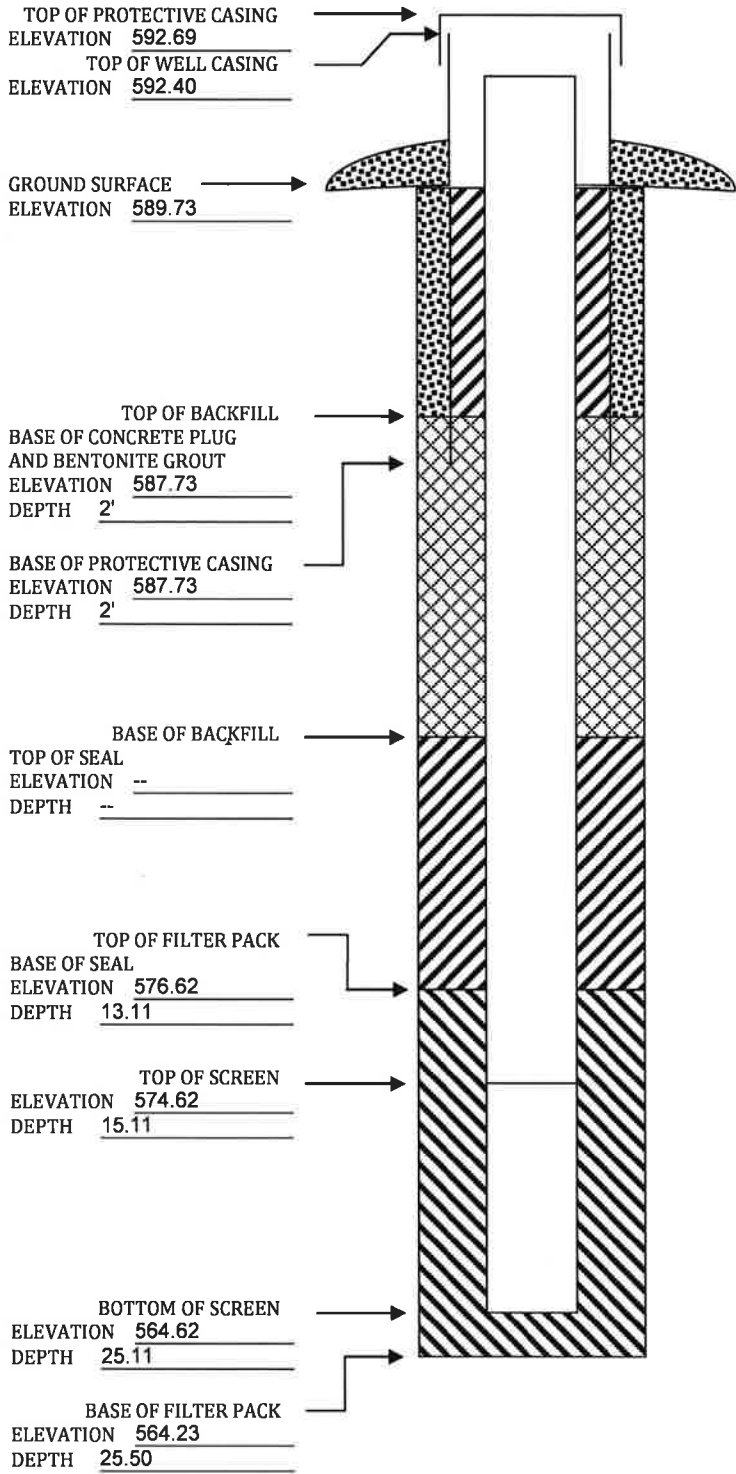
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed for to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E 9th St, Des Moines IA 50319-0034.

Questions? Call or Email: Nina Koger, Environmental Engineer Sr., 515-281-8986, Nina.Koger@dnr.iowa.gov

ELEVATIONS: ± 0.01 ft MSL
DEPTHS: ± 0.1 ft FROM GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL.)





IOWA DEPARTMENT OF NATURAL RESOURCES
MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: M.L. Kapp Generating Station - Main Ash Pond Permit No.: _____

Well or Piezometer No: MW-304

Dates Started: 2/7/2018

Date Completed: 2/7/2018

A. SURVEYED LOCATIONS AND ELEVATIONS	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>676305.68 N, 2529103.87 E</u>	Name & Address of Construction Company: _____
Specify corner of site: <u>SW of parcel 8071930000</u>	<u>Direct Push Analytical</u>
Distance & direction along boundary: <u>152' N</u>	<u>4N969 Old LaFox Road, Unit E</u>
Distance & direction from boundary to wall: <u>1,487' E</u>	<u>St. Charles, IL 60175</u>
Elevations (± 0.01 ft MSL): _____	Name of Driller: <u>Patrick Goetz</u>
Ground Surface: <u>589.42</u>	Drilling Method: <u>4.5" Auger</u>
Top of protective casing: <u>592.35</u>	Drilling Fluid: <u>N/A</u>
Top of well casing: <u>592.12</u>	Bore Hole Diameter: <u>8.5"</u>
Benchmark elevation: <u>590.75</u>	Soil Sampling Method: <u>Geoprobe</u>
Benchmark description: <u>BM-1</u>	Depth of Boring: <u>25.0'</u>
C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: <u>14.54'</u>	Volume: <u>2.0 ft³</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): <u>N/A</u>
Inside casing diameter: <u>2"</u>	Material: <u>N/A</u>
Casing joint type: <u>Flush Threaded</u>	Placement method: <u>N/A</u>
Casing/screen joint type: <u>Flush Threaded</u>	Volume: <u>N/A</u>
Screen material: <u>PVC</u>	Surface seal design: <u>0'-2' bgs</u>
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel, 4" diameter</u>
Screen length: <u>10'</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>24.0'</u>	Protective cap: <u>6 inch diameter</u>
Filter Pack: <u>12.54'-24.54' bgs</u>	Material: <u>Plastic</u>
Material: <u>R.W. Sidley</u>	Vented: <input type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#5</u>	Well Cap: <u>2 inch diameter</u>
Volume: <u>4.2 cu/ft</u>	Material: <u>plastic with rubber gasket</u>
Seal (minimum 3 ft length above filter pack): <u>2'-12.54' bgs</u>	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8 inch bentonite chips</u>	
D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>15.35</u>	Stabilization Time: <u>48 days</u>
Well development method: <u>N/A</u>	
Average depth of frostline: <u>4 feet</u>	

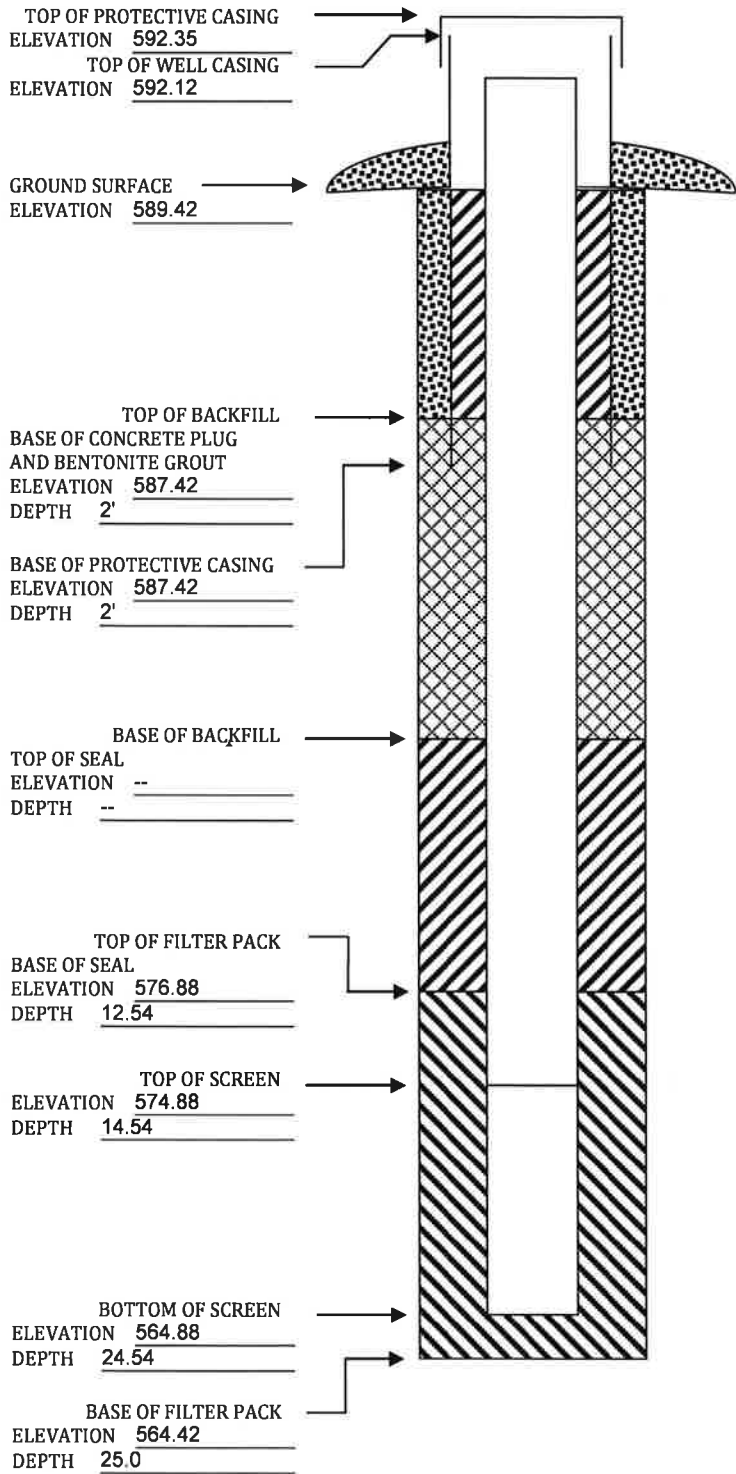
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed for to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E 9th St, Des Moines IA 50319-0034.

Questions? Call or Email: Nina Koger, Environmental Engineer Sr., 515-281-8986, Nina.Koger@dnr.iowa.gov

ELEVATIONS: ± 0.01 ft MSL
DEPTHS: ± 0.1 ft FROM GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL.)





IOWA DEPARTMENT OF NATURAL RESOURCES
MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: M.L. Kapp Generating Station - Main Ash Pond Permit No.: _____

Well or Piezometer No: MW-305

Dates Started: 2/7/2018 Date Completed: 2/7/2018

A. SURVEYED LOCATIONS AND ELEVATIONS	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>676125.82 N, 2528762.6 E</u>	Name & Address of Construction Company: <u>Direct Push Analytical</u>
Specify corner of site: <u>SW of parcel 8071930000</u>	<u>4N969 Old LaFox Road, Unit E</u>
Distance & direction along boundary: <u>137' N</u>	<u>St. Charles, IL 60175</u>
Distance & direction from boundary to wall: <u>1,084' E</u>	Name of Driller: <u>Patrick Goetz</u>
Elevations (± 0.01 ft MSL):	Drilling Method: <u>4.5" Auger</u>
Ground Surface: <u>589.39</u>	Drilling Fluid: <u>N/A</u>
Top of protective casing: <u>592.86</u>	Bore Hole Diameter: <u>8.25"</u>
Top of well casing: <u>592.60</u>	Soil Sampling Method: <u>Geoprobe</u>
Benchmark elevation: <u>590.75</u>	Depth of Boring: <u>24.5'</u>
Benchmark description: <u>BM-1</u>	

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: <u>17.30</u>	Volume: <u>2.21 ft³</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): <u>N/A</u>
Inside casing diameter: <u>2"</u>	Material: <u>N/A</u>
Casing joint type: <u>Flush Threaded</u>	Placement method: <u>N/A</u>
Casing/screen joint type: <u>Flush Threaded</u>	Volume: <u>N/A</u>
Screen material: <u>PVC</u>	Surface seal design: <u>0'-2' bgs</u>
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel, 4" diameter</u>
Screen length: <u>10'</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>24.09</u>	Protective cap: <u>6 inch diameter</u>
Filter Pack: <u>12.09' -24.09' bgs</u>	Material: <u>Steel</u>
Material: <u>R.W. Sidley</u>	Vented: <input type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#5</u>	Well Cap: <u>2 inch diameter</u>
Volume: <u>4.2 cu/ft</u>	Material: <u>plastic with rubber gasket</u>
Seal (minimum 3 ft length above filter pack): <u>2'-12.09' bgs</u>	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8 inch bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>16.24</u>	Stabilization Time: <u>48 days</u>
Well development method: <u>N/A</u>	
Average depth of frostline: <u>4 feet</u>	

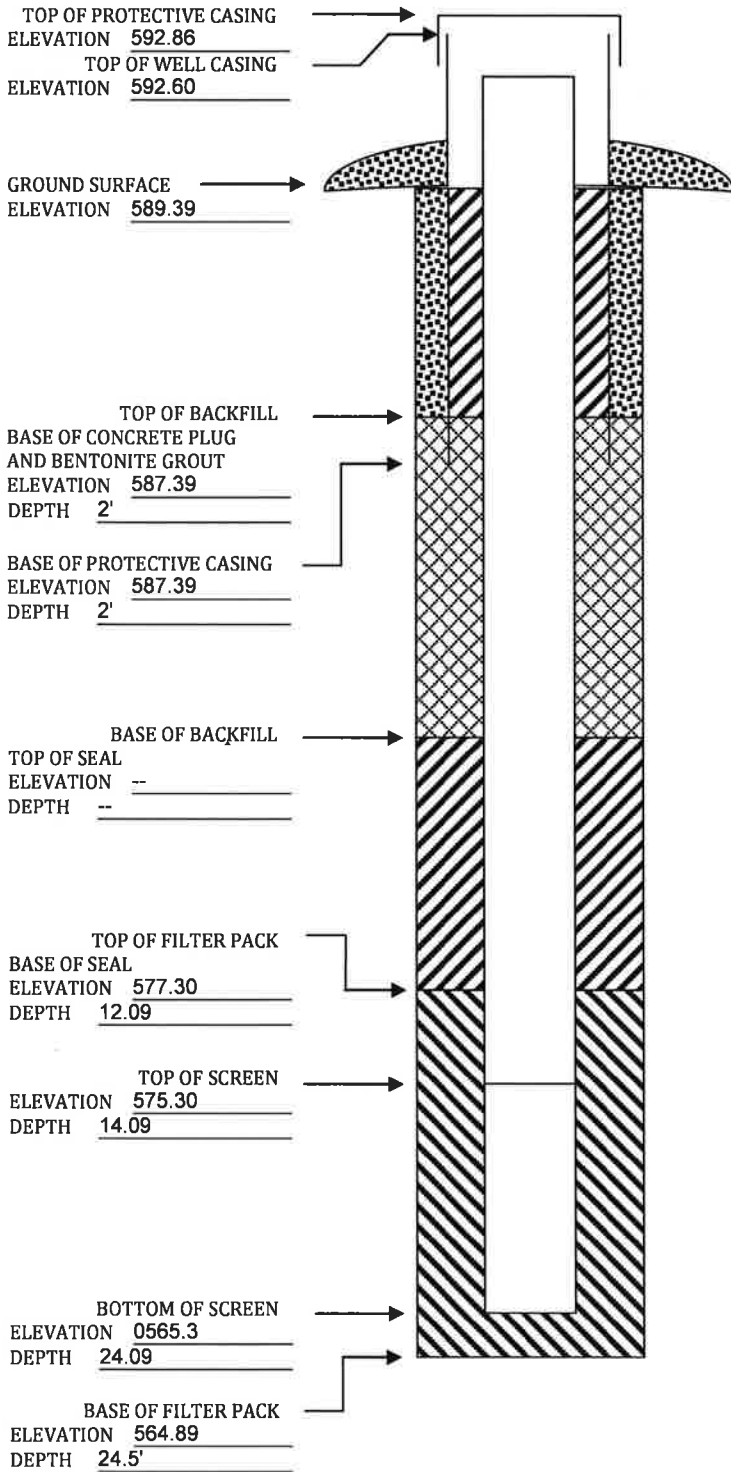
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed for to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E 9th St, Des Moines IA 50319-0034.

Questions? Call or Email: Nina Koger, Environmental Engineer Sr., 515-281-8986, Nina.Koger@dnr.iowa.gov

ELEVATIONS: ± 0.01 ft MSL
DEPTHS: ± 0.1 ft FROM GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL.)





IOWA DEPARTMENT OF NATURAL RESOURCES
MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: M.L. Kapp Generating Station - Main Ash Pond Permit No.: _____

Well or Piezometer No: MW-306

Dates Started: 2/7/2018

Date Completed: 2/7/2018

A. SURVEYED LOCATIONS AND ELEVATIONS	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>675686.88 N, 2527883.15 E</u>	Name & Address of Construction Company:
Specify corner of site: <u>SW of Parcel 8071930000</u>	<u>Direct Push Analytical</u>
Distance & direction along boundary: <u>130' N</u>	<u>4N969 Old LaFox Road, Unit E</u>
Distance & direction from boundary to wall: <u>81' E</u>	<u>St. Charles, IL 60175</u>
Elevations (± 0.01 ft MSL):	Name of Driller: <u>Patrick Goetz</u>
Ground Surface: <u>588.14</u>	Drilling Method: <u>4.5" Auger</u>
Top of protective casing: <u>591.09</u>	Drilling Fluid: <u>N/A</u>
Top of well casing: <u>590.83</u>	Bore Hole Diameter: <u>8.25"</u>
Benchmark elevation: <u>590.75</u>	Soil Sampling Method: <u>Geoprobe</u>
Benchmark description: <u>BM-1</u>	Depth of Boring: <u>25.0'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: <u>17.20</u>	Volume: <u>2.30 ft3</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): <u>N/A</u>
Inside casing diameter: <u>2"</u>	Material: <u>N/A</u>
Casing joint type: <u>Flush Threaded</u>	Placement method: <u>N/A</u>
Casing/screen joint type: <u>Flush Threaded</u>	Volume: <u>N/A</u>
Screen material: <u>PVC</u>	Surface seal design: <u>0'-2'</u>
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel, 4" diameter</u>
Screen length: <u>10'</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>24.51'</u>	Protective cap: <u>6 inch diameter</u>
Filter Pack: <u>12.51'-24.51' bgs</u>	Material: <u>Steel</u>
Material: <u>Native (slough)</u>	Vented: <input type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>R.W. Sidley #5</u>	Well Cap: <u>2 inch diameter</u>
Volume: <u>4.2 cu/ft</u>	Material: <u>plastic with rubber gasket</u>
Seal (minimum 3 ft length above filter pack): <u>2'-12.51' bgs</u>	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8 inch bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>13.26</u>	Stabilization Time: <u>48 days</u>
Well development method: <u>N/A</u>	
Average depth of frostline: <u>4 feet</u>	

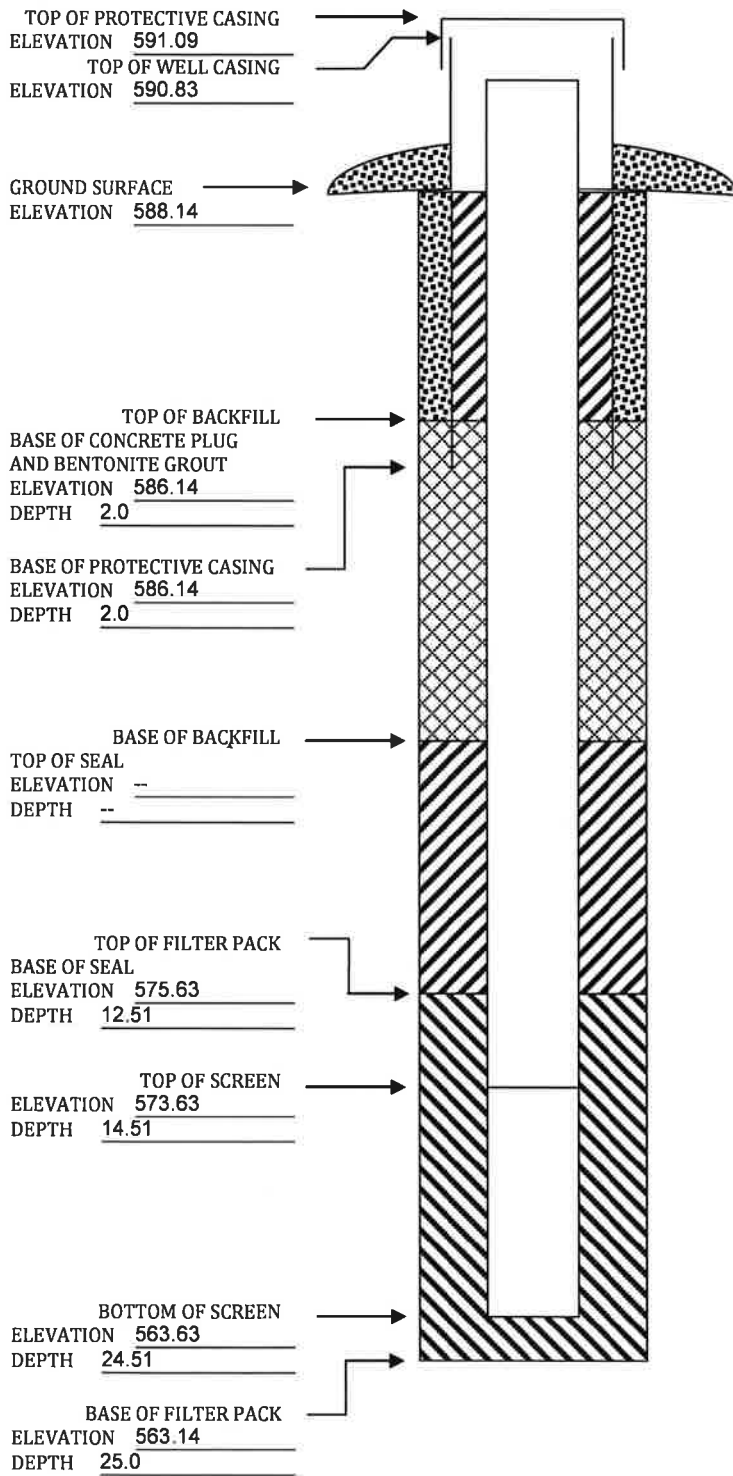
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed for to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E 9th St, Des Moines IA 50319-0034.

Questions? Call or Email: Nina Koger, Environmental Engineer Sr., 515-281-8986, Nina.Koger@dnr.iowa.gov

ELEVATIONS: ± 0.01 ft MSL
DEPTHS: ± 0.1 ft FROM GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL.)



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name _____ Permit No. _____
Well or Piezometer No. _____ Dates Started _____ Date Completed _____

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site _____ Distance and direction along boundary _____
Distance and direction from boundary to surface monitoring well _____
Elevation (+0.01 ft. MSL) _____
Ground Surface _____ Top of protective casing _____
Top of well casing _____ Benchmark elevation _____
Benchmark description _____

B. SOIL BORING INFORMATION

Construction Company Name _____
Address _____ City, State, Zip Code _____
Name of driller _____
Drilling method _____ Drilling fluid _____ Bore Hole diameter _____
Soil sampling method _____ Depth of boring _____

C. MONITORING WELL INSTALLATION

Casing material _____	Placement method _____
Length of casing _____	Volume _____
Outside casing diameter _____	Backfill (if different from seal): _____
Inside casing diameter _____	Material _____
Casing joint type _____	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material _____	Surface seal design: _____
Screen opening size _____	Material of protective casing: _____
Screen length _____	Material of grout between protective casing and well casing: _____
Depth of Well _____	Protective cap: _____
Filter Pack: _____	Material _____
Material _____	Vented?: <input type="checkbox"/> Y <input type="checkbox"/> N
Grain Size _____	Locking?: <input type="checkbox"/> Y <input type="checkbox"/> N
Volume _____	Well cap: _____
Seal (minimum 3 ft. length above filter pack): _____	Material _____
Material _____	Vented?: <input type="checkbox"/> Y <input type="checkbox"/> N

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level _____ Stabilization time _____
Well development method _____
Average depth of frost line _____

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature _____ Certification # _____ Date _____

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

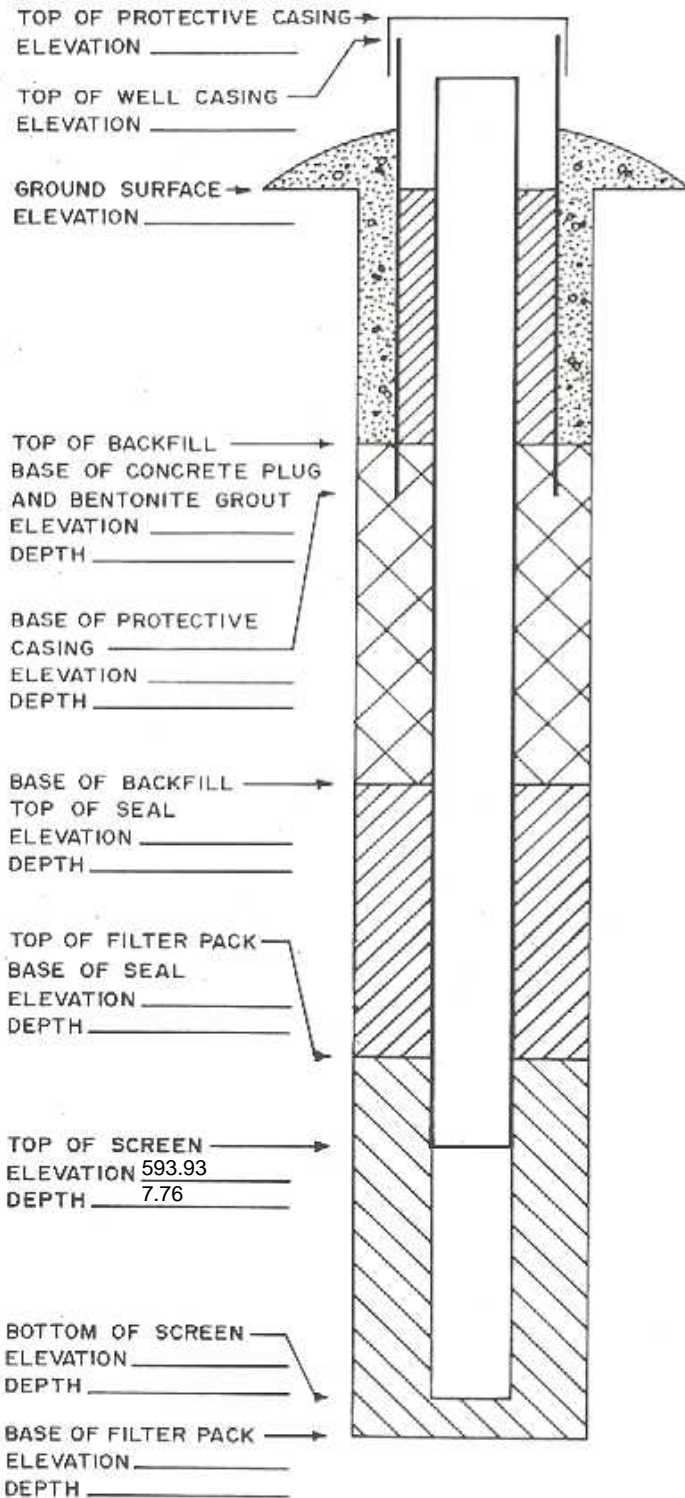
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL

DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name M.L. Kapp Substation Permit No. _____
Well or Piezometer No. MW-307 Dates Started 4/15/2020 Date Completed 4/15/2020

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site SW Distance and direction along boundary _____
Distance and direction from boundary to surface monitoring well 268' NW from SE corner
Elevation (+0.01 ft. MSL) _____
Ground Surface 601.69' Top of protective casing 603.80'
Top of well casing 603.39' Benchmark elevation 599.04'
Benchmark description Benchmark is in the north east corner of the property, named Top Conc structure.

B. SOIL BORING INFORMATION

Construction Company Name Terracon Consultants Inc.
Address 2640 12th St. SW City, State, Zip Code Cedar Rapids, IA 52404
Name of driller Scott Zeien
Drilling method Hollow Stem Auger Drilling fluid none Bore Hole diameter 8.5"
Soil sampling method Continuous split-spoon Depth of boring 22'

C. MONITORING WELL INSTALLATION

Casing material <u>Sch. 40 PVC</u>	Placement method <u>Poured</u>
Length of casing <u>9.46'</u>	Volume <u>~0.6 ft^3</u>
Outside casing diameter <u>2.4</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type <u>Threaded</u>	Volume _____
Screen material <u>Sch. 40 PVC</u>	Surface seal design: _____
Screen opening size <u>0.01"</u>	Material of protective casing: <u>Steel</u>
Screen length <u>10'</u>	Material of grout between protective casing and well casing: <u>Coarse Sand</u>
Depth of Well <u>17.76' below ground surface</u>	Protective cap: _____
Filter Pack: _____	Material <u>Steel</u>
Material <u>sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>coarse</u>	Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Volume <u>~5.23 ft^3</u>	Well cap: _____
Seal (minimum 3 ft. length above filter pack): _____	Material <u>PVC</u>
Material <u>3/8" hydrated bentonite chips</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level 8.33 Stabilization time 2.5 hours
Well development method Surged & bailed to remove turbidity
Average depth of frost line 4'

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature _____ Certification # _____ Date _____

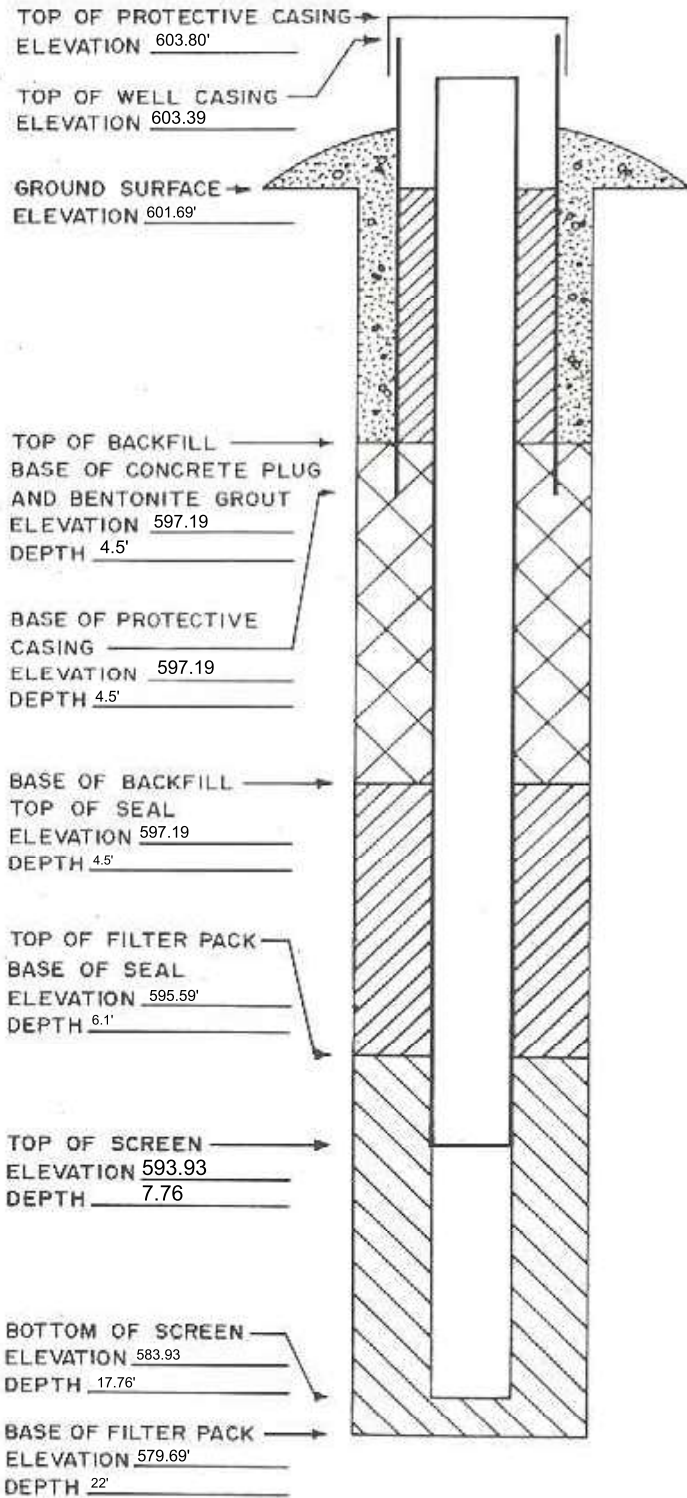
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL
DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL - Alliant M.L. Kapp Permit No. _____
Well or Piezometer No. MW - 304A Dates Started 2/8/2021 Date Completed 2/8/2021

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site SW of Parcel 8071930000 Distance and direction along boundary 152' N
Distance and direction from boundary to surface monitoring well 1,474' E
Elevation (+0.01 ft. MSL) _____
Ground Surface 589.527 Top of protective casing 592.134
Top of well casing 591.89 Benchmark elevation 592.124
Benchmark description MW-304

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI 54776
Name of driller Michael Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6"
Soil sampling method Bagged Depth of boring 70'

C. MONITORING WELL INSTALLATION

Casing material <u>Sch. 40 PVC</u>	Placement method <u>Poured</u>
Length of casing <u>52.61'</u>	Volume <u>0.67 cu. ft</u>
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2"</u>	Material <u>Bentonite grout & Bentonite chips</u>
Casing joint type <u>Threaded</u>	Placement method <u>Pumped & Poured</u>
Casing/screen joint type <u>Threaded</u>	Volume <u>55 gallons grout & 2 cu. ft chips</u>
Screen material <u>Sch. 40 PVC</u>	Surface seal design: _____
Screen opening size <u>0.01"</u>	Material of protective casing: <u>Steel</u>
Screen length <u>5'</u>	Material of grout between protective casing and well casing: <u>Sand</u>
Depth of Well <u>55'</u>	Protective cap: _____
Filter Pack: _____	Material <u>Aluminum</u>
Material <u>Red Flint Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u># 40</u>	Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Volume <u>1.5 cu. ft</u>	Well cap: _____
Seal (minimum 3 ft. length above filter pack): _____	Material <u>Plastic</u>
Material <u>Bentonite chips</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level 17.8' Stabilization time < 5 minutes
Well development method Surge and purge with bailer and pump
Average depth of frost line 4' bgs

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature  Certification # 9362 Date 2-8-2021

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

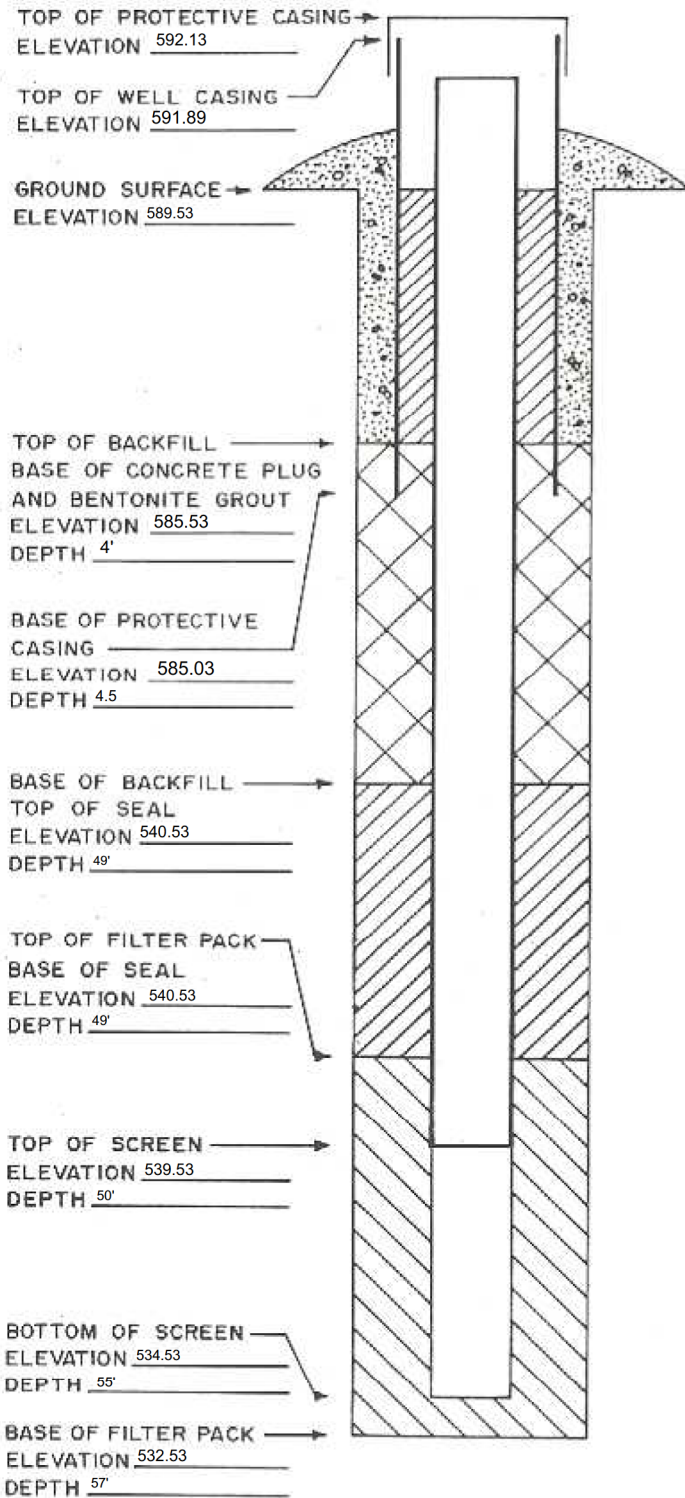
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL

DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL M.L. Kapp Permit No. IDNR #56263, County #1647
Well or Piezometer No. MW-308 Dates Started 4/26/2021 Date Completed 4/27/2021

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site NW Distance and direction along boundary 300' SE
Distance and direction from boundary to surface monitoring well 40' NE
Elevation (+0.01 ft. MSL) _____
Ground Surface 586.10 Top of protective casing 589.01
Top of well casing 588.378 Benchmark elevation 588.78
Benchmark description Cut "x" in top of dock wall

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI. 54476
Name of driller Mike Mueller
Drilling method Roto-Sonic Drilling fluid Water Bore Hole diameter 6"
Soil sampling method Bagged Depth of boring 18'

C. MONITORING WELL INSTALLATION


Casing material <u>Sch 40 PVC</u>	Placement method <u>Poured</u>
Length of casing <u>19.5'</u>	Volume <u>0.3 cu. ft.</u>
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2.05"</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type <u>Threaded</u>	Volume _____
Screen material <u>Sch. 40 PVC</u>	Surface seal design: _____
Screen opening size <u>0.01"</u>	Material of protective casing: <u>Steel</u>
Screen length <u>10'</u>	Material of grout between protective casing and well casing: <u>Bentonite chips and sand</u>
Depth of Well <u>17'</u>	Protective cap: _____
Filter Pack: _____	Material <u>Aluminum</u>
Material <u>Red Flint Filter Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#40</u>	Well cap: _____
Volume <u>1.5 cu. ft.</u>	Material <u>Plastic</u>
Seal (minimum 3 ft. length above filter pack): _____	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Material <u>Bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level 9.68 Stabilization time <5 min
Well development method Purged and surged with pump
Average depth of frost line 4'

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature  Certification # 9362 Date 4-27-2021

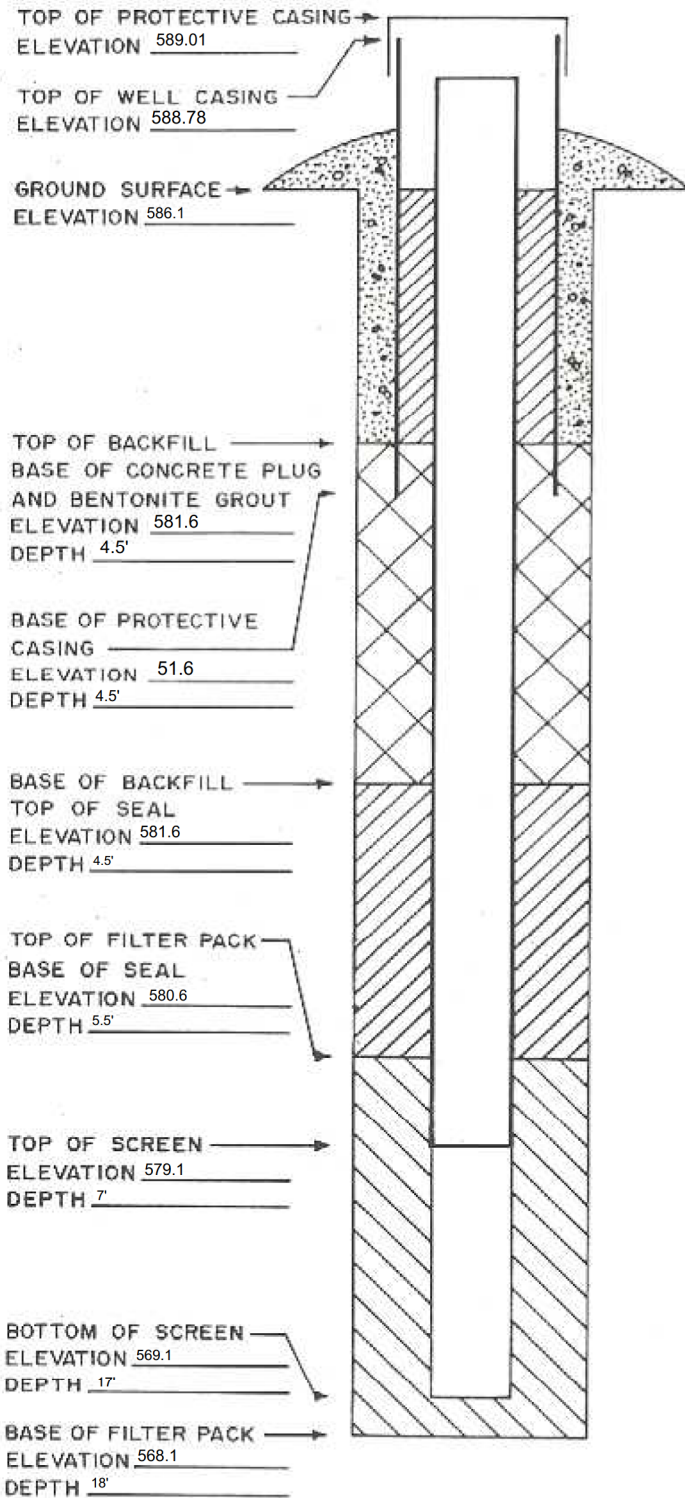
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL
DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL M.L. Kapp Permit No. IDNR #56263, County #1647
Well or Piezometer No. MW-309 Dates Started 4/27/2021 Date Completed 4/27/2021

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site SW Distance and direction along boundary 150' NW
Distance and direction from boundary to surface monitoring well 50' NE
Elevation (+0.01 ft. MSL) _____
Ground Surface 589.00 Top of protective casing 591.45
Top of well casing 591.24 Benchmark elevation 588.78
Benchmark description Cut "x" in top of PCC Dock Wall

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI. 54476
Name of driller Mike Mueller
Drilling method Roto-Sonic Drilling fluid Water Bore Hole diameter 6"
Soil sampling method Bagged Depth of boring 25'

C. MONITORING WELL INSTALLATION


Casing material Sch 40 PVC Placement method Poured
Length of casing 24.5' Volume 1 cu. ft.
Outside casing diameter 2.4" Backfill (if different from seal): _____
Inside casing diameter 2.05" Material _____
Casing joint type Threaded Placement method _____
Casing/screen joint type Threaded Volume _____
Screen material Sch. 40 PVC Surface seal design: _____
Screen opening size 0.01" Material of protective casing: Steel
Screen length 10' Material of grout between
Depth of Well 22' protective casing and well casing: Bentonite chips and sand
Protective cap: _____
Filter Pack: _____ Material Aluminum
Material Red Flint Filter Sand Vented?: Y N Locking?: Y N
Grain Size #40 Well cap: _____
Volume 2 cu. ft. Material Plastic
Seal (minimum 3 ft. length above filter pack): _____ Vented?: Y N
Material Bentonite chips

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level 15.75 Stabilization time < 5 min
Well development method Purged and surged with pump
Average depth of frost line 4'

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature  Certification # 9362 Date 4-27-2021

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

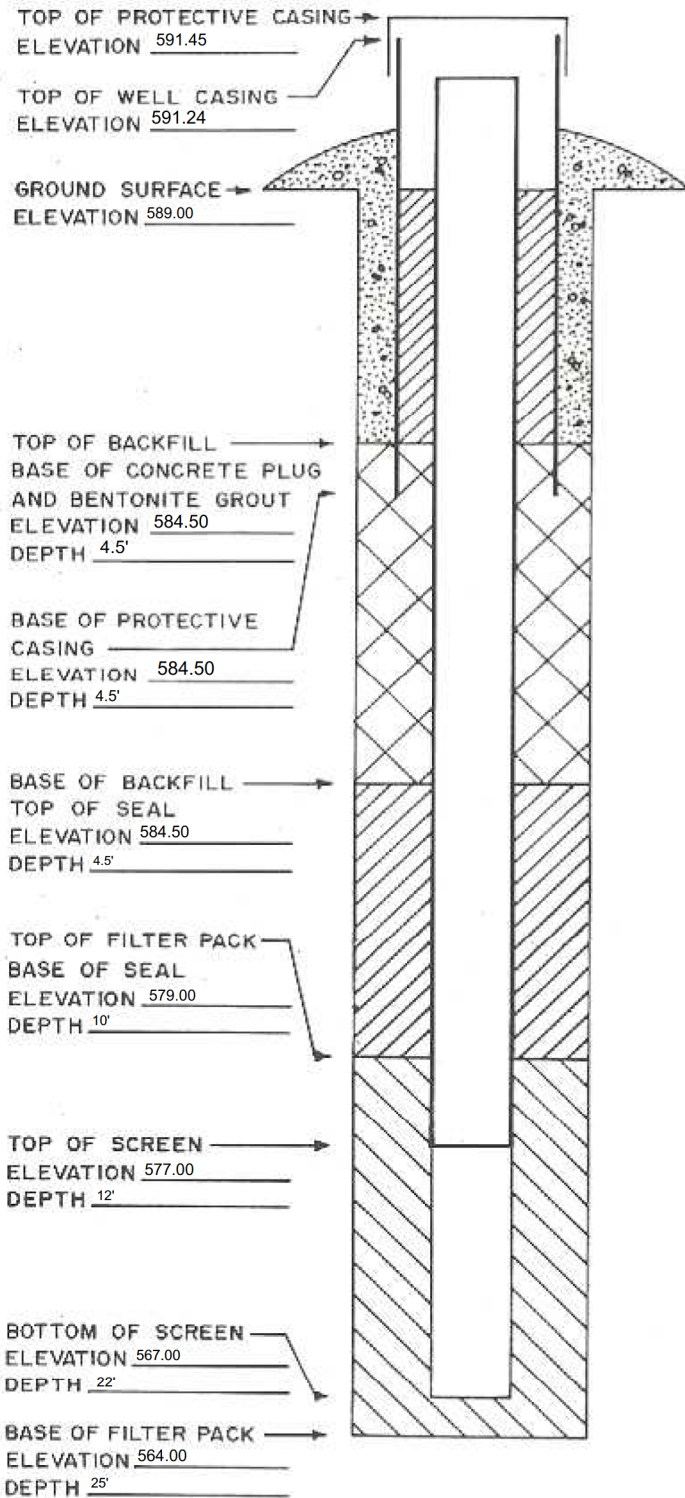
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL

DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name _____ Permit No. _____
Well or Piezometer No. _____ Dates Started _____ Date Completed _____

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site _____ Distance and direction along boundary _____
Distance and direction from boundary to surface monitoring well _____
Elevation (+0.01 ft. MSL) _____
Ground Surface _____ Top of protective casing _____
Top of well casing _____ Benchmark elevation _____
Benchmark description _____

B. SOIL BORING INFORMATION

Construction Company Name _____
Address _____ City, State, Zip Code _____
Name of driller _____
Drilling method _____ Drilling fluid _____ Bore Hole diameter _____
Soil sampling method _____ Depth of boring _____

C. MONITORING WELL INSTALLATION

Casing material _____	Placement method _____
Length of casing _____	Volume _____
Outside casing diameter _____	Backfill (if different from seal): _____
Inside casing diameter _____	Material _____
Casing joint type _____	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material _____	Surface seal design: _____
Screen opening size _____	Material of protective casing: _____
Screen length _____	Material of grout between protective casing and well casing: _____
Depth of Well _____	Protective cap: _____
Filter Pack: _____	Material _____
Material _____	Vented?: <input type="checkbox"/> Y <input type="checkbox"/> N
Grain Size _____	Locking?: <input type="checkbox"/> Y <input type="checkbox"/> N
Volume _____	Well cap: _____
Seal (minimum 3 ft. length above filter pack): _____	Material _____
Material _____	Vented?: <input type="checkbox"/> Y <input type="checkbox"/> N

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level _____ Stabilization time _____
Well development method _____
Average depth of frost line _____

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature _____ Certification # _____ Date _____

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

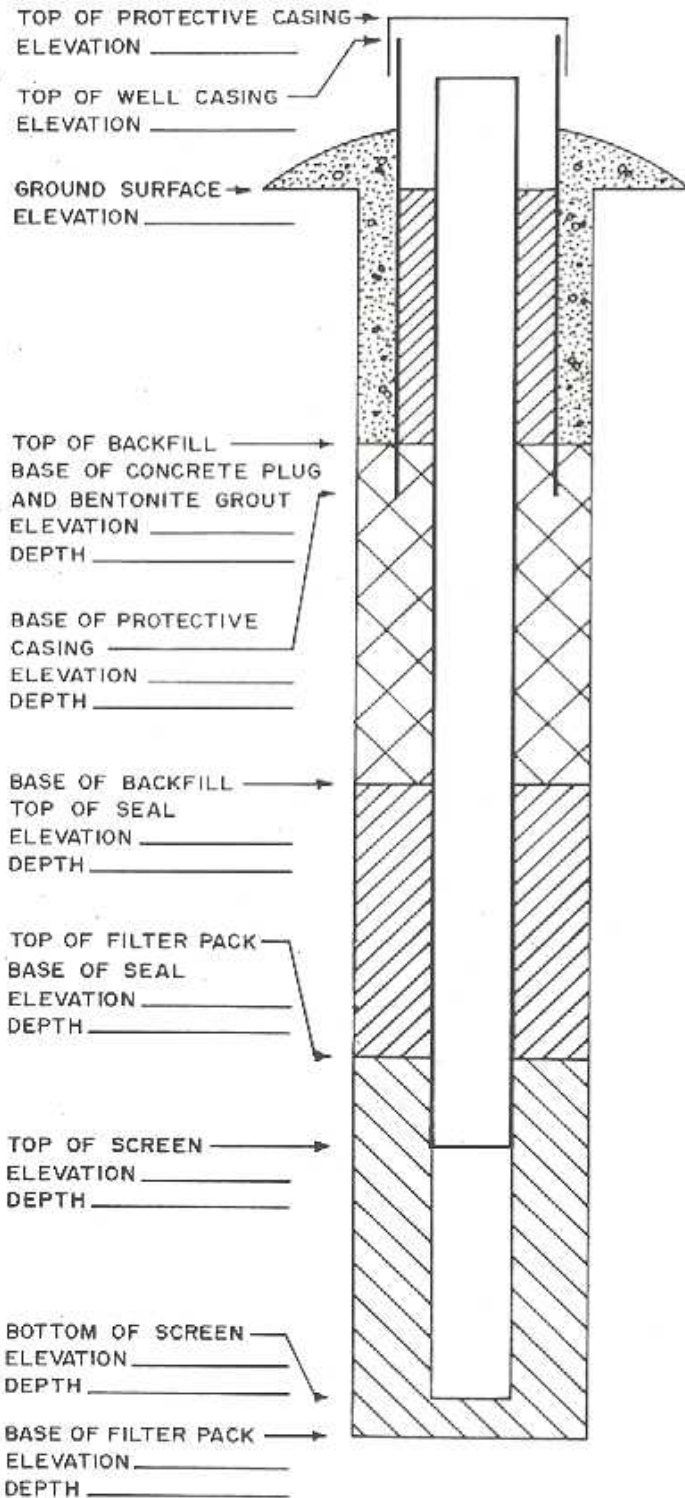
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Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL

DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL M.L. Kapp Permit No. IDNR #56263, County #1647
Well or Piezometer No. MW-310 Dates Started 9/27/2021 Date Completed 9/27/2021

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site Southern Distance and direction along boundary 90' northwest
Distance and direction from boundary to surface monitoring well 50' northeast perpendicular from boundary
Elevation (+0.01 ft. MSL) _____
Ground Surface 595.14' Top of protective casing 597.91'
Top of well casing 597.58' Benchmark elevation _____
Benchmark description _____

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI 54476
Name of driller Todd Schmalfeldt
Drilling method Sonic Drilling fluid Water Bore Hole diameter 6"
Soil sampling method Grab Depth of boring 31'

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Gravity</u>
Length of casing <u>27'</u>	Volume <u>7 bags</u>
Outside casing diameter <u>2.38"</u>	Backfill (if different from seal): <u>Same as seal</u>
Inside casing diameter <u>2.01"</u>	Material _____
Casing joint type <u>Flush threaded</u>	Placement method _____
Casing/screen joint type <u>Flush threaded</u>	Volume _____
Screen material <u>PVC</u>	Surface seal design: _____
Screen opening size <u>0.010" Factory slotted</u>	Material of protective casing: <u>Steel</u>
Screen length <u>5'</u>	Material of grout between protective casing and well casing: <u>Concrete</u>
Depth of Well <u>30'</u>	Protective cap: _____
Filter Pack: _____	Material <u>Steel</u>
Material <u>Sand</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#40</u>	Well cap: <u>Plastic with expandable rubber gasket</u>
Volume <u>3 bags (1.5 cubic feet)</u>	Material _____
Seal (minimum 3 ft. length above filter pack): _____	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Material <u>3/8" bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level 8.93' Stabilization time <20 minutes
Well development method Surged and purged. Total of 55 gallons removed during well development
Average depth of frost line 4'

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature _____ Certification # _____ Date _____

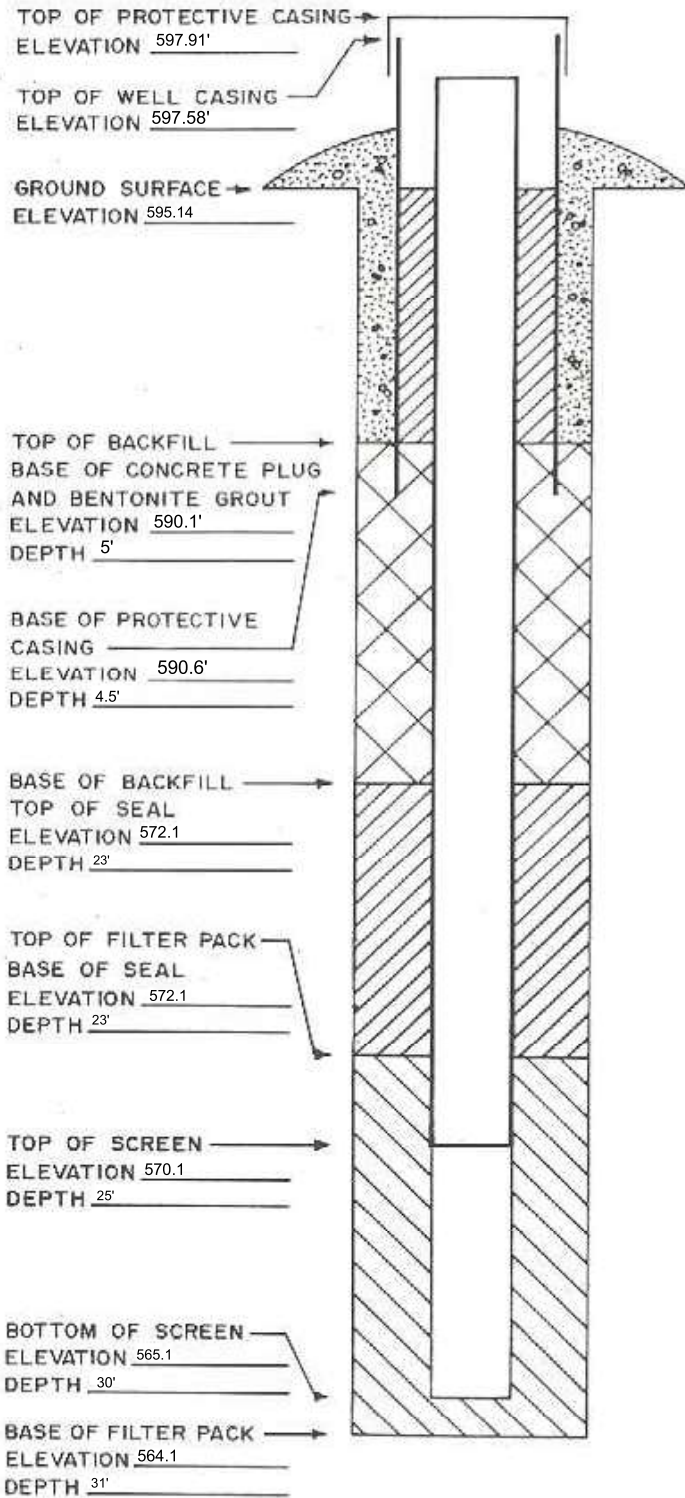
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL
DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name M.L. Kapp Permit No. IDNR #56263, County #1647
Well or Piezometer No. MW-311 Dates Started 12/6/2021 Date Completed 12/7/2021

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site NE Distance and direction along boundary 75' WNW
Distance and direction from boundary to surface monitoring well 35' WSW
Elevation (+0.01 ft. MSL) _____
Ground Surface 585.29 Top of protective casing 587.89
Top of well casing 587.59 Benchmark elevation 585.29
Benchmark description Benchmark "A," cut X in concrete

B. SOIL BORING INFORMATION

Construction Company Name Roberts Environmental Drilling
Address 1107 S Mulberry St City, State, Zip Code Millstadt IL, 62260
Name of driller Eric Wetzel
Drilling method Air Rotary Drilling fluid Air Bore Hole diameter 6"
Soil sampling method Screened Depth of boring 31'

C. MONITORING WELL INSTALLATION

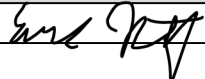
Casing material Sch 40 PVC Placement method Poured
Length of casing 27.8' Volume 0.8 cu. ft.
Outside casing diameter 2.4" Backfill (if different from seal): Bentonite Chips
Inside casing diameter 2.05" Material Bentonite Chips
Casing joint type Threaded Placement method Poured
Casing/screen joint type Threaded Volume 0.2 cu. ft.
Screen material Sch. 40 PVC Surface seal design: Cement
Screen opening size 0.01" Material of protective casing: Steel
Material of grout between
protective casing and well casing: Bentonite chips and sand
Screen length 15' Protective cap: _____
Depth of Well 25' Material Steel
Vented?: Y N Locking?: Y N
Filter Pack: _____
Material Filter Sand Well cap: _____
Grain Size #40 Material Plastic
Volume 3.6 cu. ft. Vented?: Y N
Seal (minimum 3 ft. length above filter pack): _____
Material Bentonite chips

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level 15.68' Stabilization time < 5 min
Well development method Purged and surged by Roberts
Average depth of frost line 4'

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature  Certification # 11509 Date 2.7.22

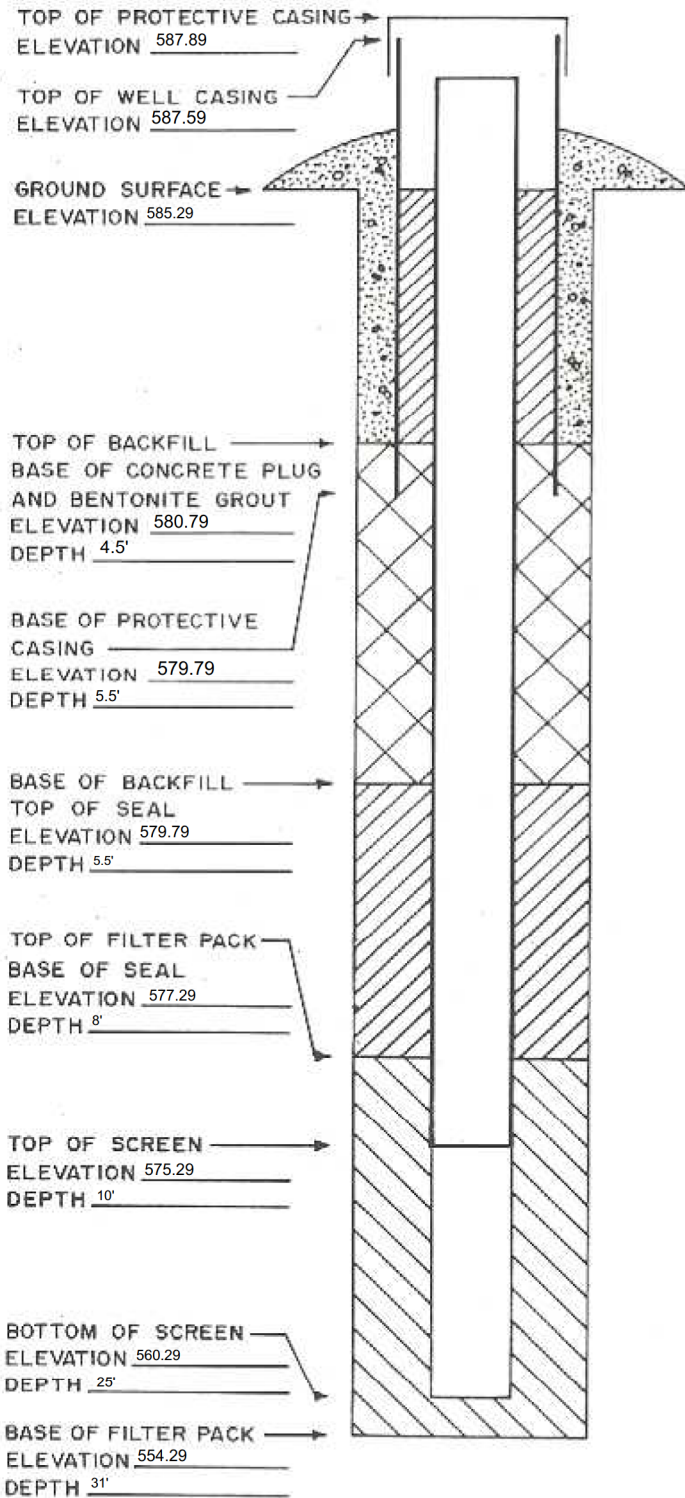
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL
DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL M.L. Kapp Permit No. IDNR #56263, County #1647
Well or Piezometer No. MW-311A Dates Started 12/7/2021 Date Completed 12/8/2021

A. SURVEYED LOCATION AND ELEVATION OF POINT (+0.5 ft.)

Specify corner of site NE Distance and direction along boundary 75' WNW
Distance and direction from boundary to surface monitoring well 35' WSW
Elevation (+0.01 ft. MSL) _____
Ground Surface 585.29 Top of protective casing 588.09
Top of well casing 587.82 Benchmark elevation 585.29
Benchmark description Benchmark "B," cut X in concrete

B. SOIL BORING INFORMATION

Construction Company Name Roberts Environmental Drilling
Address 1107 S Mulberry St City, State, Zip Code Millstadt IL, 62260
Name of driller Eric Wetzel
Drilling method Air Rotary Drilling fluid Air Bore Hole diameter 6"
Soil sampling method Screened rock cuttings Depth of boring 66'

C. MONITORING WELL INSTALLATION

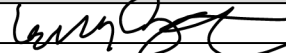
Casing material <u>Sch 40 PVC</u>	Placement method <u>Tremie Pumped</u>
Length of casing <u>67.65'</u>	Volume <u>9.0 cu. ft.</u>
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): <u>Filter Sand</u>
Inside casing diameter <u>2.05"</u>	Material <u>Filter Sand</u>
Casing joint type <u>Threaded</u>	Placement method <u>Poured</u>
Casing/screen joint type <u>Threaded</u>	Volume <u>0.2 cu. ft.</u>
Screen material <u>Sch. 40 PVC</u>	Surface seal design: <u>Concrete</u>
Screen opening size <u>0.01"</u>	Material of protective casing: <u>Steel</u>
Screen length <u>5'</u>	Material of grout between protective casing and well casing: <u>Bentonite chips and sand</u>
Depth of Well <u>65'</u>	Protective cap: _____
Filter Pack: _____	Material <u>Steel</u>
Material <u>Filter Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#40</u>	Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Volume <u>1.3 cu. ft.</u>	Well cap: _____
Seal (minimum 3 ft. length above filter pack): _____	Material <u>Plastic</u>
Material <u>Bentonite grout</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level 18.62' Stabilization time < 5 min
Well development method Purged and surged by Roberts
Average depth of frost line 4'

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature  Certification # 11509 Date 2.7.22

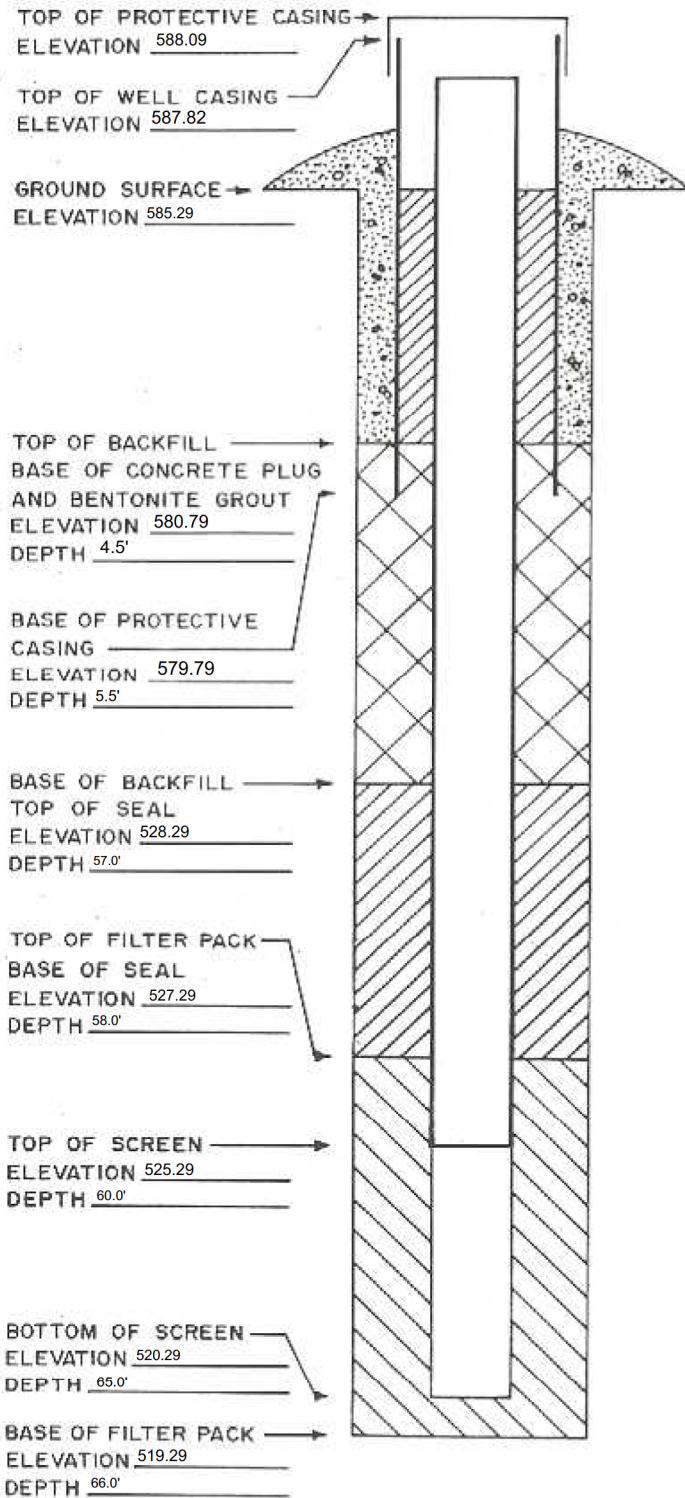
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.


Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

ELEVATIONS: \pm 0.01 FT. MSL
DEPTHS: \pm 0.1 FT. FROM
GROUND SURFACE

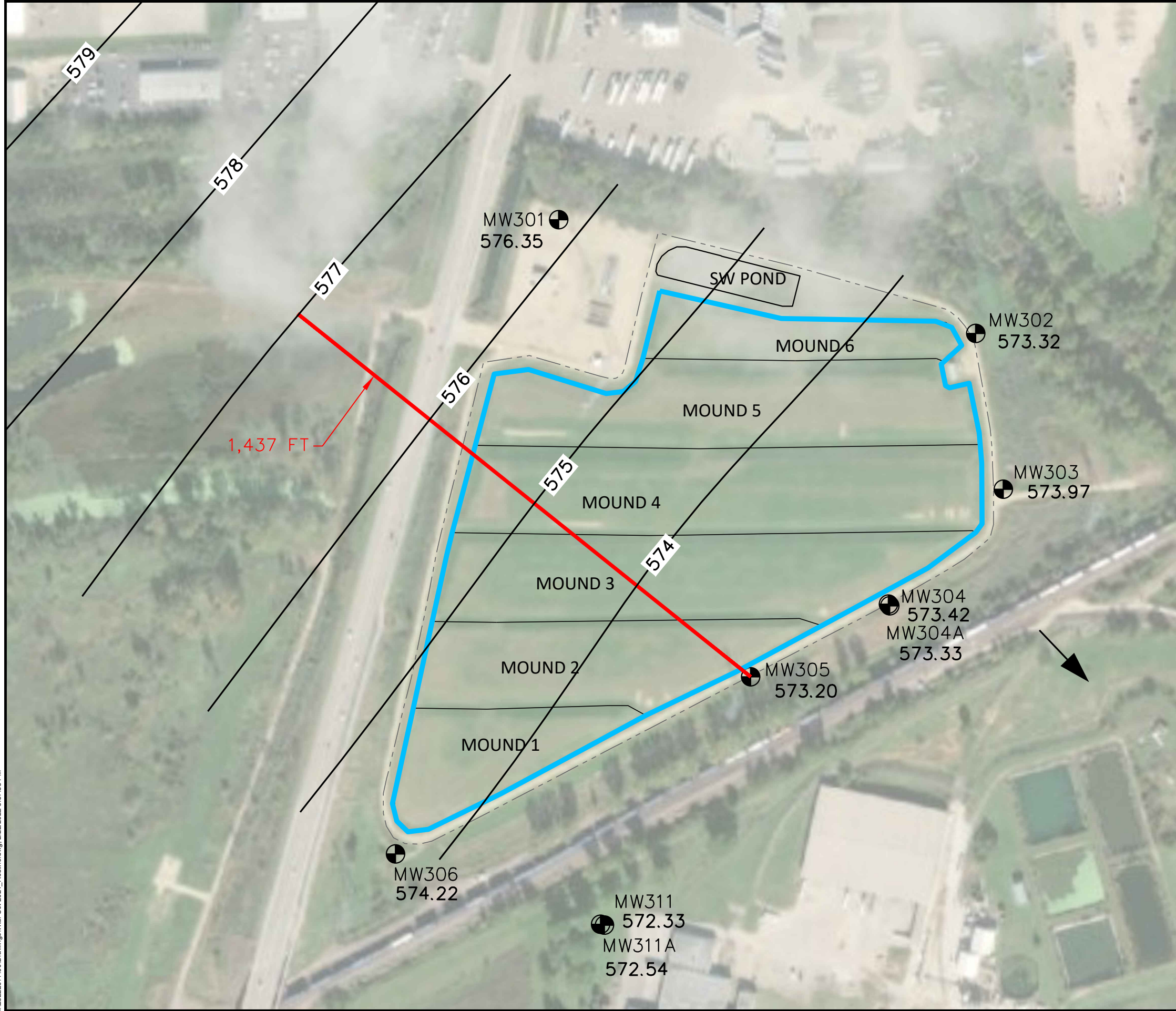
SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL).





Appendix C
Horizontal Gradients Measurement Information

I:\2522077\00Drawings\Wtbl Oct 2021_Redline.dwg, 2/22/2022 3:37:38 PM



LEGEND

- PROJECT BOUNDARY
- MOUND BOUNDARIES
- CCR UNIT
- MW303 CCR MONITORING WELL
- MW307 CCR BACKGROUND MONITORING WELL
- 577.30 WATER TABLE ELEVATION MEASURED OCTOBER 2021
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEPTEMBER 17, 2019 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRIID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.
2. ELEVATION DATA WAS COLLECTED ON OCTOBER 18 AND 19, 2021.
3. ELEVATION DATA FOR MW-311A WAS COLLECTED ON DECEMBER 30, 2021.

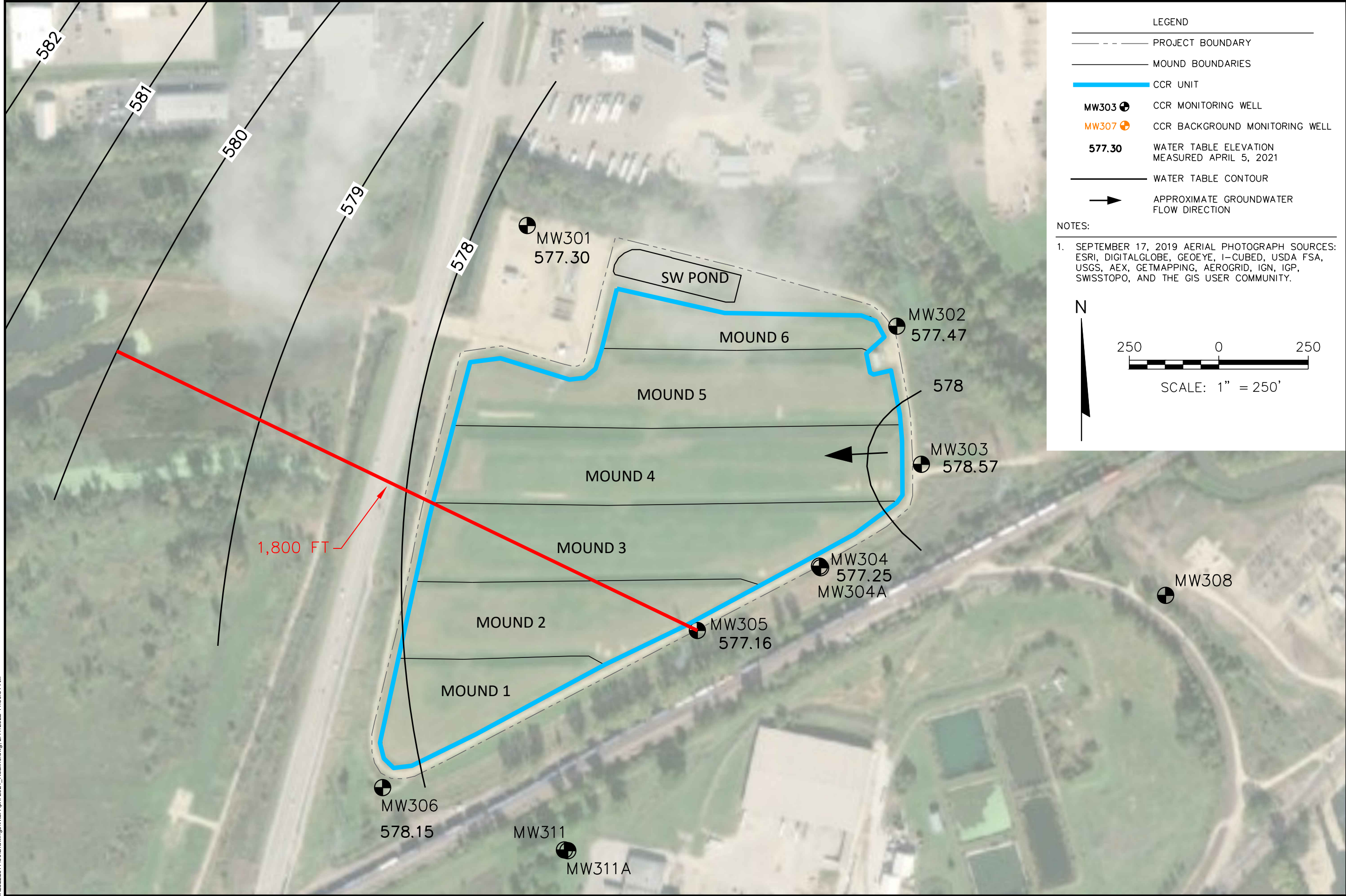
N

600 0 600

SCALE: 1" = 600'

		ALLIANT ENERGY M.L. KAPP GENERATING STATION 2001 BEAVER CHANNEL PKWY, CLINTON, IA 52732		M.L. KAPP GENERATING STATION 3301 HIGHWAY 67 S, CLINTON, IA 52732		WATER TABLE MAP OCTOBER 2021	
PROJECT NO.	2522077-00	DRAWN BY:	NV	ENGINEER	SCS ENGINEERS	FIGURE	5
DRAWN:	02/16/2022	CHECKED BY:	???		2830 DAIRY DRIVE MADISON, WI 53718-6751		
REVISED:		APPROVED BY:			PHONE: (608) 224-2830		

I:\2522077_00\Drawings\WB\April 2021_Redline.dwg, 2/17/2022 11:50:54 AM

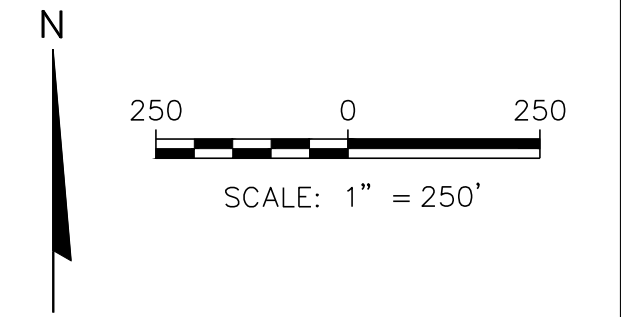


LEGEND


- PROJECT BOUNDARY
- MOUND BOUNDARIES
- CCR UNIT
- MW303 ● CCR MONITORING WELL
- MW307 ● CCR BACKGROUND MONITORING WELL
- 577.30 WATER TABLE ELEVATION MEASURED APRIL 5, 2021
- WATER TABLE CONTOUR
- ➔ APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

- SEPTEMBER 17, 2019 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRIID, IGN, IGP, SWISSSTOPO, AND THE GIS USER COMMUNITY.



		PROJECT NO. 2522077-00 DRAWN: 02/16/2022 REVISED:		CLIENT ALLIANT ENERGY M.L. KAPP GENERATING STATION 2001 BEAVER CHANNEL PKWY, CLINTON, IA 52732		M.L. KAPP GENERATING STATION 3301 HIGHWAY 67 S, CLINTON, IA 52732		WATER TABLE MAP APRIL 2021		FIGURE 4	
DRAWN BY: NV CHECKED BY: ??? APPROVED BY:		NV ??? SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830		ENGINEER		ENGINEER		ENGINEER		ENGINEER	



Appendix D
Laboratory Reports

D1 February 2021 Assessment Monitoring

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-200901-1
Client Project/Site: M.L Kapp 25221171.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
2/26/2021 5:25:26 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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results through
Total Access

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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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Table of Contents	2
Case Narrative	3
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Detection Summary	5
Client Sample Results	6
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QC Sample Results	9
QC Association	12
Chronicle	14
Certification Summary	15
Method Summary	16
Chain of Custody	17
Receipt Checklists	20

Case Narrative

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Job ID: 310-200901-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-200901-1

Comments

No additional comments.

Receipt

The samples were received on 2/23/2021 11:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7° C.

HPLC/IC

Method 9056A: The following sample was diluted due to the nature of the sample matrix: MW-304A (310-200901-1). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

Method SM 2540C: Constant weight was not achieved after 3 drying cycles for the following sample: (MB 310-308033/1).

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



Sample Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-200901-1	MW-304A	Water	02/22/21 13:45	02/23/21 11:45	
310-200901-2	Field Blank	Water	02/22/21 13:45	02/23/21 11:45	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: SCS Engineers
 Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Client Sample ID: MW-304A

Lab Sample ID: 310-200901-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.7		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	65		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	2.7		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	150		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	380		100	58	ug/L	1		6020A	Total/NA
Calcium	87		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	3.1	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	1.3		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	1.1		0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	3.9	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	3.1		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	390		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	573.91				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-153.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.23				mg/L	1		Field Sampling	Total/NA
pH, Field	7.08				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	628.1				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	33.1				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-200901-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Client Sample ID: MW-304A

Lab Sample ID: 310-200901-1

Date Collected: 02/22/21 13:45

Matrix: Water

Date Received: 02/23/21 11:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.7		5.0	2.2	mg/L			02/24/21 15:45	5
Fluoride	<0.28		0.50	0.28	mg/L			02/24/21 15:45	5
Sulfate	65		5.0	2.5	mg/L			02/24/21 15:45	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		02/24/21 10:00	02/26/21 12:03	1
Arsenic	2.7		2.0	0.75	ug/L		02/24/21 10:00	02/26/21 12:03	1
Barium	150		2.0	0.30	ug/L		02/24/21 10:00	02/26/21 12:03	1
Beryllium	<0.27		1.0	0.27	ug/L		02/24/21 10:00	02/26/21 12:03	1
Boron	380		100	58	ug/L		02/24/21 10:00	02/26/21 12:03	1
Cadmium	<0.051		0.10	0.051	ug/L		02/24/21 10:00	02/26/21 12:03	1
Calcium	87		0.50	0.19	mg/L		02/24/21 10:00	02/26/21 12:03	1
Chromium	3.1	J	5.0	1.1	ug/L		02/24/21 10:00	02/26/21 12:03	1
Cobalt	1.3		0.50	0.091	ug/L		02/24/21 10:00	02/26/21 12:03	1
Lead	1.1		0.50	0.21	ug/L		02/24/21 10:00	02/26/21 12:03	1
Lithium	3.9	J	10	2.5	ug/L		02/24/21 10:00	02/26/21 12:03	1
Molybdenum	3.1		2.0	1.3	ug/L		02/24/21 10:00	02/26/21 12:03	1
Selenium	<0.96		5.0	0.96	ug/L		02/24/21 10:00	02/26/21 12:03	1
Thallium	<0.26		1.0	0.26	ug/L		02/24/21 10:00	02/26/21 12:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		02/25/21 14:34	02/26/21 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		30	26	mg/L			02/25/21 09:09	1
pH	7.4	HF	0.1	0.1	SU			02/23/21 16:08	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	573.91				ft			02/22/21 13:45	1
Oxidation Reduction Potential	-153.5				millivolts			02/22/21 13:45	1
Oxygen, Dissolved, Client Supplied	0.23				mg/L			02/22/21 13:45	1
pH, Field	7.08				SU			02/22/21 13:45	1
Specific Conductance, Field	628.1				umhos/cm			02/22/21 13:45	1
Temperature, Field	12.1				Degrees C			02/22/21 13:45	1
Turbidity, Field	33.1				NTU			02/22/21 13:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Client Sample ID: Field Blank

Lab Sample ID: 310-200901-2

Date Collected: 02/22/21 13:45

Matrix: Water

Date Received: 02/23/21 11:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			02/24/21 16:00	1
Fluoride	<0.055		0.10	0.055	mg/L			02/24/21 16:00	1
Sulfate	<0.49		1.0	0.49	mg/L			02/24/21 16:00	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		02/24/21 10:00	02/26/21 12:06	1
Arsenic	<0.75		2.0	0.75	ug/L		02/24/21 10:00	02/26/21 12:06	1
Barium	<0.30		2.0	0.30	ug/L		02/24/21 10:00	02/26/21 12:06	1
Beryllium	<0.27		1.0	0.27	ug/L		02/24/21 10:00	02/26/21 12:06	1
Boron	<58		100	58	ug/L		02/24/21 10:00	02/26/21 12:06	1
Cadmium	<0.051		0.10	0.051	ug/L		02/24/21 10:00	02/26/21 12:06	1
Calcium	<0.19		0.50	0.19	mg/L		02/24/21 10:00	02/26/21 12:06	1
Chromium	<1.1		5.0	1.1	ug/L		02/24/21 10:00	02/26/21 12:06	1
Cobalt	<0.091		0.50	0.091	ug/L		02/24/21 10:00	02/26/21 12:06	1
Lead	<0.21		0.50	0.21	ug/L		02/24/21 10:00	02/26/21 12:06	1
Lithium	<2.5		10	2.5	ug/L		02/24/21 10:00	02/26/21 12:06	1
Molybdenum	<1.3		2.0	1.3	ug/L		02/24/21 10:00	02/26/21 12:06	1
Selenium	<0.96		5.0	0.96	ug/L		02/24/21 10:00	02/26/21 12:06	1
Thallium	<0.26		1.0	0.26	ug/L		02/24/21 10:00	02/26/21 12:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		02/25/21 14:34	02/26/21 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			02/25/21 09:09	1
pH	6.1	HF	0.1	0.1	SU			02/23/21 16:12	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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

QC Sample Results

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-308050/3
Matrix: Water
Analysis Batch: 308050

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			02/24/21 09:44	1
Fluoride	<0.055		0.10	0.055	mg/L			02/24/21 09:44	1
Sulfate	<0.49		1.0	0.49	mg/L			02/24/21 09:44	1

Lab Sample ID: LCS 310-308050/4
Matrix: Water
Analysis Batch: 308050

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.12		mg/L		91	90 - 110
Fluoride	2.00	1.95		mg/L		97	90 - 110
Sulfate	10.0	9.79		mg/L		98	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-307871/1-A
Matrix: Water
Analysis Batch: 308155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 307871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		02/24/21 10:00	02/26/21 11:43	1
Arsenic	<0.75		2.0	0.75	ug/L		02/24/21 10:00	02/26/21 11:43	1
Barium	<0.30		2.0	0.30	ug/L		02/24/21 10:00	02/26/21 11:43	1
Beryllium	<0.27		1.0	0.27	ug/L		02/24/21 10:00	02/26/21 11:43	1
Boron	<58		100	58	ug/L		02/24/21 10:00	02/26/21 11:43	1
Cadmium	<0.051		0.10	0.051	ug/L		02/24/21 10:00	02/26/21 11:43	1
Calcium	<0.19		0.50	0.19	mg/L		02/24/21 10:00	02/26/21 11:43	1
Chromium	<1.1		5.0	1.1	ug/L		02/24/21 10:00	02/26/21 11:43	1
Cobalt	<0.091		0.50	0.091	ug/L		02/24/21 10:00	02/26/21 11:43	1
Lead	<0.21		0.50	0.21	ug/L		02/24/21 10:00	02/26/21 11:43	1
Lithium	<2.5		10	2.5	ug/L		02/24/21 10:00	02/26/21 11:43	1
Molybdenum	<1.3		2.0	1.3	ug/L		02/24/21 10:00	02/26/21 11:43	1
Selenium	<0.96		5.0	0.96	ug/L		02/24/21 10:00	02/26/21 11:43	1
Thallium	<0.26		1.0	0.26	ug/L		02/24/21 10:00	02/26/21 11:43	1

Lab Sample ID: LCS 310-307871/2-A
Matrix: Water
Analysis Batch: 308155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	194		ug/L		97	80 - 120
Arsenic	200	201		ug/L		100	80 - 120
Barium	100	100		ug/L		100	80 - 120
Beryllium	100	99.7		ug/L		100	80 - 120
Boron	200	180		ug/L		90	80 - 120
Cadmium	100	101		ug/L		101	80 - 120
Calcium	2.00	1.78		mg/L		89	80 - 120
Chromium	100	96.2		ug/L		96	80 - 120
Cobalt	100	97.9		ug/L		98	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

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

Lab Sample ID: LCS 310-307871/2-A
Matrix: Water
Analysis Batch: 308155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	200	200		ug/L		100	80 - 120
Lithium	200	189		ug/L		95	80 - 120
Molybdenum	200	191		ug/L		96	80 - 120
Selenium	400	385		ug/L		96	80 - 120
Thallium	200	199		ug/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-308072/1-A
Matrix: Water
Analysis Batch: 308147

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308072

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		02/25/21 14:34	02/26/21 12:19	1

Lab Sample ID: LCS 310-308072/2-A
Matrix: Water
Analysis Batch: 308147

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308072

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.70		ug/L		102	80 - 120

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

Lab Sample ID: MB 310-308033/1
Matrix: Water
Analysis Batch: 308033

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			02/25/21 09:09	1

Lab Sample ID: LCS 310-308033/2
Matrix: Water
Analysis Batch: 308033

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

Lab Sample ID: 310-200901-1 DU
Matrix: Water
Analysis Batch: 308033

Client Sample ID: MW-304A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	390		380		mg/L		2	20

QC Sample Results

Client: SCS Engineers
 Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-307877/1
Matrix: Water
Analysis Batch: 307877

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	98 - 102

Lab Sample ID: 310-200901-1 DU
Matrix: Water
Analysis Batch: 307877

Client Sample ID: MW-304A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	HF	7.4		SU		0	20

- 1
- 2
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- 14

QC Association Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

HPLC/IC

Analysis Batch: 308050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	9056A	
310-200901-2	Field Blank	Total/NA	Water	9056A	
MB 310-308050/3	Method Blank	Total/NA	Water	9056A	
LCS 310-308050/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 307871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	3010A	
310-200901-2	Field Blank	Total/NA	Water	3010A	
MB 310-307871/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-307871/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 308072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	7470A	
310-200901-2	Field Blank	Total/NA	Water	7470A	
MB 310-308072/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-308072/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 308147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	7470A	308072
310-200901-2	Field Blank	Total/NA	Water	7470A	308072
MB 310-308072/1-A	Method Blank	Total/NA	Water	7470A	308072
LCS 310-308072/2-A	Lab Control Sample	Total/NA	Water	7470A	308072

Analysis Batch: 308155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	6020A	307871
310-200901-2	Field Blank	Total/NA	Water	6020A	307871
MB 310-307871/1-A	Method Blank	Total/NA	Water	6020A	307871
LCS 310-307871/2-A	Lab Control Sample	Total/NA	Water	6020A	307871

General Chemistry

Analysis Batch: 307877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-200901-2	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-307877/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-200901-1 DU	MW-304A	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 308033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	SM 2540C	
310-200901-2	Field Blank	Total/NA	Water	SM 2540C	
MB 310-308033/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-308033/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-200901-1 DU	MW-304A	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Field Service / Mobile Lab

Analysis Batch: 308029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200901-1	MW-304A	Total/NA	Water	Field Sampling	

- 1
- 2
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- 11
- 12
- 13
- 14

Lab Chronicle

Client: SCS Engineers
 Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Client Sample ID: MW-304A

Lab Sample ID: 310-200901-1

Date Collected: 02/22/21 13:45

Matrix: Water

Date Received: 02/23/21 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	308050	02/24/21 15:45	SAD	TAL CF
Total/NA	Prep	3010A			307871	02/24/21 10:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	308155	02/26/21 12:03	SAD	TAL CF
Total/NA	Prep	7470A			308072	02/25/21 14:34	HED	TAL CF
Total/NA	Analysis	7470A		1	308147	02/26/21 12:51	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	308033	02/25/21 09:09	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	307877	02/23/21 16:08	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	308029	02/22/21 13:45	SLD	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-200901-2

Date Collected: 02/22/21 13:45

Matrix: Water

Date Received: 02/23/21 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	308050	02/24/21 16:00	SAD	TAL CF
Total/NA	Prep	3010A			307871	02/24/21 10:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	308155	02/26/21 12:06	SAD	TAL CF
Total/NA	Prep	7470A			308072	02/25/21 14:34	HED	TAL CF
Total/NA	Analysis	7470A		1	308147	02/26/21 12:53	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	308033	02/25/21 09:09	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	307877	02/23/21 16:12	SAS	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
- 2
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Method Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200901-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
TestAmerica



310-200901 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Brynners</u>			
City/State:	CITY <u>Madison</u>	STATE <u>WI</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>2-23-21</u>	TIME <u>11:45</u>	Received By: <u>ER</u>
Delivery Type:	<input type="checkbox"/> UPS	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> FedEx Ground
	<input type="checkbox"/> Lab Courier	<input type="checkbox"/> Lab Field Services	<input type="checkbox"/> Client Drop-off
		<input type="checkbox"/> US Mail	<input type="checkbox"/> Spee-Dee
		<input type="checkbox"/> Other: _____	
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice	<input type="checkbox"/> Blue ice	<input type="checkbox"/> Dry ice
			<input type="checkbox"/> Other: _____
			<input type="checkbox"/> NONE
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.7</u>	Corrected Temp (°C):	<u>1.7</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Document: CF-LG-WI-002

Revision: 25

Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

Chain of Custody Record

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica
COC No: 310-58020-17083.1

Regulatory Program: DW NPDES RCRA Other

Project Manager: Tom Karwoski
Email: TKarwoski@scsengineers.com

Client Contact		Site Contact:	
Company Name: SCS Engineers		Lab Contact: Sandie Fredrick	
Address: 2830 Dairy Dr.		Date: _____	
City/State/Zip: Madison, WI 53718		Carrier: _____	
Phone: 608-224-2830		Sampler: _____	
FAX: _____		For Lab Use Only:	
Project Name: M.L. Kapp 25221171.00		Walk-in Client: _____	
Site: <u>M.L. Kapp</u>		Lab Sampling: _____	
P O # _____		Job / SDG No.: _____	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Sample Specific Notes:	
								W	2
MW-304A	2/22/21	1345		W	2	N	X	X	6020A Metals (14)Hg
MW-304B				W			X	X	2540C Calc'd 9056A-ORGM
							X	X	-28D, SM4500-H+

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____
 Possible Hazard Identification: _____
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Custody Seal No.:	Relinquished by: <u>Adam Watson</u>	Received by: _____	Company: _____
Relinquished by: _____	Company: <u>SCS Engineers</u>	Date/Time: <u>2/22/2021 1600</u>	Company: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Company: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Company: _____



Thanks,
Sandie

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: [Project Feedback](#) We are thankful for your business and hope that you have a wonderful day!

Sandie Fredrick
Project Manager

Eurofins TestAmerica
2417 Bond Street
University Park, IL 60484 USA

Phone: 920-261-1660
E-mail: sandra.fredrick@eurofinset.com

www.EurofinsUS.com | www.TestAmericainc.com | [Facebook](#) | [LinkedIn](#)

-----Original Message-----

From: Watson, Adam <AWatson@scsengineers.com>
Sent: Monday, February 22, 2021 5:14 PM
To: Fredrick, Sandie <Sandra.Fredrick@Eurofinset.com>
Subject: Field blank

EXTERNAL EMAIL*

Hi Sandie,

Adam from SCS Engineers, I shipped the samples for M.L. Kapp and forgot to put the field blank on the COC. It was poured at 1345 on 2/22/2021, the same time as MW-304A. Should I fill a separate COC out and email it to you?

Thank you
Adam Watson

* WARNING - EXTERNAL: This email originated from outside of Eurofins TestAmerica. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-200901-1

Login Number: 200901

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-200903-1
Client Project/Site: M.L Kapp 25221171.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Jodie Bracken

Authorized for release by:
3/26/2021 4:24:04 PM

Jodie Bracken, Project Management Assistant II
Jodie.Bracken@Eurofinset.com

Designee for

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

LINKS

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results through
TotalAccess

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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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Case Narrative

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Job ID: 310-200903-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-200903-1

Comments

No additional comments.

Receipt

The samples were received on 2/23/2021 11:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7° C.

RAD

Method 903.0: Radium-226 Batch 160-500430

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-304A (310-200903-1), MW-307 (310-200903-2), Field Blank (310-200903-3), (LCS 160-500430/1-A), (MB 160-500430/12-A), (500-195149-K-13-A) and (500-195149-L-13-A DU)

Method 904.0: Radium-228 Batch 500433

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-304A (310-200903-1), MW-307 (310-200903-2), Field Blank (310-200903-3), (500-195149-K-13-B) and (500-195149-L-13-B DU)

Method 904.0: Radium-228 Batch 500433

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. (LCS 160-500433/1-A) and (MB 160-500433/12-A)

Method PrecSep_0: Radium-228 Prep Batch preparation batch 160-500433:

The following sample was prepared at a reduced aliquot due to matrix: MW-304A (310-200903-1). The sample was cloudy, and yellowish in color.

Method PrecSep_0: Radium-228 Prep Batch preparation batch 160-500433:

During the in-growth process, all samples needed to be filtered due to sediment present in the sample. This is an indicator of matrix interference.

Method PrecSep-21: Radium-226 Prep Batch preparation batch 160-500430:

The following sample was prepared at a reduced aliquot due to matrix: MW-304A (310-200903-1). The sample was cloudy, and yellowish in color.

Method PrecSep-21: Radium-228 Prep Batch preparation batch 160-500430:

During the in-growth process, all samples needed to be filtered due to sediment present in the sample. This is an indicator of matrix interference.

Case Narrative

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Job ID: 310-200903-1 (Continued)

Laboratory: Eurofins TestAmerica, Cedar Falls (Continued)

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

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Sample Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-200903-1	MW-304A	Water	02/22/21 13:45	02/23/21 11:45	
310-200903-2	MW-307	Water	02/22/21 15:05	02/23/21 11:45	
310-200903-3	Field Blank	Water	02/22/21 00:00	02/23/21 11:45	

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Detection Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Client Sample ID: MW-304A

Lab Sample ID: 310-200903-1

No Detections.

Client Sample ID: MW-307

Lab Sample ID: 310-200903-2

No Detections.

Client Sample ID: Field Blank

Lab Sample ID: 310-200903-3

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Client Sample ID: MW-304A
 Date Collected: 02/22/21 13:45
 Date Received: 02/23/21 11:45

Lab Sample ID: 310-200903-1
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.291		0.122	0.125	1.00	0.141	pCi/L	03/02/21 10:27	03/24/21 18:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					03/02/21 10:27	03/24/21 18:46	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.727		0.399	0.405	1.00	0.598	pCi/L	03/02/21 11:03	03/09/21 08:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					03/02/21 11:03	03/09/21 08:32	1
Y Carrier	81.5		40 - 110					03/02/21 11:03	03/09/21 08:32	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.02		0.417	0.424	5.00	0.598	pCi/L		03/26/21 11:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Client Sample ID: MW-307
 Date Collected: 02/22/21 15:05
 Date Received: 02/23/21 11:45

Lab Sample ID: 310-200903-2
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.28		0.303	0.423	1.00	0.0882	pCi/L	03/02/21 10:27	03/24/21 18:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110					03/02/21 10:27	03/24/21 18:47	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.180	U	0.278	0.279	1.00	0.467	pCi/L	03/02/21 11:03	03/09/21 08:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110					03/02/21 11:03	03/09/21 08:32	1
Y Carrier	81.1		40 - 110					03/02/21 11:03	03/09/21 08:32	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	3.46		0.411	0.507	5.00	0.467	pCi/L		03/26/21 11:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Client Sample ID: Field Blank

Lab Sample ID: 310-200903-3

Date Collected: 02/22/21 00:00

Matrix: Water

Date Received: 02/23/21 11:45

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0260	U	0.0602	0.0603	1.00	0.110	pCi/L	03/02/21 10:27	03/24/21 18:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.2		40 - 110					03/02/21 10:27	03/24/21 18:46	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0588	U	0.264	0.264	1.00	0.482	pCi/L	03/02/21 11:03	03/09/21 08:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.2		40 - 110					03/02/21 11:03	03/09/21 08:33	1
Y Carrier	82.2		40 - 110					03/02/21 11:03	03/09/21 08:33	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0260	U	0.271	0.271	5.00	0.482	pCi/L		03/26/21 11:26	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Qualifiers

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Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-500430/12-A
Matrix: Water
Analysis Batch: 502971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 500430

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03562	U	0.0589	0.0590	1.00	0.103	pCi/L	03/02/21 10:27	03/24/21 18:48	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	80.5		40 - 110					03/02/21 10:27	03/24/21 18:48	1

Lab Sample ID: LCS 160-500430/1-A
Matrix: Water
Analysis Batch: 502971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 500430

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.10		1.14	1.00	0.127	pCi/L	98	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	81.1		40 - 110					03/02/21 10:27	03/24/21 18:48

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-500433/12-A
Matrix: Water
Analysis Batch: 501279

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 500433

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.08298	U	0.209	0.210	1.00	0.402	pCi/L	03/02/21 11:03	03/09/21 08:34	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	80.5		40 - 110					03/02/21 11:03	03/09/21 08:34	1
Y Carrier	78.9		40 - 110		03/02/21 11:03	03/09/21 08:34	1			

Lab Sample ID: LCS 160-500433/1-A
Matrix: Water
Analysis Batch: 501279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 500433

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	7.37	8.287		1.03	1.00	0.464	pCi/L	112	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	81.1		40 - 110					03/02/21 11:03	03/09/21 08:34
Y Carrier	81.9		40 - 110		03/02/21 11:03	03/09/21 08:34	1		

QC Association Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

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Prep Batch: 500430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200903-1	MW-304A	Total/NA	Water	PrecSep-21	
310-200903-2	MW-307	Total/NA	Water	PrecSep-21	
310-200903-3	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-500430/12-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-500430/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 500433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200903-1	MW-304A	Total/NA	Water	PrecSep_0	
310-200903-2	MW-307	Total/NA	Water	PrecSep_0	
310-200903-3	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-500433/12-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-500433/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

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Lab Chronicle

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Client Sample ID: MW-304A

Lab Sample ID: 310-200903-1

Date Collected: 02/22/21 13:45

Matrix: Water

Date Received: 02/23/21 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500430	03/02/21 10:27	HRT	TAL SL
Total/NA	Analysis	903.0		1	502971	03/24/21 18:46	AK	TAL SL
Total/NA	Prep	PrecSep_0			500433	03/02/21 11:03	HRT	TAL SL
Total/NA	Analysis	904.0		1	501279	03/09/21 08:32	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	503364	03/26/21 11:26	FLC	TAL SL

Client Sample ID: MW-307

Lab Sample ID: 310-200903-2

Date Collected: 02/22/21 15:05

Matrix: Water

Date Received: 02/23/21 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500430	03/02/21 10:27	HRT	TAL SL
Total/NA	Analysis	903.0		1	502971	03/24/21 18:47	AK	TAL SL
Total/NA	Prep	PrecSep_0			500433	03/02/21 11:03	HRT	TAL SL
Total/NA	Analysis	904.0		1	501279	03/09/21 08:32	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	503364	03/26/21 11:26	FLC	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-200903-3

Date Collected: 02/22/21 00:00

Matrix: Water

Date Received: 02/23/21 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500430	03/02/21 10:27	HRT	TAL SL
Total/NA	Analysis	903.0		1	502971	03/24/21 18:46	AK	TAL SL
Total/NA	Prep	PrecSep_0			500433	03/02/21 11:03	HRT	TAL SL
Total/NA	Analysis	904.0		1	501279	03/09/21 08:33	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	503364	03/26/21 11:26	FLC	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Method Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Environment Testing
TestAmerica



310-200903 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information			
Client: <u>SSS Engineers</u>			
City/State:	CITY <u>Madison</u>	STATE <u>WI</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>2-23-21</u>	TIME <u>11:55</u>	Received By: <u>ER</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.7</u>	Corrected Temp (°C):	<u>1.7</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

Chain of Custody Record

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Regulatory Program: DW NPDES RCRA Other:

Client Contact Company Name: SCS Engineers Address: 2830 Dairy Dr. City/State/Zip: Madison, WI 53718 Phone: 608-224-2830 FAX: Project Name: M.L. Kapp 25221171.00 Site: <u>M.L. Kapp</u> P.O.#		Project Manager: Tom Karwoski Email: tkarwoski@scsengineers.com Tel/Fax:		Site Contact: Lab Contact: Sandie Fredrick Date: _____ Carrier: _____ TALS Project #: _____ Sampler: _____ For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: _____ Sample Specific Notes:				
Sample Identification MW-304A MW-307		Sample Date 2/22/21 2/22/21	Sample Time 1345 1505	Sample Type (C=Comp, G=Grab) W W	Matrix W W	# of Cont. 2 2	Filtered Sample (Y/N) X X	Perform MS / MSD (Y/N) 903.0, 901.0
Preservation Used: 1 = Ice, 2 = HCl; 3 = H2SO4; 4 = HNO3; 5 = NaOH; 6 = Other _____ Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown								
Special Instructions/QC Requirements & Comments: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months								
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: _____		Cooler Temp. (°C): Obs'd: _____ Corrd': _____		Therm ID No.: _____		
Relinquished by: <u>Adam Walton</u>		Company: <u>SCS Engineers</u>		Date/Time: <u>2/22/21 1600</u>		Received by: _____ Company: _____ Date/Time: _____		
Relinquished by: _____		Company: _____		Date/Time: _____		Received by: _____ Company: _____ Date/Time: _____		
Relinquished by: _____		Company: _____		Date/Time: _____		Received in Laboratory by: <u>[Signature]</u> Date/Time: <u>2/23/21 1145</u>		



Thanks,
Sandie

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: [Project Feedback](#) We are thankful for your business and hope that you have a wonderful day!

Sandie Fredrick
Project Manager

Eurofins TestAmerica
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-----Original Message-----

From: Watson, Adam <AWatson@scsengineers.com>
Sent: Monday, February 22, 2021 5:14 PM
To: Fredrick, Sandie <Sandra.Fredrick@Eurofinset.com>
Subject: Field blank

EXTERNAL EMAIL*

Hi Sandie,

Adam from SCS Engineers, I shipped the samples for M.L. Kapp and forgot to put the field blank on the COC. It was poured at 1345 on 2/22/2021, the same time as MW-304A. Should I fill a separate COC out and email it to you?

Thank you
Adam Watson

* WARNING - EXTERNAL: This email originated from outside of Eurofins TestAmerica. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-200903-1

Login Number: 200903

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-200903-1

Login Number: 200903

List Number: 2

Creator: O'Gara, Mallory L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 03/01/21 01:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is < /= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: M.L Kapp 25221171.00

Job ID: 310-200903-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
310-200903-1	MW-304A	84.4	
310-200903-2	MW-307	83.5	
310-200903-3	Field Blank	80.2	
LCS 160-500430/1-A	Lab Control Sample	81.1	
MB 160-500430/12-A	Method Blank	80.5	

Tracer/Carrier Legend
Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-200903-1	MW-304A	84.4	81.5
310-200903-2	MW-307	83.5	81.1
310-200903-3	Field Blank	80.2	82.2
LCS 160-500433/1-A	Lab Control Sample	81.1	81.9
MB 160-500433/12-A	Method Blank	80.5	78.9

Tracer/Carrier Legend
Ba = Ba Carrier
Y = Y Carrier

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-200902-1
Client Project/Site: M.L. Kapp 25221171.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
2/26/2021 5:27:03 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Job ID: 310-200902-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-200902-1

Comments

No additional comments.

Receipt

The sample was received on 2/23/2021 11:45 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7° C.

HPLC/IC

Method 9056A: The following sample was diluted due to the nature of the sample matrix: MW-307 (310-200902-1). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

Method SM 2540C: Constant weight was not achieved after 3 drying cycles for the following sample: (MB 310-308033/1).

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



Sample Summary

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-200902-1	MW-307	Water	02/22/21 15:05	02/23/21 11:45	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: SCS Engineers
 Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Client Sample ID: MW-307

Lab Sample ID: 310-200902-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	19		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	310		2.0	0.30	ug/L	1		6020A	Total/NA
Cadmium	0.21		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	230		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	3.0		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	3.3	J	10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	860		60	52	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	592.12				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	55.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.2				mg/L	1		Field Sampling	Total/NA
pH, Field	6.58				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1563				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.46				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls



Client Sample Results

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Client Sample ID: MW-307

Lab Sample ID: 310-200902-1

Date Collected: 02/22/21 15:05

Matrix: Water

Date Received: 02/23/21 11:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		5.0	2.2	mg/L			02/24/21 16:15	5
Fluoride	<0.28		0.50	0.28	mg/L			02/24/21 16:15	5
Sulfate	19		5.0	2.5	mg/L			02/24/21 16:15	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		02/24/21 10:00	02/26/21 12:19	1
Arsenic	<0.75		2.0	0.75	ug/L		02/24/21 10:00	02/26/21 12:19	1
Barium	310		2.0	0.30	ug/L		02/24/21 10:00	02/26/21 12:19	1
Beryllium	<0.27		1.0	0.27	ug/L		02/24/21 10:00	02/26/21 12:19	1
Boron	<58		100	58	ug/L		02/24/21 10:00	02/26/21 12:19	1
Cadmium	0.21		0.10	0.051	ug/L		02/24/21 10:00	02/26/21 12:19	1
Calcium	230		0.50	0.19	mg/L		02/24/21 10:00	02/26/21 12:19	1
Chromium	<1.1		5.0	1.1	ug/L		02/24/21 10:00	02/26/21 12:19	1
Cobalt	3.0		0.50	0.091	ug/L		02/24/21 10:00	02/26/21 12:19	1
Lead	<0.21		0.50	0.21	ug/L		02/24/21 10:00	02/26/21 12:19	1
Lithium	3.3 J		10	2.5	ug/L		02/24/21 10:00	02/26/21 12:19	1
Molybdenum	<1.3		2.0	1.3	ug/L		02/24/21 10:00	02/26/21 12:19	1
Selenium	<0.96		5.0	0.96	ug/L		02/24/21 10:00	02/26/21 12:19	1
Thallium	<0.26		1.0	0.26	ug/L		02/24/21 10:00	02/26/21 12:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		02/25/21 14:34	02/26/21 12:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	860		60	52	mg/L			02/25/21 09:09	1
pH	7.7	HF	0.1	0.1	SU			02/23/21 16:14	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	592.12				ft			02/22/21 15:05	1
Oxidation Reduction Potential	55.4				millivolts			02/22/21 15:05	1
Oxygen, Dissolved, Client Supplied	0.2				mg/L			02/22/21 15:05	1
pH, Field	6.58				SU			02/22/21 15:05	1
Specific Conductance, Field	1563				umhos/cm			02/22/21 15:05	1
Temperature, Field	12.46				Degrees C			02/22/21 15:05	1
Turbidity, Field	0.00				NTU			02/22/21 15:05	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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

QC Sample Results

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-308050/3
Matrix: Water
Analysis Batch: 308050

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			02/24/21 09:44	1
Fluoride	<0.055		0.10	0.055	mg/L			02/24/21 09:44	1
Sulfate	<0.49		1.0	0.49	mg/L			02/24/21 09:44	1

Lab Sample ID: LCS 310-308050/4
Matrix: Water
Analysis Batch: 308050

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.12		mg/L		91	90 - 110
Fluoride	2.00	1.95		mg/L		97	90 - 110
Sulfate	10.0	9.79		mg/L		98	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-307871/1-A
Matrix: Water
Analysis Batch: 308155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 307871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		02/24/21 10:00	02/26/21 11:43	1
Arsenic	<0.75		2.0	0.75	ug/L		02/24/21 10:00	02/26/21 11:43	1
Barium	<0.30		2.0	0.30	ug/L		02/24/21 10:00	02/26/21 11:43	1
Beryllium	<0.27		1.0	0.27	ug/L		02/24/21 10:00	02/26/21 11:43	1
Boron	<58		100	58	ug/L		02/24/21 10:00	02/26/21 11:43	1
Cadmium	<0.051		0.10	0.051	ug/L		02/24/21 10:00	02/26/21 11:43	1
Calcium	<0.19		0.50	0.19	mg/L		02/24/21 10:00	02/26/21 11:43	1
Chromium	<1.1		5.0	1.1	ug/L		02/24/21 10:00	02/26/21 11:43	1
Cobalt	<0.091		0.50	0.091	ug/L		02/24/21 10:00	02/26/21 11:43	1
Lead	<0.21		0.50	0.21	ug/L		02/24/21 10:00	02/26/21 11:43	1
Lithium	<2.5		10	2.5	ug/L		02/24/21 10:00	02/26/21 11:43	1
Molybdenum	<1.3		2.0	1.3	ug/L		02/24/21 10:00	02/26/21 11:43	1
Selenium	<0.96		5.0	0.96	ug/L		02/24/21 10:00	02/26/21 11:43	1
Thallium	<0.26		1.0	0.26	ug/L		02/24/21 10:00	02/26/21 11:43	1

Lab Sample ID: LCS 310-307871/2-A
Matrix: Water
Analysis Batch: 308155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	194		ug/L		97	80 - 120
Arsenic	200	201		ug/L		100	80 - 120
Barium	100	100		ug/L		100	80 - 120
Beryllium	100	99.7		ug/L		100	80 - 120
Boron	200	180		ug/L		90	80 - 120
Cadmium	100	101		ug/L		101	80 - 120
Calcium	2.00	1.78		mg/L		89	80 - 120
Chromium	100	96.2		ug/L		96	80 - 120
Cobalt	100	97.9		ug/L		98	80 - 120

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

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

Lab Sample ID: LCS 310-307871/2-A
Matrix: Water
Analysis Batch: 308155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	200	200		ug/L		100	80 - 120
Lithium	200	189		ug/L		95	80 - 120
Molybdenum	200	191		ug/L		96	80 - 120
Selenium	400	385		ug/L		96	80 - 120
Thallium	200	199		ug/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-308072/1-A
Matrix: Water
Analysis Batch: 308147

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308072

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		02/25/21 14:34	02/26/21 12:19	1

Lab Sample ID: LCS 310-308072/2-A
Matrix: Water
Analysis Batch: 308147

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308072

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.70		ug/L		102	80 - 120

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

Lab Sample ID: MB 310-308033/1
Matrix: Water
Analysis Batch: 308033

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			02/25/21 09:09	1

Lab Sample ID: LCS 310-308033/2
Matrix: Water
Analysis Batch: 308033

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-307877/1
Matrix: Water
Analysis Batch: 307877

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	98 - 102

QC Association Summary

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

HPLC/IC

Analysis Batch: 308050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	9056A	
MB 310-308050/3	Method Blank	Total/NA	Water	9056A	
LCS 310-308050/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 307871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	3010A	
MB 310-307871/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-307871/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 308072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	7470A	
MB 310-308072/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-308072/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 308147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	7470A	308072
MB 310-308072/1-A	Method Blank	Total/NA	Water	7470A	308072
LCS 310-308072/2-A	Lab Control Sample	Total/NA	Water	7470A	308072

Analysis Batch: 308155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	6020A	307871
MB 310-307871/1-A	Method Blank	Total/NA	Water	6020A	307871
LCS 310-307871/2-A	Lab Control Sample	Total/NA	Water	6020A	307871

General Chemistry

Analysis Batch: 307877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	SM 4500 H+ B	
LCS 310-307877/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 308033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	SM 2540C	
MB 310-308033/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-308033/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 308029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-200902-1	MW-307	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Client Sample ID: MW-307

Lab Sample ID: 310-200902-1

Date Collected: 02/22/21 15:05

Matrix: Water

Date Received: 02/23/21 11:45

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	9056A		5	308050	02/24/21 16:15	SAD	TAL CF
Total/NA	Prep	3010A			307871	02/24/21 10:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	308155	02/26/21 12:19	SAD	TAL CF
Total/NA	Prep	7470A			308072	02/25/21 14:34	HED	TAL CF
Total/NA	Analysis	7470A		1	308147	02/26/21 12:55	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	308033	02/25/21 09:09	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	307877	02/23/21 16:14	SAS	TAL CF
Total/NA	Analysis	Field Sampling		1	308029	02/22/21 15:05	SLD	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
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- 3
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Method Summary

Client: SCS Engineers
Project/Site: M.L. Kapp 25221171.00

Job ID: 310-200902-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
TestAmerica



310-200902 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Madison</u>	STATE <u>WI</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>2-23-21</u>	TIME <u>1145</u>	Received By: <u>ER</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.7</u>	Corrected Temp (°C):	<u>1.7</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

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Client Contact Company Name: SCS Engineers Address: 2830 Dairy Dr. City/State/Zip Madison, WI. 53718 Phone: 608-224-2830 FAX: Project Name: M. L. Kapp 25221171.00 Site: <u>M.L. Kapp</u> P O #		Project Manager: Tom Karwoski Email: TKarwoski@scsengineers.com Tel/Fax:		Site Contact: Lab Contact: Sandie Fredrick Date: _____ Carrier: _____		COC No: 310-58020-17083.1 of _____ COCs TALS Project #: _____ Sampler: For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: _____ Sample Specific Notes:	
Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Sample Date 2/22/21 1505		Sample Type (G=Comp, G=Grab) Matrix: W		Filtered Sample (Y/N) Perform MS / MSD (Y/N)	
Sample Identification MW-307 MW-307		W		X X X		-280, SM4500-H+ 25100-Cell, 9056A-0604 6020A Metals (M/Hg)	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____							
Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							
Special Instructions/QC Requirements & Comments:							
Custody Seal No.: _____ Relinquished by: <u>Adam Watson</u> Relinquished by: Relinquished by:		Received by: Received by: Received in Laboratory by:		Cooler Temp. (°C): Obs'd: _____ Company: <u>SCS Engineers</u> Company: Company:		Therm ID No.: _____ Date/Time: <u>2/22/21 1600</u> Date/Time: Date/Time:	
<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months		Date/Time: <u>2/23/21 1148</u>					



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-200902-1

Login Number: 200902

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

D2 April 2021 Assessment Monitoring

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-203561-1
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
4/14/2021 9:43:47 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Job ID: 310-203561-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-203561-1

Comments

No additional comments.

Receipt

The samples were received on 4/6/2021 8:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.3° C, 1.6° C and 1.9° C.

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-302 (310-203561-2), MW-303 (310-203561-3), MW-304A (310-203561-5), MW-305 (310-203561-6), MW-306 (310-203561-7) and MW-307 (310-203561-8). 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.

Metals

Methods 200.8, 6020A: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: MW-302 (310-203561-2), MW-304 (310-203561-4), MW-305 (310-203561-6) and MW-307 (310-203561-8).

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: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-203561-1	MW-301	Water	04/05/21 16:40	04/06/21 08:30	
310-203561-2	MW-302	Water	04/05/21 08:15	04/06/21 08:30	
310-203561-3	MW-303	Water	04/05/21 10:00	04/06/21 08:30	
310-203561-4	MW-304	Water	04/05/21 11:35	04/06/21 08:30	
310-203561-5	MW-304A	Water	04/05/21 12:15	04/06/21 08:30	
310-203561-6	MW-305	Water	04/05/21 13:35	04/06/21 08:30	
310-203561-7	MW-306	Water	04/05/21 15:00	04/06/21 08:30	
310-203561-8	MW-307	Water	04/05/21 18:35	04/06/21 08:30	
310-203561-9	Field Blank	Water	04/05/21 14:00	04/06/21 08:30	

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-301

Lab Sample ID: 310-203561-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	51		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.39	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	250		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	79		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	14000		400	230	ug/L	4		6020A	Total/NA
Cadmium	0.44		0.40	0.20	ug/L	4		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	4.6		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	6.9	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	430		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	690		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	577.30				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	49.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.2				mg/L	1		Field Sampling	Total/NA
pH, Field	6.52				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	991				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.50				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-203561-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	210		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	7.1		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	92		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	5500		400	230	ug/L	4		6020A	Total/NA
Calcium	96		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.19	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	18		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	170		2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	6.9		5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	580		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	577.47				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	122.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.98				mg/L	1		Field Sampling	Total/NA
pH, Field	7.56				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	834				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	470		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	14		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	81		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	5200		400	230	ug/L	4		6020A	Total/NA
Calcium	170		0.50	0.19	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-303 (Continued)

Lab Sample ID: 310-203561-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	1.0		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	47		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	150		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	920		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	578.57				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-57.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.30				mg/L	1		Field Sampling	Total/NA
pH, Field	7.19				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1306				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	45.4				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-203561-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	20		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.45	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	490		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	6.6		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	180		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	11000		400	230	ug/L	4		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.2		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	3.2	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	650		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	920		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	577.25				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-18.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.11				mg/L	1		Field Sampling	Total/NA
pH, Field	6.80				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1289				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	22.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A

Lab Sample ID: 310-203561-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	64		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	1.8	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	140		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	490		100	58	ug/L	1		6020A	Total/NA
Calcium	89		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.54		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.24	J	0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	2.5	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	17		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	390		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	577.35				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-304A (Continued)

Lab Sample ID: 310-203561-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxidation Reduction Potential	-11.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.45				mg/L	1		Field Sampling	Total/NA
pH, Field	6.99				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	650				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.31				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-203561-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	710		20	9.8	mg/L	20		9056A	Total/NA
Arsenic	1.6	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	100		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	16000		700	410	ug/L	7		6020A	Total/NA
Calcium	190		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.80		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	23		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	650		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	1200		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	577.16				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-82.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.16				mg/L	1		Field Sampling	Total/NA
pH, Field	7.31				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1585				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.63				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-203561-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	120		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	270		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	84		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	15000		700	410	ug/L	7		6020A	Total/NA
Calcium	150		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	70		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	46		2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	1.0	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	970		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	578.15				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	141.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.18				mg/L	1		Field Sampling	Total/NA
pH, Field	7.05				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1461				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-307

Lab Sample ID: 310-203561-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	63		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	19		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.96	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	310		2.0	0.30	ug/L	1		6020A	Total/NA
Calcium	230		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	3.4		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	2.5	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	3.4		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	930		30	26	mg/L	1		SM 2540C	Total/NA
pH	6.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	594.32				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	62.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.17				mg/L	1		Field Sampling	Total/NA
pH, Field	6.64				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1627				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.77				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	1.3	J	2.0	1.1	ug/L	1		6020A	Total/NA
Barium	0.47	J	2.0	0.30	ug/L	1		6020A	Total/NA
Beryllium	0.41	J	1.0	0.27	ug/L	1		6020A	Total/NA
Cobalt	0.44	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.50		0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	1.4	J	2.0	1.3	ug/L	1		6020A	Total/NA
pH	6.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-301

Lab Sample ID: 310-203561-1

Date Collected: 04/05/21 16:40

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51		5.0	2.2	mg/L			04/07/21 21:07	5
Fluoride	0.39	J	0.50	0.28	mg/L			04/07/21 21:07	5
Sulfate	250		5.0	2.5	mg/L			04/07/21 21:07	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:45	1
Arsenic	<0.75		2.0	0.75	ug/L		04/07/21 08:00	04/09/21 00:45	1
Barium	79		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 00:45	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 00:45	1
Boron	14000		400	230	ug/L		04/07/21 08:00	04/09/21 16:29	4
Cadmium	0.44		0.40	0.20	ug/L		04/07/21 08:00	04/09/21 16:29	4
Calcium	130		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 00:45	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:45	1
Cobalt	4.6		0.50	0.091	ug/L		04/07/21 08:00	04/09/21 00:45	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 00:45	1
Lithium	6.9	J	10	2.5	ug/L		04/07/21 08:00	04/09/21 00:45	1
Molybdenum	430		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 00:45	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 00:45	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 00:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 14:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	690		30	26	mg/L			04/08/21 12:09	1
pH	7.0	HF	0.1	0.1	SU			04/06/21 18:40	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	577.30				ft			04/05/21 16:40	1
Oxidation Reduction Potential	49.4				millivolts			04/05/21 16:40	1
Oxygen, Dissolved, Client Supplied	0.2				mg/L			04/05/21 16:40	1
pH, Field	6.52				SU			04/05/21 16:40	1
Specific Conductance, Field	991				umhos/cm			04/05/21 16:40	1
Temperature, Field	12.7				Degrees C			04/05/21 16:40	1
Turbidity, Field	4.50				NTU			04/05/21 16:40	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-302

Lab Sample ID: 310-203561-2

Date Collected: 04/05/21 08:15

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		5.0	2.2	mg/L			04/07/21 21:22	5
Fluoride	<0.28		0.50	0.28	mg/L			04/07/21 21:22	5
Sulfate	210		5.0	2.5	mg/L			04/07/21 21:22	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:48	1
Arsenic	7.1		2.0	0.75	ug/L		04/07/21 08:00	04/09/21 00:48	1
Barium	92		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 00:48	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 00:48	1
Boron	5500		400	230	ug/L		04/07/21 08:00	04/09/21 16:32	4
Cadmium	<0.20		0.40	0.20	ug/L		04/07/21 08:00	04/09/21 16:32	4
Calcium	96		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 00:48	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:48	1
Cobalt	0.19	J	0.50	0.091	ug/L		04/07/21 08:00	04/09/21 00:48	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 00:48	1
Lithium	18		10	2.5	ug/L		04/07/21 08:00	04/09/21 00:48	1
Molybdenum	170		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 00:48	1
Selenium	6.9		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 00:48	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 00:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 14:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	580		30	26	mg/L			04/08/21 12:09	1
pH	7.8	HF	0.1	0.1	SU			04/06/21 18:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	577.47				ft			04/05/21 08:15	1
Oxidation Reduction Potential	122.6				millivolts			04/05/21 08:15	1
Oxygen, Dissolved, Client Supplied	0.98				mg/L			04/05/21 08:15	1
pH, Field	7.56				SU			04/05/21 08:15	1
Specific Conductance, Field	834				umhos/cm			04/05/21 08:15	1
Temperature, Field	10.4				Degrees C			04/05/21 08:15	1
Turbidity, Field	0.02				NTU			04/05/21 08:15	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Date Collected: 04/05/21 10:00

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		5.0	2.2	mg/L			04/07/21 21:38	5
Fluoride	<0.28		0.50	0.28	mg/L			04/07/21 21:38	5
Sulfate	470		5.0	2.5	mg/L			04/07/21 21:38	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:53	1
Arsenic	14		2.0	0.75	ug/L		04/07/21 08:00	04/09/21 00:53	1
Barium	81		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 00:53	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 00:53	1
Boron	5200		400	230	ug/L		04/07/21 08:00	04/09/21 16:37	4
Cadmium	<0.051		0.10	0.051	ug/L		04/07/21 08:00	04/09/21 00:53	1
Calcium	170		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 00:53	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:53	1
Cobalt	1.0		0.50	0.091	ug/L		04/07/21 08:00	04/09/21 00:53	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 00:53	1
Lithium	47		10	2.5	ug/L		04/07/21 08:00	04/09/21 00:53	1
Molybdenum	150		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 00:53	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 00:53	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 00:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 14:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	920		30	26	mg/L			04/08/21 12:09	1
pH	7.5	HF	0.1	0.1	SU			04/06/21 18:45	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	578.57				ft			04/05/21 10:00	1
Oxidation Reduction Potential	-57.8				millivolts			04/05/21 10:00	1
Oxygen, Dissolved, Client Supplied	0.30				mg/L			04/05/21 10:00	1
pH, Field	7.19				SU			04/05/21 10:00	1
Specific Conductance, Field	1306				umhos/cm			04/05/21 10:00	1
Temperature, Field	11.6				Degrees C			04/05/21 10:00	1
Turbidity, Field	45.4				NTU			04/05/21 10:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-304

Lab Sample ID: 310-203561-4

Date Collected: 04/05/21 11:35

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		5.0	2.2	mg/L			04/07/21 21:54	5
Fluoride	0.45	J	0.50	0.28	mg/L			04/07/21 21:54	5
Sulfate	490		5.0	2.5	mg/L			04/07/21 21:54	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:56	1
Arsenic	6.6		2.0	0.75	ug/L		04/07/21 08:00	04/09/21 00:56	1
Barium	180		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 00:56	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 00:56	1
Boron	11000		400	230	ug/L		04/07/21 08:00	04/09/21 16:39	4
Cadmium	<0.20		0.40	0.20	ug/L		04/07/21 08:00	04/09/21 16:39	4
Calcium	130		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 00:56	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:56	1
Cobalt	1.2		0.50	0.091	ug/L		04/07/21 08:00	04/09/21 00:56	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 00:56	1
Lithium	3.2	J	10	2.5	ug/L		04/07/21 08:00	04/09/21 00:56	1
Molybdenum	650		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 00:56	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 00:56	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 00:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	920		30	26	mg/L			04/08/21 12:09	1
pH	7.1	HF	0.1	0.1	SU			04/06/21 18:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	577.25				ft			04/05/21 11:35	1
Oxidation Reduction Potential	-18.1				millivolts			04/05/21 11:35	1
Oxygen, Dissolved, Client Supplied	0.11				mg/L			04/05/21 11:35	1
pH, Field	6.80				SU			04/05/21 11:35	1
Specific Conductance, Field	1289				umhos/cm			04/05/21 11:35	1
Temperature, Field	12.1				Degrees C			04/05/21 11:35	1
Turbidity, Field	22.0				NTU			04/05/21 11:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-304A

Lab Sample ID: 310-203561-5

Date Collected: 04/05/21 12:15

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		5.0	2.2	mg/L			04/07/21 22:40	5
Fluoride	<0.28		0.50	0.28	mg/L			04/07/21 22:40	5
Sulfate	64		5.0	2.5	mg/L			04/07/21 22:40	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:59	1
Arsenic	1.8	J	2.0	0.75	ug/L		04/07/21 08:00	04/09/21 00:59	1
Barium	140		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 00:59	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 00:59	1
Boron	490		100	58	ug/L		04/07/21 08:00	04/09/21 16:42	1
Cadmium	<0.051		0.10	0.051	ug/L		04/07/21 08:00	04/09/21 00:59	1
Calcium	89		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 00:59	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 00:59	1
Cobalt	0.54		0.50	0.091	ug/L		04/07/21 08:00	04/09/21 00:59	1
Lead	0.24	J	0.50	0.21	ug/L		04/07/21 08:00	04/09/21 00:59	1
Lithium	2.5	J	10	2.5	ug/L		04/07/21 08:00	04/09/21 00:59	1
Molybdenum	17		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 00:59	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 00:59	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 00:59	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 14:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		30	26	mg/L			04/08/21 12:09	1
pH	7.4	HF	0.1	0.1	SU			04/06/21 18:47	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	577.35				ft			04/05/21 12:15	1
Oxidation Reduction Potential	-11.2				millivolts			04/05/21 12:15	1
Oxygen, Dissolved, Client Supplied	0.45				mg/L			04/05/21 12:15	1
pH, Field	6.99				SU			04/05/21 12:15	1
Specific Conductance, Field	650				umhos/cm			04/05/21 12:15	1
Temperature, Field	12.6				Degrees C			04/05/21 12:15	1
Turbidity, Field	2.31				NTU			04/05/21 12:15	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-305

Lab Sample ID: 310-203561-6

Date Collected: 04/05/21 13:35

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		5.0	2.2	mg/L			04/07/21 22:56	5
Fluoride	<0.28		0.50	0.28	mg/L			04/07/21 22:56	5
Sulfate	710		20	9.8	mg/L			04/08/21 08:44	20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:01	1
Arsenic	1.6	J	2.0	0.75	ug/L		04/07/21 08:00	04/09/21 01:01	1
Barium	100		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 01:01	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 01:01	1
Boron	16000		700	410	ug/L		04/07/21 08:00	04/09/21 16:45	7
Cadmium	<0.36		0.70	0.36	ug/L		04/07/21 08:00	04/09/21 16:45	7
Calcium	190		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 01:01	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:01	1
Cobalt	0.80		0.50	0.091	ug/L		04/07/21 08:00	04/09/21 01:01	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 01:01	1
Lithium	23		10	2.5	ug/L		04/07/21 08:00	04/09/21 01:01	1
Molybdenum	650		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 01:01	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 01:01	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 01:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 14:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		30	26	mg/L			04/08/21 12:09	1
pH	7.6	HF	0.1	0.1	SU			04/06/21 18:48	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	577.16				ft			04/05/21 13:35	1
Oxidation Reduction Potential	-82.4				millivolts			04/05/21 13:35	1
Oxygen, Dissolved, Client Supplied	0.16				mg/L			04/05/21 13:35	1
pH, Field	7.31				SU			04/05/21 13:35	1
Specific Conductance, Field	1585				umhos/cm			04/05/21 13:35	1
Temperature, Field	12.1				Degrees C			04/05/21 13:35	1
Turbidity, Field	2.63				NTU			04/05/21 13:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-306

Lab Sample ID: 310-203561-7

Date Collected: 04/05/21 15:00

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		5.0	2.2	mg/L			04/07/21 23:12	5
Fluoride	<0.28		0.50	0.28	mg/L			04/07/21 23:12	5
Sulfate	270		5.0	2.5	mg/L			04/07/21 23:12	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:04	1
Arsenic	<0.75		2.0	0.75	ug/L		04/07/21 08:00	04/09/21 01:04	1
Barium	84		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 01:04	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 01:04	1
Boron	15000		700	410	ug/L		04/07/21 08:00	04/09/21 16:48	7
Cadmium	<0.051		0.10	0.051	ug/L		04/07/21 08:00	04/09/21 01:04	1
Calcium	150		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 01:04	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:04	1
Cobalt	<0.091		0.50	0.091	ug/L		04/07/21 08:00	04/09/21 01:04	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 01:04	1
Lithium	70		10	2.5	ug/L		04/07/21 08:00	04/09/21 01:04	1
Molybdenum	46		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 01:04	1
Selenium	1.0	J	5.0	0.96	ug/L		04/07/21 08:00	04/09/21 01:04	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 01:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 14:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	970		30	26	mg/L			04/08/21 12:09	1
pH	7.4	HF	0.1	0.1	SU			04/06/21 18:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	578.15				ft			04/05/21 15:00	1
Oxidation Reduction Potential	141.9				millivolts			04/05/21 15:00	1
Oxygen, Dissolved, Client Supplied	0.18				mg/L			04/05/21 15:00	1
pH, Field	7.05				SU			04/05/21 15:00	1
Specific Conductance, Field	1461				umhos/cm			04/05/21 15:00	1
Temperature, Field	11.1				Degrees C			04/05/21 15:00	1
Turbidity, Field	0.02				NTU			04/05/21 15:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-307

Lab Sample ID: 310-203561-8

Date Collected: 04/05/21 18:35

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63		5.0	2.2	mg/L			04/07/21 23:28	5
Fluoride	<0.28		0.50	0.28	mg/L			04/07/21 23:28	5
Sulfate	19		5.0	2.5	mg/L			04/07/21 23:28	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:07	1
Arsenic	0.96	J	2.0	0.75	ug/L		04/07/21 08:00	04/09/21 01:07	1
Barium	310		2.0	0.30	ug/L		04/07/21 08:00	04/09/21 01:07	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/09/21 01:07	1
Boron	<230		400	230	ug/L		04/07/21 08:00	04/09/21 17:04	4
Cadmium	<0.20		0.40	0.20	ug/L		04/07/21 08:00	04/09/21 17:04	4
Calcium	230		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 01:07	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:07	1
Cobalt	3.4		0.50	0.091	ug/L		04/07/21 08:00	04/09/21 01:07	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 01:07	1
Lithium	2.5	J	10	2.5	ug/L		04/07/21 08:00	04/09/21 01:07	1
Molybdenum	3.4		2.0	1.3	ug/L		04/07/21 08:00	04/09/21 01:07	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 01:07	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 01:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:58	04/08/21 14:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		30	26	mg/L			04/08/21 12:09	1
pH	6.9	HF	0.1	0.1	SU			04/06/21 18:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	594.32				ft			04/05/21 18:35	1
Oxidation Reduction Potential	62.7				millivolts			04/05/21 18:35	1
Oxygen, Dissolved, Client Supplied	0.17				mg/L			04/05/21 18:35	1
pH, Field	6.64				SU			04/05/21 18:35	1
Specific Conductance, Field	1627				umhos/cm			04/05/21 18:35	1
Temperature, Field	10.3				Degrees C			04/05/21 18:35	1
Turbidity, Field	0.77				NTU			04/05/21 18:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

Date Collected: 04/05/21 14:00

Matrix: Water

Date Received: 04/06/21 08:30

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			04/07/21 23:44	1
Fluoride	<0.055		0.10	0.055	mg/L			04/07/21 23:44	1
Sulfate	<0.49		1.0	0.49	mg/L			04/07/21 23:44	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.3	J	2.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:20	1
Arsenic	<0.75		2.0	0.75	ug/L		04/07/21 08:00	04/09/21 01:20	1
Barium	0.47	J	2.0	0.30	ug/L		04/07/21 08:00	04/09/21 01:20	1
Beryllium	0.41	J	1.0	0.27	ug/L		04/07/21 08:00	04/09/21 01:20	1
Boron	<58		100	58	ug/L		04/07/21 08:00	04/09/21 17:06	1
Cadmium	<0.051		0.10	0.051	ug/L		04/07/21 08:00	04/09/21 17:06	1
Calcium	<0.19		0.50	0.19	mg/L		04/07/21 08:00	04/09/21 01:20	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/09/21 01:20	1
Cobalt	0.44	J	0.50	0.091	ug/L		04/07/21 08:00	04/09/21 01:20	1
Lead	0.50		0.50	0.21	ug/L		04/07/21 08:00	04/09/21 01:20	1
Lithium	<2.5		10	2.5	ug/L		04/07/21 08:00	04/09/21 01:20	1
Molybdenum	1.4	J	2.0	1.3	ug/L		04/07/21 08:00	04/09/21 01:20	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/09/21 01:20	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/09/21 01:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:58	04/08/21 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			04/08/21 12:09	1
pH	6.4	HF	0.1	0.1	SU			04/06/21 18:56	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-312222/3
Matrix: Water
Analysis Batch: 312222

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.43		1.0	0.43	mg/L			04/07/21 18:00	1
Fluoride	<0.055		0.10	0.055	mg/L			04/07/21 18:00	1
Sulfate	<0.49		1.0	0.49	mg/L			04/07/21 18:00	1

Lab Sample ID: LCS 310-312222/4
Matrix: Water
Analysis Batch: 312222

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.00	2.05		mg/L		103	90 - 110
Sulfate	10.0	9.98		mg/L		100	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-311762/1-A
Matrix: Water
Analysis Batch: 312157

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311762

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<1.1		2.0	1.1	ug/L		04/07/21 08:00	04/08/21 23:44	1
Arsenic	<0.75		2.0	0.75	ug/L		04/07/21 08:00	04/08/21 23:44	1
Barium	<0.30		2.0	0.30	ug/L		04/07/21 08:00	04/08/21 23:44	1
Beryllium	<0.27		1.0	0.27	ug/L		04/07/21 08:00	04/08/21 23:44	1
Cadmium	<0.051		0.10	0.051	ug/L		04/07/21 08:00	04/08/21 23:44	1
Calcium	<0.19		0.50	0.19	mg/L		04/07/21 08:00	04/08/21 23:44	1
Chromium	<1.1		5.0	1.1	ug/L		04/07/21 08:00	04/08/21 23:44	1
Cobalt	<0.091		0.50	0.091	ug/L		04/07/21 08:00	04/08/21 23:44	1
Lead	<0.21		0.50	0.21	ug/L		04/07/21 08:00	04/08/21 23:44	1
Lithium	<2.5		10	2.5	ug/L		04/07/21 08:00	04/08/21 23:44	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/07/21 08:00	04/08/21 23:44	1
Selenium	<0.96		5.0	0.96	ug/L		04/07/21 08:00	04/08/21 23:44	1
Thallium	<0.26		1.0	0.26	ug/L		04/07/21 08:00	04/08/21 23:44	1

Lab Sample ID: MB 310-311762/1-A
Matrix: Water
Analysis Batch: 312332

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311762

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Boron	<58		100	58	ug/L		04/07/21 08:00	04/09/21 15:43	1

Lab Sample ID: LCS 310-311762/2-A
Matrix: Water
Analysis Batch: 312157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311762

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	217		ug/L		109	80 - 120
Barium	100	114		ug/L		114	80 - 120
Beryllium	100	110		ug/L		110	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

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

Lab Sample ID: LCS 310-311762/2-A
Matrix: Water
Analysis Batch: 312157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311762

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	100	110		ug/L		110	80 - 120
Calcium	2.00	1.91		mg/L		96	80 - 120
Chromium	100	109		ug/L		109	80 - 120
Cobalt	100	113		ug/L		113	80 - 120
Lead	200	229		ug/L		115	80 - 120
Lithium	200	228		ug/L		114	80 - 120
Molybdenum	200	220		ug/L		110	80 - 120
Selenium	400	419		ug/L		105	80 - 120
Thallium	200	220		ug/L		110	80 - 120

Lab Sample ID: LCS 310-311762/2-A
Matrix: Water
Analysis Batch: 312332

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311762

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	200	194		ug/L		97	80 - 120

Lab Sample ID: 310-203561-2 DU
Matrix: Water
Analysis Batch: 312157

Client Sample ID: MW-302
Prep Type: Total/NA
Prep Batch: 311762

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Antimony	<1.1		<1.1		ug/L		NC	20
Arsenic	7.1		7.25		ug/L		2	20
Barium	92		93.5		ug/L		2	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Cadmium	0.054	J ^2	<0.051		ug/L		NC	20
Calcium	96		98.5		mg/L		3	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	0.19	J	0.164	J	ug/L		14	20
Lead	<0.21		<0.21		ug/L		NC	20
Lithium	18		19.1		ug/L		7	20
Molybdenum	170		171		ug/L		0.7	20
Selenium	6.9		7.11		ug/L		3	20
Thallium	<0.26		<0.26		ug/L		NC	20

Lab Sample ID: 310-203561-2 DU
Matrix: Water
Analysis Batch: 312332

Client Sample ID: MW-302
Prep Type: Total/NA
Prep Batch: 311762

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Boron	5500		5260		ug/L		4	20
Cadmium	<0.20		<0.20		ug/L		NC	20

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-311873/1-A
Matrix: Water
Analysis Batch: 312067

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/07/21 10:57	04/08/21 13:53	1

Lab Sample ID: LCS 310-311873/2-A
Matrix: Water
Analysis Batch: 312067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.51		ug/L		91	80 - 120

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

Lab Sample ID: MB 310-312048/1
Matrix: Water
Analysis Batch: 312048

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			04/08/21 12:09	1

Lab Sample ID: LCS 310-312048/2
Matrix: Water
Analysis Batch: 312048

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

Lab Sample ID: 310-203561-9 DU
Matrix: Water
Analysis Batch: 312048

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	<26		<26		mg/L		NC	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-311776/1
Matrix: Water
Analysis Batch: 311776

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	98 - 102

Lab Sample ID: 310-203561-1 DU
Matrix: Water
Analysis Batch: 311776

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	HF	6.9		SU		1	20

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

HPLC/IC

Analysis Batch: 312222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	9056A	
310-203561-2	MW-302	Total/NA	Water	9056A	
310-203561-3	MW-303	Total/NA	Water	9056A	
310-203561-4	MW-304	Total/NA	Water	9056A	
310-203561-5	MW-304A	Total/NA	Water	9056A	
310-203561-6	MW-305	Total/NA	Water	9056A	
310-203561-6	MW-305	Total/NA	Water	9056A	
310-203561-7	MW-306	Total/NA	Water	9056A	
310-203561-8	MW-307	Total/NA	Water	9056A	
310-203561-9	Field Blank	Total/NA	Water	9056A	
MB 310-312222/3	Method Blank	Total/NA	Water	9056A	
LCS 310-312222/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 311762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	3010A	
310-203561-2	MW-302	Total/NA	Water	3010A	
310-203561-3	MW-303	Total/NA	Water	3010A	
310-203561-4	MW-304	Total/NA	Water	3010A	
310-203561-5	MW-304A	Total/NA	Water	3010A	
310-203561-6	MW-305	Total/NA	Water	3010A	
310-203561-7	MW-306	Total/NA	Water	3010A	
310-203561-8	MW-307	Total/NA	Water	3010A	
310-203561-9	Field Blank	Total/NA	Water	3010A	
MB 310-311762/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-311762/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-203561-2 DU	MW-302	Total/NA	Water	3010A	

Prep Batch: 311873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	7470A	
310-203561-2	MW-302	Total/NA	Water	7470A	
310-203561-3	MW-303	Total/NA	Water	7470A	
310-203561-4	MW-304	Total/NA	Water	7470A	
310-203561-5	MW-304A	Total/NA	Water	7470A	
310-203561-6	MW-305	Total/NA	Water	7470A	
310-203561-7	MW-306	Total/NA	Water	7470A	
310-203561-8	MW-307	Total/NA	Water	7470A	
310-203561-9	Field Blank	Total/NA	Water	7470A	
MB 310-311873/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-311873/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 312067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	7470A	311873
310-203561-2	MW-302	Total/NA	Water	7470A	311873
310-203561-3	MW-303	Total/NA	Water	7470A	311873
310-203561-4	MW-304	Total/NA	Water	7470A	311873
310-203561-5	MW-304A	Total/NA	Water	7470A	311873

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Metals (Continued)

Analysis Batch: 312067 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-6	MW-305	Total/NA	Water	7470A	311873
310-203561-7	MW-306	Total/NA	Water	7470A	311873
310-203561-8	MW-307	Total/NA	Water	7470A	311873
310-203561-9	Field Blank	Total/NA	Water	7470A	311873
MB 310-311873/1-A	Method Blank	Total/NA	Water	7470A	311873
LCS 310-311873/2-A	Lab Control Sample	Total/NA	Water	7470A	311873

Analysis Batch: 312157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	6020A	311762
310-203561-2	MW-302	Total/NA	Water	6020A	311762
310-203561-3	MW-303	Total/NA	Water	6020A	311762
310-203561-4	MW-304	Total/NA	Water	6020A	311762
310-203561-5	MW-304A	Total/NA	Water	6020A	311762
310-203561-6	MW-305	Total/NA	Water	6020A	311762
310-203561-7	MW-306	Total/NA	Water	6020A	311762
310-203561-8	MW-307	Total/NA	Water	6020A	311762
310-203561-9	Field Blank	Total/NA	Water	6020A	311762
MB 310-311762/1-A	Method Blank	Total/NA	Water	6020A	311762
LCS 310-311762/2-A	Lab Control Sample	Total/NA	Water	6020A	311762
310-203561-2 DU	MW-302	Total/NA	Water	6020A	311762

Analysis Batch: 312332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	6020A	311762
310-203561-2	MW-302	Total/NA	Water	6020A	311762
310-203561-3	MW-303	Total/NA	Water	6020A	311762
310-203561-4	MW-304	Total/NA	Water	6020A	311762
310-203561-5	MW-304A	Total/NA	Water	6020A	311762
310-203561-6	MW-305	Total/NA	Water	6020A	311762
310-203561-7	MW-306	Total/NA	Water	6020A	311762
310-203561-8	MW-307	Total/NA	Water	6020A	311762
310-203561-9	Field Blank	Total/NA	Water	6020A	311762
MB 310-311762/1-A	Method Blank	Total/NA	Water	6020A	311762
LCS 310-311762/2-A	Lab Control Sample	Total/NA	Water	6020A	311762
310-203561-2 DU	MW-302	Total/NA	Water	6020A	311762

General Chemistry

Analysis Batch: 311776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-203561-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-203561-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-203561-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-203561-5	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-203561-6	MW-305	Total/NA	Water	SM 4500 H+ B	
310-203561-7	MW-306	Total/NA	Water	SM 4500 H+ B	
310-203561-8	MW-307	Total/NA	Water	SM 4500 H+ B	
310-203561-9	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-311776/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

General Chemistry (Continued)

Analysis Batch: 311776 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1 DU	MW-301	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 312048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	SM 2540C	
310-203561-2	MW-302	Total/NA	Water	SM 2540C	
310-203561-3	MW-303	Total/NA	Water	SM 2540C	
310-203561-4	MW-304	Total/NA	Water	SM 2540C	
310-203561-5	MW-304A	Total/NA	Water	SM 2540C	
310-203561-6	MW-305	Total/NA	Water	SM 2540C	
310-203561-7	MW-306	Total/NA	Water	SM 2540C	
310-203561-8	MW-307	Total/NA	Water	SM 2540C	
310-203561-9	Field Blank	Total/NA	Water	SM 2540C	
MB 310-312048/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-312048/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-203561-9 DU	Field Blank	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 312651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	Field Sampling	
310-203561-2	MW-302	Total/NA	Water	Field Sampling	
310-203561-3	MW-303	Total/NA	Water	Field Sampling	
310-203561-4	MW-304	Total/NA	Water	Field Sampling	
310-203561-5	MW-304A	Total/NA	Water	Field Sampling	
310-203561-6	MW-305	Total/NA	Water	Field Sampling	
310-203561-7	MW-306	Total/NA	Water	Field Sampling	
310-203561-8	MW-307	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-301

Lab Sample ID: 310-203561-1

Date Collected: 04/05/21 16:40

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 21:07	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:45	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	312332	04/09/21 16:29	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:57	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:29	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:40	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 16:40	SLD	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-203561-2

Date Collected: 04/05/21 08:15

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 21:22	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:48	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	312332	04/09/21 16:32	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:57	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:32	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:44	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 08:15	SLD	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Date Collected: 04/05/21 10:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 21:38	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:53	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	312332	04/09/21 16:37	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:57	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:34	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:45	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 10:00	SLD	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-304
Date Collected: 04/05/21 11:35
Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 21:54	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:56	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	312332	04/09/21 16:39	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:57	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:36	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:46	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 11:35	SLD	TAL CF

Client Sample ID: MW-304A
Date Collected: 04/05/21 12:15
Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 22:40	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:59	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312332	04/09/21 16:42	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:57	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:38	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:47	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 12:15	SLD	TAL CF

Client Sample ID: MW-305
Date Collected: 04/05/21 13:35
Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 22:56	SAD	TAL CF
Total/NA	Analysis	9056A		20	312222	04/08/21 08:44	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 01:01	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		7	312332	04/09/21 16:45	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:57	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:40	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:48	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 13:35	SLD	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Client Sample ID: MW-306

Lab Sample ID: 310-203561-7

Date Collected: 04/05/21 15:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 23:12	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 01:04	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		7	312332	04/09/21 16:48	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:57	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:42	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:50	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 15:00	SLD	TAL CF

Client Sample ID: MW-307

Lab Sample ID: 310-203561-8

Date Collected: 04/05/21 18:35

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	312222	04/07/21 23:28	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 01:07	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	312332	04/09/21 17:04	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:58	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:44	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:51	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	312651	04/05/21 18:35	SLD	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

Date Collected: 04/05/21 14:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	312222	04/07/21 23:44	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 01:20	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312332	04/09/21 17:06	SAD	TAL CF
Total/NA	Prep	7470A			311873	04/07/21 10:58	HED	TAL CF
Total/NA	Analysis	7470A		1	312067	04/08/21 14:46	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312048	04/08/21 12:09	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	311776	04/06/21 18:56	JMH	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Eurofins TestAmerica, Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
TestAmerica



310-203561 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>JA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>4-6-21</u>	TIME <u>630</u>	Received By: <u>EL</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>3</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>0</u>
Temp Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.3</u>	Corrected Temp (°C):	<u>1.3</u>
Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>CLIC</u>	STATE <u>IA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>4-6-21</u>	TIME <u>630</u>	Received By: <u>ELC</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>3</u>
Cooler Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>		Correction Factor (°C): <u>0</u>	
Temp Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>plastic 250ml</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>1.6</u>		
Corrected Temp (°C):	<u>1.4</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>JA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>7-6-21</u>	TIME <u>830</u>	Received By: <u>EU</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>3</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.9</u>	Corrected Temp (°C):	<u>1.9</u>
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Sampler: <u>Tantem Buszka</u>		Lab PM: <u>Fredrick, Sandie</u>		Carrier Tracking No(s):		COC No: <u>310-59478-16397.1</u>	
Client Contact: <u>Tantem Buszka</u>		Phone: <u>269-493-0855</u>		E-Mail: <u>sandra.fredrick@eurofinset.com</u>		State of Origin:		Page: <u>Page 1 of 1</u>	
Company: <u>SCS Engineers</u>		PWSID:		Analysis Requested		Job #:		Preservation Codes:	
Address: <u>8450 Hickman Road Suite 27</u>		Due Date Requested:		Field Filtered Sample (Yes or No)		Total Number of Containers		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)	
City: <u>Clive</u>		TAT Requested (days):		Perform MS/MSD (Yes or No)		Dissolved Metals (Cobalt, Iron, Manganese)		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 Other:	
State, Zip: <u>IA, 50325</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)		Sulfate by 9056		<p><i>nitric preserved 250ml bottle is filtered per each set</i></p> <p>Special Instructions/Note:</p>	
Phone: <u>25221077</u>		PO #: <u>25221077</u>		Sample Type (C=Comp, G=grab)		Chloride by 9056			
Email: <u>tbuszka@scsengineers.com</u>		WO #: <u>31011020</u>		Sample Time		Fluoride by 9056			
Project Name: <u>ML Kapp 25221077</u>		Sample Date		Preservation Code:		Total Alkalinity as CaCO3			
Site: <u>31011020</u>		Sample Date: <u>4-5-21</u>		Sample Time: <u>16:40</u>		Nitrate by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>8:15</u>		Nitrite by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>10:00</u>		Nitrate + Nitrite by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>11:35</u>		Ammonia by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>12:15</u>		Total Ammonia Nitrogen by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>13:35</u>		Total Phosphate by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>15:00</u>		Total Nitrogen by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>18:35</u>		Total Dissolved Solids by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>14:00</u>		Total Solids by 9056			
Field Blank									

<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:		Special Instructions/QC Requirements:	
Relinquished by: <u>Tantem Buszka</u>		Time: _____	
Date/Time: <u>4-6-21 8:37</u>		Method of Shipment:	
Relinquished by: _____		Date/Time: <u>4-6-21 8:37</u>	
Relinquished by: _____		Date/Time: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



Client Information		Sampler: Tantien Buscke		Lab PM: Fredrick, Sandie	COC No: 310-59476-16397-1
Client Contact: Tantien Buszka		Phone: 764-943-0855		E-Mail: sandra.fredrick@eurofins.com	Page: Page 1 of 1
Company: SCS Engineers		Address: 8450 Hickman Road, Suite 27		State of Origin:	Job #:
City: Cedar Falls		City: Cedar Falls		Preservation Codes:	
State, Zip: IA 50625		State, Zip: IA 50625		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - H2SO4 F - MeOH G - Amplex H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone: 764-943-0855		PO #: 25221077		M - Hexane N - None O - AsHClO2 P - Na2S4S Q - Na2SO3 R - Na2S2O3 S - H2O4 T - TSP Dodecyl sulfate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email: tbuszka@scsengineers.com		VOC #:		Total Number of containers: 1	
Project Name: ML Kapp 25221077		Project #: 31011020		Special Instructions/Note:	
Site: ML Kapp, Clinton, IA		Site #:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, D=dewast, L=leach, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5030.9040	5020A - Metals (S)	2540C Calc'd, 9056A, ORGF, 26D, SM4560, H+	Analysis Requested	Preservation Codes
MW-301	4-5-21	16:40	G	Water	N	X					
MW-302	4-5-21	8:15	G	Water	N	X					
MW-303	4-5-21	10:00	G	Water	N	X					
MW-304	4-5-21	11:35	G	Water	N	X					
MW-304A	4-5-21	12:15	G	Water	N	X					
MW-305	4-5-21	13:35	G	Water	N	X					
MW-306	4-5-21	15:00	G	Water	N	X					
MW-307	4-5-21	18:35	G	Water	N	X					
Field Blank	4-5-21	14:00	G	Water	N	X					
				Water	N	X					

<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input checked="" type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by		Method of Shipment	
Relinquished by: Tantien Buscke	Date: 4-6-21	Relinquished by: SKS	Date: 4-6-21
Relinquished by:	Date:	Relinquished by:	Date:
Relinquished by:	Date:	Relinquished by:	Date:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	
Cooler Temperature(s) °C and Other Remarks:			

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	Field Blank	TOTAL	
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (total/unfiltered)	Boron	X	X	X	X	X	X	X	X	X	9
		Calcium	X	X	X	X	X	X	X	X	X	9
		Chloride	X	X	X	X	X	X	X	X	X	9
		Fluoride	X	X	X	X	X	X	X	X	X	9
		pH	X	X	X	X	X	X	X	X	X	9
		Sulfate	X	X	X	X	X	X	X	X	X	9
		TDS	X	X	X	X	X	X	X	X	X	9
	Appendix IV Parameters (total/unfiltered)	Antimony	X	X	X	X	X	X	X	X	X	9
		Arsenic	X	X	X	X	X	X	X	X	X	9
		Barium	X	X	X	X	X	X	X	X	X	9
		Beryllium	X	X	X	X	X	X	X	X	X	9
		Cadmium	X	X	X	X	X	X	X	X	X	9
		Chromium	X	X	X	X	X	X	X	X	X	9
		Cobalt	X	X	X	X	X	X	X	X	X	9
		Fluoride	X	X	X	X	X	X	X	X	X	9
		Lead	X	X	X	X	X	X	X	X	X	9
		Lithium	X	X	X	X	X	X	X	X	X	9
		Mercury	X	X	X	X	X	X	X	X	X	9
		Molybdenum	X	X	X	X	X	X	X	X	X	9
		Selenium	X	X	X	X	X	X	X	X	X	9
	Thallium	X	X	X	X	X	X	X	X	X	9	
	Radium	X	X	X	X	X	X	X	X	X	9	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X		8
		pH (field)	X	X	X	X	X	X	X	X		8
		Well Depth	X	X	X	X	X	X	X	X		8
		Specific Conductance	X	X	X	X	X	X	X	X		8
		Dissolved Oxygen	X	X	X	X	X	X	X	X		8
		ORP	X	X	X	X	X	X	X	X		8
		Temperature	X	X	X	X	X	X	X	X		8
		Turbidity	X	X	X	X	X	X	X	X		8
		Color	X	X	X	X	X	X	X	X		8
	Odor	X	X	X	X	X	X	X	X		8	
	COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X		8
Iron			X	X	X	X	X	X	X	X		8
Magnesium			X	X	X	X	X	X	X	X		8
Manganese			X	X	X	X	X	X	X	X		8
Potassium			X	X	X	X	X	X	X	X		8
Sodium			X	X	X	X	X	X	X	X		8
Dissolved (Filtered)		Arsenic			X	X						2
		Iron	X	X	X	X	X	X	X	X		8
		Manganese	X	X	X	X	X	X	X	X		8
Field Parameters		Molybdenum	X	X	X	X		X				5
		Sulfide, Field	X	X	X	X	X	X	X	X		8
		Total Iron, Field	X	X	X	X	X	X	X	X		8
	Ferrous Iron, Field	X	X	X	X	X	X	X	X		8	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-203561-1

Login Number: 203561

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Groundwater Monitoring Results - Field Parameters
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00
April 2020

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-301	4/5/2021 1640	577.30	12.7	6.52	0.2	991	49.4	4.50
MW-302	4/5/201 0815	577.47	10.4	7.56	0.98	834	122.6	0.02
MW-303	4/5/2021 1000	578.57	11.6	7.19	0.30	1,306	-57.8	45.4
MW-304	4/5/2021 1135	577.25	12.1	6.80	0.11	1,289	-18.1	22.0
MW-304A	4/5/2021 1215	577.35	12.6	6.99	0.45	650	-11.2	2.31
MW-305	4/5/2021 1335	577.16	12.1	7.31	0.16	1,585	-82.4	2.63
MW-306	4/5/2021 1500	578.15	11.1	7.05	0.18	1,461	141.9	0.02
MW-307	4/5/2021 1835	594.32	10.3	6.64	0.17	1,627	62.7	0.77

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

Notes:

None

Created by: NDK
 Last revision by: NDK
 Checked by: JSN

Date: 4/12/2021
 Date: 4/12/2021
 Date: 4/13/2021

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\379G15CT\[2004_M.L. Kapp_CCR_Field.xlsx]GW Field Parameters

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-203561-2
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
5/5/2021 4:33:07 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Job ID: 310-203561-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-203561-2

Comments

No additional comments.

Receipt

The samples were received on 4/6/2021 8:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.3° C, 1.6° C and 1.9° C.

RAD

Methods 903.0, 9315: Radium-226 prep batch 160-505084: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-306 (310-203561-7), MW-307 (310-203561-8), Field Blank (310-203561-9), (LCS 160-505084/1-A), (MB 160-505084/21-A), (240-146901-J-10-A), (240-146901-A-10-A MS) and (240-146901-A-10-B MSD)

Method 903.0: Radium-226 Batch 505015 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-301 (310-203561-1), MW-302 (310-203561-2), MW-303 (310-203561-3), MW-304 (310-203561-4), MW-304A (310-203561-5), MW-305 (310-203561-6), (LCS 160-505015/1-A), (LCSD 160-505015/2-A) and (MB 160-505015/23-A)

Methods 904.0, 9320: Radium 228 prep batch 160-505089 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date MW-306 (310-203561-7), MW-307 (310-203561-8), Field Blank (310-203561-9), (LCS 160-505089/1-A), (MB 160-505089/21-A), (240-146901-J-10-B), (240-146901-A-10-C MS) and (240-146901-A-10-D MSD)

Method 904.0: Radium 228 prep batch 160-505074 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-301 (310-203561-1), MW-302 (310-203561-2), MW-303 (310-203561-3), MW-304 (310-203561-4), MW-304A (310-203561-5), MW-305 (310-203561-6), (LCS 160-505074/1-A), (LCSD 160-505074/2-A) and (MB 160-505074/23-A)

Method PrecSep_0: Radium 228 Prep Batch 160-505074: Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-203561-1), MW-302 (310-203561-2), MW-303 (310-203561-3), MW-304 (310-203561-4), MW-304A (310-203561-5) and MW-305 (310-203561-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium 228 Prep Batch 160-505074: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-304 (310-203561-4) and MW-304A (310-203561-5). This is an indicator of matrix interference.

Method PrecSep-21: Radium 226 Prep Batch 160-505015: Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-203561-1), MW-302 (310-203561-2), MW-303 (310-203561-3), MW-304 (310-203561-4), MW-304A (310-203561-5) and MW-305 (310-203561-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-505015: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-304 (310-203561-4) and MW-304A (310-203561-5). This is an indicator of matrix interference.

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-203561-1	MW-301	Water	04/05/21 16:40	04/06/21 08:30	
310-203561-2	MW-302	Water	04/05/21 08:15	04/06/21 08:30	
310-203561-3	MW-303	Water	04/05/21 10:00	04/06/21 08:30	
310-203561-4	MW-304	Water	04/05/21 11:35	04/06/21 08:30	
310-203561-5	MW-304A	Water	04/05/21 12:15	04/06/21 08:30	
310-203561-6	MW-305	Water	04/05/21 13:35	04/06/21 08:30	
310-203561-7	MW-306	Water	04/05/21 15:00	04/06/21 08:30	
310-203561-8	MW-307	Water	04/05/21 18:35	04/06/21 08:30	
310-203561-9	Field Blank	Water	04/05/21 14:00	04/06/21 08:30	

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-301	Lab Sample ID: 310-203561-1
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-302	Lab Sample ID: 310-203561-2
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-303	Lab Sample ID: 310-203561-3
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-304	Lab Sample ID: 310-203561-4
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-304A	Lab Sample ID: 310-203561-5
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-305	Lab Sample ID: 310-203561-6
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-306	Lab Sample ID: 310-203561-7
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-307	Lab Sample ID: 310-203561-8
<input type="checkbox"/> No Detections.	
Client Sample ID: Field Blank	Lab Sample ID: 310-203561-9
<input type="checkbox"/> No Detections.	

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-301
 Date Collected: 04/05/21 16:40
 Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-1
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.192		0.0977	0.0992	1.00	0.115	pCi/L	04/08/21 16:12	05/04/21 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					04/08/21 16:12	05/04/21 10:46	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.222	U	0.226	0.227	1.00	0.368	pCi/L	04/08/21 16:48	04/28/21 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					04/08/21 16:48	04/28/21 12:56	1
Y Carrier	92.7		40 - 110					04/08/21 16:48	04/28/21 12:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.414		0.246	0.248	5.00	0.368	pCi/L		05/05/21 16:20	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-302
Date Collected: 04/05/21 08:15
Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-2
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178		0.103	0.104	1.00	0.134	pCi/L	04/08/21 16:12	05/04/21 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/08/21 16:12	05/04/21 10:46	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0548	U	0.198	0.198	1.00	0.374	pCi/L	04/08/21 16:48	04/28/21 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/08/21 16:48	04/28/21 12:56	1
Y Carrier	87.1		40 - 110					04/08/21 16:48	04/28/21 12:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.178	U	0.223	0.224	5.00	0.374	pCi/L		05/05/21 16:20	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Date Collected: 04/05/21 10:00

Matrix: Water

Date Received: 04/06/21 08:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.214		0.120	0.121	1.00	0.159	pCi/L	04/08/21 16:12	05/04/21 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.6		40 - 110					04/08/21 16:12	05/04/21 10:43	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.201	U	0.329	0.329	1.00	0.554	pCi/L	04/08/21 16:48	04/28/21 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.6		40 - 110					04/08/21 16:48	04/28/21 12:56	1
Y Carrier	87.1		40 - 110					04/08/21 16:48	04/28/21 12:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.415	U	0.350	0.351	5.00	0.554	pCi/L		05/05/21 16:20	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-304

Lab Sample ID: 310-203561-4

Date Collected: 04/05/21 11:35

Matrix: Water

Date Received: 04/06/21 08:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.29		0.218	0.247	1.00	0.134	pCi/L	04/08/21 16:12	05/04/21 10:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		40 - 110					04/08/21 16:12	05/04/21 10:43	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.66		0.386	0.415	1.00	0.455	pCi/L	04/08/21 16:48	04/28/21 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		40 - 110					04/08/21 16:48	04/28/21 12:56	1
Y Carrier	86.0		40 - 110					04/08/21 16:48	04/28/21 12:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.95		0.443	0.483	5.00	0.455	pCi/L		05/05/21 16:20	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-304A

Lab Sample ID: 310-203561-5

Date Collected: 04/05/21 12:15

Matrix: Water

Date Received: 04/06/21 08:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.175		0.0979	0.0992	1.00	0.130	pCi/L	04/08/21 16:12	05/05/21 12:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					04/08/21 16:12	05/05/21 12:35	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.572		0.268	0.273	1.00	0.384	pCi/L	04/08/21 16:48	04/28/21 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					04/08/21 16:48	04/28/21 12:56	1
Y Carrier	88.6		40 - 110					04/08/21 16:48	04/28/21 12:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.747		0.285	0.290	5.00	0.384	pCi/L		05/05/21 16:20	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-305
 Date Collected: 04/05/21 13:35
 Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-6
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.135		0.0901	0.0909	1.00	0.126	pCi/L	04/08/21 16:12	05/05/21 12:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/08/21 16:12	05/05/21 12:35	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.295	U	0.243	0.244	1.00	0.384	pCi/L	04/08/21 16:48	04/28/21 12:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/08/21 16:48	04/28/21 12:56	1
Y Carrier	89.0		40 - 110					04/08/21 16:48	04/28/21 12:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.429		0.259	0.260	5.00	0.384	pCi/L		05/05/21 16:20	1

- 1
- 2
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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-306
Date Collected: 04/05/21 15:00
Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-7
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0138	U	0.0498	0.0498	1.00	0.0961	pCi/L	04/09/21 09:54	05/04/21 10:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110					04/09/21 09:54	05/04/21 10:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0349	U	0.251	0.251	1.00	0.457	pCi/L	04/09/21 10:17	04/22/21 13:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110					04/09/21 10:17	04/22/21 13:22	1
Y Carrier	83.7		40 - 110					04/09/21 10:17	04/22/21 13:22	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0138	U	0.256	0.256	5.00	0.457	pCi/L		05/05/21 16:20	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-307
 Date Collected: 04/05/21 18:35
 Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-8
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.227		0.0936	0.0958	1.00	0.100	pCi/L	04/09/21 09:54	05/04/21 10:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					04/09/21 09:54	05/04/21 10:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.313	U	0.298	0.299	1.00	0.482	pCi/L	04/09/21 10:17	04/22/21 13:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					04/09/21 10:17	04/22/21 13:23	1
Y Carrier	84.9		40 - 110					04/09/21 10:17	04/22/21 13:23	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.540		0.312	0.314	5.00	0.482	pCi/L		05/05/21 16:20	1

- 1
- 2
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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

Date Collected: 04/05/21 14:00

Matrix: Water

Date Received: 04/06/21 08:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00694	U	0.0523	0.0523	1.00	0.104	pCi/L	04/09/21 09:54	05/04/21 10:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/09/21 09:54	05/04/21 10:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.230	U	0.259	0.260	1.00	0.425	pCi/L	04/09/21 10:17	04/22/21 13:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					04/09/21 10:17	04/22/21 13:23	1
Y Carrier	85.2		40 - 110					04/09/21 10:17	04/22/21 13:23	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.237	U	0.264	0.265	5.00	0.425	pCi/L		05/05/21 16:20	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-505015/23-A
Matrix: Water
Analysis Batch: 508473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505015

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.04830	U	0.0843	0.0844	1.00	0.191	pCi/L	04/08/21 16:12	05/05/21 12:36	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	85.0		40 - 110					04/08/21 16:12	05/05/21 12:36	1

Lab Sample ID: LCS 160-505015/1-A
Matrix: Water
Analysis Batch: 508250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 505015

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	15.1	14.02		1.49	1.00	0.159	pCi/L	93	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	93.2		40 - 110					04/08/21 16:12	05/05/21 12:36

Lab Sample ID: LCSD 160-505015/2-A
Matrix: Water
Analysis Batch: 508250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 505015

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	15.1	14.45		1.55	1.00	0.190	pCi/L	96	75 - 125	0.14	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	85.6		40 - 110					04/09/21 09:54	05/04/21 08:22	1	

Lab Sample ID: MB 160-505084/21-A
Matrix: Water
Analysis Batch: 508252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505084

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.09609	U	0.0899	0.0903	1.00	0.137	pCi/L	04/09/21 09:54	05/04/21 08:22	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	80.6		40 - 110					04/09/21 09:54	05/04/21 08:22	1

Lab Sample ID: LCS 160-505084/1-A
Matrix: Water
Analysis Batch: 508252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 505084

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	15.1	15.15		1.55	1.00	0.140	pCi/L	100	75 - 125

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-505084/1-A
Matrix: Water
Analysis Batch: 508252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 505084

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.3	U	40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-505074/23-A
Matrix: Water
Analysis Batch: 507528

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505074

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.2343	U	0.368	0.369	1.00	0.693	pCi/L	04/08/21 16:48	04/28/21 12:56	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110	04/08/21 16:48	04/28/21 12:56	1
Y Carrier	84.5		40 - 110	04/08/21 16:48	04/28/21 12:56	1

Lab Sample ID: LCS 160-505074/1-A
Matrix: Water
Analysis Batch: 507513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 505074

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.67	10.30		1.29	1.00	0.610	pCi/L	107	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	93.2		40 - 110
Y Carrier	80.4		40 - 110

Lab Sample ID: LCSD 160-505074/2-A
Matrix: Water
Analysis Batch: 507513

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 505074

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	9.67	10.24		1.30	1.00	0.596	pCi/L	106	75 - 125	0.02	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	85.6		40 - 110
Y Carrier	81.9		40 - 110

Lab Sample ID: MB 160-505089/21-A
Matrix: Water
Analysis Batch: 506611

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505089

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08454	U	0.315	0.315	1.00	0.553	pCi/L	04/09/21 10:17	04/22/21 13:17	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-505089/21-A
Matrix: Water
Analysis Batch: 506611

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505089

Carrier	MB MB		Limits
	%Yield	Qualifier	
Ba Carrier	80.6		40 - 110
Y Carrier	86.4		40 - 110

Prepared	Analyzed	Dil Fac
04/09/21 10:17	04/22/21 13:17	1
04/09/21 10:17	04/22/21 13:17	1

Lab Sample ID: LCS 160-505089/1-A
Matrix: Water
Analysis Batch: 506570

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 505089

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec.
									Limits
Radium-228	9.69	9.395		1.20	1.00	0.600	pCi/L	97	75 - 125

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Ba Carrier	90.3		40 - 110
Y Carrier	83.7		40 - 110

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Rad

Prep Batch: 505015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	PrecSep-21	
310-203561-2	MW-302	Total/NA	Water	PrecSep-21	
310-203561-3	MW-303	Total/NA	Water	PrecSep-21	
310-203561-4	MW-304	Total/NA	Water	PrecSep-21	
310-203561-5	MW-304A	Total/NA	Water	PrecSep-21	
310-203561-6	MW-305	Total/NA	Water	PrecSep-21	
MB 160-505015/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-505015/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-505015/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 505074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	PrecSep_0	
310-203561-2	MW-302	Total/NA	Water	PrecSep_0	
310-203561-3	MW-303	Total/NA	Water	PrecSep_0	
310-203561-4	MW-304	Total/NA	Water	PrecSep_0	
310-203561-5	MW-304A	Total/NA	Water	PrecSep_0	
310-203561-6	MW-305	Total/NA	Water	PrecSep_0	
MB 160-505074/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-505074/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-505074/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 505084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-7	MW-306	Total/NA	Water	PrecSep-21	
310-203561-8	MW-307	Total/NA	Water	PrecSep-21	
310-203561-9	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-505084/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-505084/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 505089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-7	MW-306	Total/NA	Water	PrecSep_0	
310-203561-8	MW-307	Total/NA	Water	PrecSep_0	
310-203561-9	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-505089/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-505089/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-301

Lab Sample ID: 310-203561-1

Date Collected: 04/05/21 16:40

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505015	04/08/21 16:12	RBR	TAL SL
Total/NA	Analysis	903.0		1	508250	05/04/21 10:46	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505074	04/08/21 16:48	RBR	TAL SL
Total/NA	Analysis	904.0		1	507528	04/28/21 12:56	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Client Sample ID: MW-302

Lab Sample ID: 310-203561-2

Date Collected: 04/05/21 08:15

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505015	04/08/21 16:12	RBR	TAL SL
Total/NA	Analysis	903.0		1	508250	05/04/21 10:46	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505074	04/08/21 16:48	RBR	TAL SL
Total/NA	Analysis	904.0		1	507528	04/28/21 12:56	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Date Collected: 04/05/21 10:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505015	04/08/21 16:12	RBR	TAL SL
Total/NA	Analysis	903.0		1	508252	05/04/21 10:43	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505074	04/08/21 16:48	RBR	TAL SL
Total/NA	Analysis	904.0		1	507528	04/28/21 12:56	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Client Sample ID: MW-304

Lab Sample ID: 310-203561-4

Date Collected: 04/05/21 11:35

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505015	04/08/21 16:12	RBR	TAL SL
Total/NA	Analysis	903.0		1	508252	05/04/21 10:43	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505074	04/08/21 16:48	RBR	TAL SL
Total/NA	Analysis	904.0		1	507528	04/28/21 12:56	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: MW-304A

Lab Sample ID: 310-203561-5

Date Collected: 04/05/21 12:15

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505015	04/08/21 16:12	RBR	TAL SL
Total/NA	Analysis	903.0		1	508473	05/05/21 12:35	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505074	04/08/21 16:48	RBR	TAL SL
Total/NA	Analysis	904.0		1	507528	04/28/21 12:56	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Client Sample ID: MW-305

Lab Sample ID: 310-203561-6

Date Collected: 04/05/21 13:35

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505015	04/08/21 16:12	RBR	TAL SL
Total/NA	Analysis	903.0		1	508473	05/05/21 12:35	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505074	04/08/21 16:48	RBR	TAL SL
Total/NA	Analysis	904.0		1	507528	04/28/21 12:56	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Client Sample ID: MW-306

Lab Sample ID: 310-203561-7

Date Collected: 04/05/21 15:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505084	04/09/21 09:54	RBR	TAL SL
Total/NA	Analysis	903.0		1	508252	05/04/21 10:40	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505089	04/09/21 10:17	RBR	TAL SL
Total/NA	Analysis	904.0		1	506570	04/22/21 13:22	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Client Sample ID: MW-307

Lab Sample ID: 310-203561-8

Date Collected: 04/05/21 18:35

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			505084	04/09/21 09:54	RBR	TAL SL
Total/NA	Analysis	903.0		1	508252	05/04/21 10:40	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505089	04/09/21 10:17	RBR	TAL SL
Total/NA	Analysis	904.0		1	506570	04/22/21 13:23	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

Date Collected: 04/05/21 14:00

Matrix: Water

Date Received: 04/06/21 08:30

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	PrecSep-21			505084	04/09/21 09:54	RBR	TAL SL
Total/NA	Analysis	903.0		1	508252	05/04/21 10:40	ANW	TAL SL
Total/NA	Prep	PrecSep_0			505089	04/09/21 10:17	RBR	TAL SL
Total/NA	Analysis	904.0		1	506570	04/22/21 13:23	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	508501	05/05/21 16:20	FLC	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21 *
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

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

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



Environment Testing
TestAmerica



310-203561 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>JA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>7-6-21</u>	TIME <u>630</u>	Received By: <u>EL</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>3</u>
Cooler Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>		Correction Factor (°C): <u>0</u>	
Temp Blank Temperature: If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.3</u>		Corrected Temp (°C): <u>1.3</u>	
Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>CLIC</u>	STATE <u>IA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>4-6-21</u>	TIME <u>630</u>	Received By: <u>ELC</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____			
Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>2</u> of <u>3</u>			
Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>		Correction Factor (°C): <u>0</u>	
Temp Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>plastic 250ml</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>1.6</u>		
Corrected Temp (°C):	<u>1.4</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>JA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>7-6-21</u>	TIME <u>830</u>	Received By: <u>EU</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>3</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.9</u>	Corrected Temp (°C):	<u>1.9</u>
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Sampler: <u>Tantem Buszka</u>		Lab PM: <u>Fredrick, Sandie</u>		Carrier Tracking No(s):		COC No: <u>310-59478-16397.1</u>	
Client Contact: <u>Tantem Buszka</u>		Phone: <u>269-493-0855</u>		E-Mail: <u>sandra.fredrick@eurofinset.com</u>		State of Origin:		Page: <u>Page 1 of 1</u>	
Company: <u>SCS Engineers</u>		PWSID:		Analysis Requested		Job #:		Preservation Codes:	
Address: <u>8450 Hickman Road Suite 27</u>		Due Date Requested:		Field Filtered Sample (Yes or No)		Total Number of Containers		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)	
City: <u>Clive</u>		TAT Requested (days):		Perform MS/MSD (Yes or No)		Dissolved Metals (Cobalt, Iron, Manganese)		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 Other:	
State, Zip: <u>IA, 50325</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Matrix (W=Water, S=solid, O=soil, BT=Tissue, A=Air)		Sulfate by 9056		Nitric preserved 250ml bottle is filtered per eurofins	
Phone: <u>25221077</u>		PO #: <u>25221077</u>		Sample Type (C=Comp, G=grab)		Chloride by 9056		Special Instructions/Note:	
Email: <u>tbuszka@scsengineers.com</u>		WO #: <u>31011020</u>		Sample Time		Fluoride by 9056			
Project Name: <u>ML Kapp 25221077</u>		Project #: <u>31011020</u>		Sample Date		Total Alkalinity as CaCO3			
Site: <u>31011020</u>		SSOW#:		Preservation Code:		D			
Sample Identification		Sample Date		Sample Time		Field Filtered Sample (Yes or No)			
MW-301		<u>4-5-21</u>	<u>16:40</u>	<u>9</u>	Water	<u>W</u>	X	X	X
MW-302			<u>8:15</u>		Water	<u>W</u>	X	X	X
MW-303			<u>10:00</u>		Water	<u>W</u>	X	X	X
MW-304			<u>11:35</u>		Water	<u>W</u>	X	X	X
MW-304A			<u>12:15</u>		Water	<u>W</u>	X	X	X
MW-305			<u>13:35</u>		Water	<u>W</u>	X	X	X
MW-306			<u>15:00</u>		Water	<u>W</u>	X	X	X
MW-307			<u>18:35</u>		Water	<u>W</u>	X	X	X
Field Blank			<u>14:00</u>		Water	<u>W</u>	X	X	X
<p>Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological</p> <p>Deliverable Requested: I, II, III, IV, Other (specify)</p> <p>Empty Kit Relinquished by: _____ Date: _____</p>									
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p> <p>Special Instructions/QC Requirements:</p>									
Relinquished by: <u>Tantem Buszka</u>		Date/Time: <u>4-6-21 8:37</u>		Company: <u>SCS</u>		Date/Time: <u>4-6-21 8:37</u>		Company: _____	
Relinquished by:		Date/Time:		Company:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					

Client Information		Sampler: Tantien Buscke		Lab PM: Fredrick, Sandie	Carrier Tracking No(s): 310-59476-16397-1
Client Contact: Tantien Buszka		Phone: 764-943-0855		E-Mail: sandra.fredrick@eurofins.com	State of Origin:
Company: SCS Engineers		PWSID:		Page: Page 1 of 1	
Address: 8450 Hickman Road, Suite 27		Due Date Requested:		Job #:	
City: Clinton, IA		TAT Requested (days):		Preservation Codes:	
State, Zip: IA 50325		Compliance Project: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - HgSO4 F - MeOH G - Amplex H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone: 769-943-0855		PO #:		M - Hexane N - None O - AsH2O2 P - Na2S4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecyl sulfate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email: tbuszka@scsengineers.com		VOC #:		Total Number of Containers: 1	
Project Name: ML Kapp 2522-1077		Project #:		Special Instructions/Note:	
Site: ML Kapp, Clinton, IA		Site #:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, D=dewast, L=leach, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5030, 9040	5020A - Metals (S)	2540C Calcd. ORGF, 26D SM4560, H+	Analysis Requested	Special Instructions/Note
MW-301	4-5-21	16:40	G	Water	N	N	X	X	X		
MW-302	4-5-21	8:15	G	Water	N	N	X	X	X		
MW-303	4-5-21	10:00	G	Water	N	N	X	X	X		
MW-304	4-5-21	11:35	G	Water	N	N	X	X	X		
MW-304A	4-5-21	12:15	G	Water	N	N	X	X	X		
MW-305	4-5-21	13:35	G	Water	N	N	X	X	X		
MW-306	4-5-21	15:00	G	Water	N	N	X	X	X		
MW-307	4-5-21	18:35	G	Water	N	N	X	X	X		
Field Blank	4-5-21	14:00	G	Water	N	N	X	X	X		

<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input checked="" type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Empty Kit Relinquished by	Date	Method of Shipment
Relinquished by: Tantien Buscke	4-6-21 8:37	
Relinquished by	Date/Time	Company
Relinquished by: Tantien Buscke	4-6-21 8:30	Company
Relinquished by	Date/Time	Company
Relinquished by	Date/Time	Company
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:



Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	Field Blank	TOTAL	
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (total/unfiltered)	Boron	X	X	X	X	X	X	X	X	X	9
		Calcium	X	X	X	X	X	X	X	X	X	9
		Chloride	X	X	X	X	X	X	X	X	X	9
		Fluoride	X	X	X	X	X	X	X	X	X	9
		pH	X	X	X	X	X	X	X	X	X	9
		Sulfate	X	X	X	X	X	X	X	X	X	9
		TDS	X	X	X	X	X	X	X	X	X	9
	Appendix IV Parameters (total/unfiltered)	Antimony	X	X	X	X	X	X	X	X	X	9
		Arsenic	X	X	X	X	X	X	X	X	X	9
		Barium	X	X	X	X	X	X	X	X	X	9
		Beryllium	X	X	X	X	X	X	X	X	X	9
		Cadmium	X	X	X	X	X	X	X	X	X	9
		Chromium	X	X	X	X	X	X	X	X	X	9
		Cobalt	X	X	X	X	X	X	X	X	X	9
		Fluoride	X	X	X	X	X	X	X	X	X	9
		Lead	X	X	X	X	X	X	X	X	X	9
		Lithium	X	X	X	X	X	X	X	X	X	9
		Mercury	X	X	X	X	X	X	X	X	X	9
		Molybdenum	X	X	X	X	X	X	X	X	X	9
		Selenium	X	X	X	X	X	X	X	X	X	9
	Thallium	X	X	X	X	X	X	X	X	X	9	
	Radium	X	X	X	X	X	X	X	X	X	9	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X		8
		pH (field)	X	X	X	X	X	X	X	X		8
		Well Depth	X	X	X	X	X	X	X	X		8
		Specific Conductance	X	X	X	X	X	X	X	X		8
		Dissolved Oxygen	X	X	X	X	X	X	X	X		8
		ORP	X	X	X	X	X	X	X	X		8
		Temperature	X	X	X	X	X	X	X	X		8
		Turbidity	X	X	X	X	X	X	X	X		8
		Color	X	X	X	X	X	X	X	X		8
	Odor	X	X	X	X	X	X	X	X		8	
	COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X		8
Iron			X	X	X	X	X	X	X	X		8
Magnesium			X	X	X	X	X	X	X	X		8
Manganese			X	X	X	X	X	X	X	X		8
Potassium			X	X	X	X	X	X	X	X		8
Sodium			X	X	X	X	X	X	X	X		8
Dissolved (Filtered)		Arsenic			X	X						2
		Iron	X	X	X	X	X	X	X	X		8
		Manganese	X	X	X	X	X	X	X	X		8
Field Parameters		Molybdenum	X	X	X	X		X				5
		Sulfide, Field	X	X	X	X	X	X	X	X		8
		Total Iron, Field	X	X	X	X	X	X	X	X		8
	Ferrous Iron, Field	X	X	X	X	X	X	X	X		8	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-203561-2

Login Number: 203561

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-203561-2

Login Number: 203561

List Number: 2

Creator: O'Gara, Mallory L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 04/08/21 11:16 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	
310-203561-1	MW-301	87.9	
310-203561-2	MW-302	85.9	
310-203561-3	MW-303	75.6	
310-203561-4	MW-304	85.6	
310-203561-5	MW-304A	89.7	
310-203561-6	MW-305	85.9	
310-203561-7	MW-306	85.0	
310-203561-8	MW-307	83.2	
310-203561-9	Field Blank	85.9	
LCS 160-505015/1-A	Lab Control Sample	93.2	
LCS 160-505084/1-A	Lab Control Sample	90.3	
LCSD 160-505015/2-A	Lab Control Sample Dup	85.6	
MB 160-505015/23-A	Method Blank	85.0	
MB 160-505084/21-A	Method Blank	80.6	

Tracer/Carrier Legend
 Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-203561-1	MW-301	87.9	92.7
310-203561-2	MW-302	85.9	87.1
310-203561-3	MW-303	75.6	87.1
310-203561-4	MW-304	85.6	86.0
310-203561-5	MW-304A	89.7	88.6
310-203561-6	MW-305	85.9	89.0
310-203561-7	MW-306	85.0	83.7
310-203561-8	MW-307	83.2	84.9
310-203561-9	Field Blank	85.9	85.2
LCS 160-505074/1-A	Lab Control Sample	93.2	80.4
LCS 160-505089/1-A	Lab Control Sample	90.3	83.7
LCSD 160-505074/2-A	Lab Control Sample Dup	85.6	81.9
MB 160-505074/23-A	Method Blank	85.0	84.5
MB 160-505089/21-A	Method Blank	80.6	86.4

Tracer/Carrier Legend
 Ba = Ba Carrier
 Y = Y Carrier

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-203561-3
Client Project/Site: ML Kapp 25221077
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
5/13/2021 9:01:08 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Job ID: 310-203561-3

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-203561-3

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 4/23/2021. The report (revision 1) is being revised due to: Updated total metals units to ug/L.

Receipt

The samples were received on 4/6/2021 8:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.3° C, 1.6° C and 1.9° C.

Metals

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

General Chemistry

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

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Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-203561-1	MW-301	Water	04/05/21 16:40	04/06/21 08:30	
310-203561-2	MW-302	Water	04/05/21 08:15	04/06/21 08:30	
310-203561-3	MW-303	Water	04/05/21 10:00	04/06/21 08:30	
310-203561-4	MW-304	Water	04/05/21 11:35	04/06/21 08:30	
310-203561-5	MW-304A	Water	04/05/21 12:15	04/06/21 08:30	
310-203561-6	MW-305	Water	04/05/21 13:35	04/06/21 08:30	
310-203561-7	MW-306	Water	04/05/21 15:00	04/06/21 08:30	
310-203561-8	MW-307	Water	04/05/21 18:35	04/06/21 08:30	
310-203561-9	Field Blank	Water	04/05/21 14:00	04/06/21 08:30	

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-301

Lab Sample ID: 310-203561-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1000		100	36	ug/L	1		6020A	Total/NA
Magnesium	33000		500	100	ug/L	1		6020A	Total/NA
Manganese	750		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3300		500	150	ug/L	1		6020A	Total/NA
Sodium	46000		1000	610	ug/L	1		6020A	Total/NA
Iron	670		100	36	ug/L	1		6020A	Dissolved
Manganese	750		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	430		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	220		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	220		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-203561-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	8100		500	100	ug/L	1		6020A	Total/NA
Manganese	110		10	4.4	ug/L	1		6020A	Total/NA
Potassium	13000		500	150	ug/L	1		6020A	Total/NA
Sodium	63000		1000	610	ug/L	1		6020A	Total/NA
Manganese	120		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	170		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	250		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	250		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	7000		100	36	ug/L	1		6020A	Total/NA
Magnesium	16000		500	100	ug/L	1		6020A	Total/NA
Manganese	3000		10	4.4	ug/L	1		6020A	Total/NA
Potassium	22000		500	150	ug/L	1		6020A	Total/NA
Sodium	81000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	3.1		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	790		100	36	ug/L	1		6020A	Dissolved
Manganese	3000		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	140		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	230		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	230		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-203561-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	3100		100	36	ug/L	1		6020A	Total/NA
Magnesium	22000		500	100	ug/L	1		6020A	Total/NA
Manganese	2300		10	4.4	ug/L	1		6020A	Total/NA
Potassium	25000		500	150	ug/L	1		6020A	Total/NA
Sodium	100000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	4.2		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	640		100	36	ug/L	1		6020A	Dissolved
Manganese	2300		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	640		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	160		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	160		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-304A

Lab Sample ID: 310-203561-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	530		100	36	ug/L	1		6020A	Total/NA
Magnesium	30000		500	100	ug/L	1		6020A	Total/NA
Manganese	680		10	4.4	ug/L	1		6020A	Total/NA
Potassium	2300		500	150	ug/L	1		6020A	Total/NA
Sodium	13000		1000	610	ug/L	1		6020A	Total/NA
Iron	330		100	36	ug/L	1		6020A	Dissolved
Manganese	680		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-203561-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1200		100	36	ug/L	1		6020A	Total/NA
Magnesium	30000		500	100	ug/L	1		6020A	Total/NA
Manganese	3200		10	4.4	ug/L	1		6020A	Total/NA
Potassium	13000		500	150	ug/L	1		6020A	Total/NA
Sodium	140000		1000	610	ug/L	1		6020A	Total/NA
Iron	880		100	36	ug/L	1		6020A	Dissolved
Manganese	3200		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	630		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	190		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	190		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-203561-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	27000		500	100	ug/L	1		6020A	Total/NA
Manganese	410		10	4.4	ug/L	1		6020A	Total/NA
Potassium	13000		500	150	ug/L	1		6020A	Total/NA
Sodium	120000		1000	610	ug/L	1		6020A	Total/NA
Manganese	370		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	380		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-203561-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	460		100	36	ug/L	1		6020A	Total/NA
Magnesium	97000		2000	400	ug/L	4		6020A	Total/NA
Manganese	3000		10	4.4	ug/L	1		6020A	Total/NA
Potassium	430	J	500	150	ug/L	1		6020A	Total/NA
Sodium	16000		1000	610	ug/L	1		6020A	Total/NA
Iron	460		100	36	ug/L	1		6020A	Dissolved
Manganese	3000		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	930		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	930		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-301

Lab Sample ID: 310-203561-1

Date Collected: 04/05/21 16:40

Matrix: Water

Date Received: 04/06/21 08:30

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1000		100	36	ug/L		04/07/21 08:00	04/09/21 00:45	1
Magnesium	33000		500	100	ug/L		04/07/21 08:00	04/09/21 00:45	1
Manganese	750		10	4.4	ug/L		04/07/21 08:00	04/09/21 00:45	1
Potassium	3300		500	150	ug/L		04/07/21 08:00	04/09/21 00:45	1
Sodium	46000		1000	610	ug/L		04/07/21 08:00	04/09/21 00:45	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	670		100	36	ug/L		04/07/21 08:00	04/08/21 21:17	1
Manganese	750		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:17	1
Molybdenum	430		2.0	1.3	ug/L		04/07/21 08:00	04/08/21 21:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	220		5.0	2.3	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	220		5.0	2.3	mg/L			04/13/21 09:12	1

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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-302
Date Collected: 04/05/21 08:15
Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-2
Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/07/21 08:00	04/09/21 00:48	1
Magnesium	8100		500	100	ug/L		04/07/21 08:00	04/09/21 00:48	1
Manganese	110		10	4.4	ug/L		04/07/21 08:00	04/09/21 00:48	1
Potassium	13000		500	150	ug/L		04/07/21 08:00	04/09/21 00:48	1
Sodium	63000		1000	610	ug/L		04/07/21 08:00	04/09/21 00:48	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/07/21 08:00	04/08/21 21:30	1
Manganese	120		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:30	1
Molybdenum	170		2.0	1.3	ug/L		04/07/21 08:00	04/08/21 21:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	250		5.0	2.3	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	250		5.0	2.3	mg/L			04/13/21 09:12	1

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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Date Collected: 04/05/21 10:00

Matrix: Water

Date Received: 04/06/21 08:30

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7000		100	36	ug/L		04/07/21 08:00	04/09/21 00:53	1
Magnesium	16000		500	100	ug/L		04/07/21 08:00	04/09/21 00:53	1
Manganese	3000		10	4.4	ug/L		04/07/21 08:00	04/09/21 00:53	1
Potassium	22000		500	150	ug/L		04/07/21 08:00	04/09/21 00:53	1
Sodium	81000		1000	610	ug/L		04/07/21 08:00	04/09/21 00:53	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.1		2.0	0.75	ug/L		04/07/21 08:00	04/08/21 21:33	1
Iron	790		100	36	ug/L		04/07/21 08:00	04/08/21 21:33	1
Manganese	3000		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:33	1
Molybdenum	140		2.0	1.3	ug/L		04/07/21 08:00	04/08/21 21:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	230		10	4.6	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	230		10	4.6	mg/L			04/13/21 09:12	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-304

Lab Sample ID: 310-203561-4

Date Collected: 04/05/21 11:35

Matrix: Water

Date Received: 04/06/21 08:30

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3100		100	36	ug/L		04/07/21 08:00	04/09/21 00:56	1
Magnesium	22000		500	100	ug/L		04/07/21 08:00	04/09/21 00:56	1
Manganese	2300		10	4.4	ug/L		04/07/21 08:00	04/09/21 00:56	1
Potassium	25000		500	150	ug/L		04/07/21 08:00	04/09/21 00:56	1
Sodium	100000		1000	610	ug/L		04/07/21 08:00	04/09/21 00:56	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		2.0	0.75	ug/L		04/07/21 08:00	04/08/21 21:35	1
Iron	640		100	36	ug/L		04/07/21 08:00	04/08/21 21:35	1
Manganese	2300		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:35	1
Molybdenum	640		2.0	1.3	ug/L		04/07/21 08:00	04/08/21 21:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	160		10	4.6	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	160		10	4.6	mg/L			04/13/21 09:12	1



Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-304A

Lab Sample ID: 310-203561-5

Date Collected: 04/05/21 12:15

Matrix: Water

Date Received: 04/06/21 08:30

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	530		100	36	ug/L		04/07/21 08:00	04/09/21 00:59	1
Magnesium	30000		500	100	ug/L		04/07/21 08:00	04/09/21 00:59	1
Manganese	680		10	4.4	ug/L		04/07/21 08:00	04/09/21 00:59	1
Potassium	2300		500	150	ug/L		04/07/21 08:00	04/09/21 00:59	1
Sodium	13000		1000	610	ug/L		04/07/21 08:00	04/09/21 00:59	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	330		100	36	ug/L		04/07/21 08:00	04/08/21 21:38	1
Manganese	680		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		10	4.6	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	300		10	4.6	mg/L			04/13/21 09:12	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-305
 Date Collected: 04/05/21 13:35
 Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-6
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1200		100	36	ug/L		04/07/21 08:00	04/09/21 01:01	1
Magnesium	30000		500	100	ug/L		04/07/21 08:00	04/09/21 01:01	1
Manganese	3200		10	4.4	ug/L		04/07/21 08:00	04/09/21 01:01	1
Potassium	13000		500	150	ug/L		04/07/21 08:00	04/09/21 01:01	1
Sodium	140000		1000	610	ug/L		04/07/21 08:00	04/09/21 01:01	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	880		100	36	ug/L		04/07/21 08:00	04/08/21 21:41	1
Manganese	3200		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:41	1
Molybdenum	630		2.0	1.3	ug/L		04/07/21 08:00	04/08/21 21:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	190		10	4.6	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	190		10	4.6	mg/L			04/13/21 09:12	1

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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-306

Lab Sample ID: 310-203561-7

Date Collected: 04/05/21 15:00

Matrix: Water

Date Received: 04/06/21 08:30

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/07/21 08:00	04/09/21 01:04	1
Magnesium	27000		500	100	ug/L		04/07/21 08:00	04/09/21 01:04	1
Manganese	410		10	4.4	ug/L		04/07/21 08:00	04/09/21 01:04	1
Potassium	13000		500	150	ug/L		04/07/21 08:00	04/09/21 01:04	1
Sodium	120000		1000	610	ug/L		04/07/21 08:00	04/09/21 01:04	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/07/21 08:00	04/08/21 21:43	1
Manganese	370		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	380		10	4.6	mg/L			04/13/21 09:12	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-307
 Date Collected: 04/05/21 18:35
 Date Received: 04/06/21 08:30

Lab Sample ID: 310-203561-8
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	460		100	36	ug/L		04/07/21 08:00	04/09/21 01:07	1
Magnesium	97000		2000	400	ug/L		04/07/21 08:00	04/09/21 17:04	4
Manganese	3000		10	4.4	ug/L		04/07/21 08:00	04/09/21 01:07	1
Potassium	430	J	500	150	ug/L		04/07/21 08:00	04/09/21 01:07	1
Sodium	16000		1000	610	ug/L		04/07/21 08:00	04/09/21 01:07	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	460		100	36	ug/L		04/07/21 08:00	04/08/21 21:51	1
Manganese	3000		10	4.4	ug/L		04/07/21 08:00	04/08/21 21:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	930		10	4.6	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	930		10	4.6	mg/L			04/13/21 09:12	1

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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

Date Collected: 04/05/21 14:00

Matrix: Water

Date Received: 04/06/21 08:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/14/21 11:20	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/14/21 11:20	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/14/21 11:20	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-311762/1-A
Matrix: Water
Analysis Batch: 312157

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311762

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<36		100	36	ug/L		04/07/21 08:00	04/08/21 23:44	1
Magnesium	<100		500	100	ug/L		04/07/21 08:00	04/08/21 23:44	1
Manganese	<4.4		10	4.4	ug/L		04/07/21 08:00	04/08/21 23:44	1
Potassium	<150		500	150	ug/L		04/07/21 08:00	04/08/21 23:44	1
Sodium	<610		1000	610	ug/L		04/07/21 08:00	04/08/21 23:44	1

Lab Sample ID: LCS 310-311762/2-A
Matrix: Water
Analysis Batch: 312157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311762

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	2000	2020		ug/L		101	80 - 120
Manganese	100	103		ug/L		103	80 - 120
Potassium	2000	2160		ug/L		108	80 - 120
Sodium	2000	2100		ug/L		105	80 - 120

Lab Sample ID: 310-203561-2 DU
Matrix: Water
Analysis Batch: 312157

Client Sample ID: MW-302
Prep Type: Total/NA
Prep Batch: 311762

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Magnesium	8100		8070		ug/L		0.2	20
Manganese	110		108		ug/L		4	20
Potassium	13000		13700		ug/L		3	20
Sodium	63000		64200		ug/L		2	20

Lab Sample ID: MB 310-311763/1-A
Matrix: Water
Analysis Batch: 312157

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311763

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	<0.75		2.0	0.75	ug/L		04/07/21 08:00	04/08/21 20:40	1
Iron	<36		100	36	ug/L		04/07/21 08:00	04/08/21 20:40	1
Manganese	<4.4		10	4.4	ug/L		04/07/21 08:00	04/08/21 20:40	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/07/21 08:00	04/08/21 20:40	1

Lab Sample ID: LCS 310-311763/2-A
Matrix: Water
Analysis Batch: 312157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	200	211		ug/L		105	80 - 120
Manganese	100	100		ug/L		100	80 - 120
Molybdenum	200	214		ug/L		107	80 - 120

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

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

Lab Sample ID: 310-203561-7 DU
Matrix: Water
Analysis Batch: 312157

Client Sample ID: MW-306
Prep Type: Dissolved
Prep Batch: 311763

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	<0.75		<0.75		ug/L		NC	20
Iron	<36		<36		ug/L		NC	20
Manganese	370		371		ug/L		1	20
Molybdenum	34		32.8		ug/L		3	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-312686/1
Matrix: Water
Analysis Batch: 312686

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/14/21 11:20	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/14/21 11:20	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/14/21 11:20	1

Lab Sample ID: LCS 310-312686/2
Matrix: Water
Analysis Batch: 312686

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-312502/1
Matrix: Water
Analysis Batch: 312502

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/13/21 09:12	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/13/21 09:12	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/13/21 09:12	1

Lab Sample ID: LCS 310-312502/2
Matrix: Water
Analysis Batch: 312502

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: 310-203561-1 MS
Matrix: Water
Analysis Batch: 312502

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Total Alkalinity as CaCO3 to pH 4.5	220		100	324		mg/L		108	71 - 130

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 310-203561-1 MSD
Matrix: Water
Analysis Batch: 312502

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3 to pH 4.5	220		100	329		mg/L		113	71 - 130	2	10

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QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Metals

Prep Batch: 311762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	3010A	
310-203561-2	MW-302	Total/NA	Water	3010A	
310-203561-3	MW-303	Total/NA	Water	3010A	
310-203561-4	MW-304	Total/NA	Water	3010A	
310-203561-5	MW-304A	Total/NA	Water	3010A	
310-203561-6	MW-305	Total/NA	Water	3010A	
310-203561-7	MW-306	Total/NA	Water	3010A	
310-203561-8	MW-307	Total/NA	Water	3010A	
MB 310-311762/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-311762/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-203561-2 DU	MW-302	Total/NA	Water	3010A	

Prep Batch: 311763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Dissolved	Water	3010A	
310-203561-2	MW-302	Dissolved	Water	3010A	
310-203561-3	MW-303	Dissolved	Water	3010A	
310-203561-4	MW-304	Dissolved	Water	3010A	
310-203561-5	MW-304A	Dissolved	Water	3010A	
310-203561-6	MW-305	Dissolved	Water	3010A	
310-203561-7	MW-306	Dissolved	Water	3010A	
310-203561-8	MW-307	Dissolved	Water	3010A	
MB 310-311763/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-311763/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-203561-7 DU	MW-306	Dissolved	Water	3010A	

Analysis Batch: 312157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Dissolved	Water	6020A	311763
310-203561-1	MW-301	Total/NA	Water	6020A	311762
310-203561-2	MW-302	Dissolved	Water	6020A	311763
310-203561-2	MW-302	Total/NA	Water	6020A	311762
310-203561-3	MW-303	Dissolved	Water	6020A	311763
310-203561-3	MW-303	Total/NA	Water	6020A	311762
310-203561-4	MW-304	Dissolved	Water	6020A	311763
310-203561-4	MW-304	Total/NA	Water	6020A	311762
310-203561-5	MW-304A	Dissolved	Water	6020A	311763
310-203561-5	MW-304A	Total/NA	Water	6020A	311762
310-203561-6	MW-305	Dissolved	Water	6020A	311763
310-203561-6	MW-305	Total/NA	Water	6020A	311762
310-203561-7	MW-306	Dissolved	Water	6020A	311763
310-203561-7	MW-306	Total/NA	Water	6020A	311762
310-203561-8	MW-307	Dissolved	Water	6020A	311763
310-203561-8	MW-307	Total/NA	Water	6020A	311762
MB 310-311762/1-A	Method Blank	Total/NA	Water	6020A	311762
MB 310-311763/1-A	Method Blank	Total/NA	Water	6020A	311763
LCS 310-311762/2-A	Lab Control Sample	Total/NA	Water	6020A	311762
LCS 310-311763/2-A	Lab Control Sample	Total/NA	Water	6020A	311763
310-203561-2 DU	MW-302	Total/NA	Water	6020A	311762
310-203561-7 DU	MW-306	Dissolved	Water	6020A	311763

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Metals

Analysis Batch: 312332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-8	MW-307	Total/NA	Water	6020A	311762

General Chemistry

Analysis Batch: 312502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-1	MW-301	Total/NA	Water	SM 2320B	
310-203561-2	MW-302	Total/NA	Water	SM 2320B	
310-203561-3	MW-303	Total/NA	Water	SM 2320B	
310-203561-4	MW-304	Total/NA	Water	SM 2320B	
310-203561-5	MW-304A	Total/NA	Water	SM 2320B	
310-203561-6	MW-305	Total/NA	Water	SM 2320B	
310-203561-7	MW-306	Total/NA	Water	SM 2320B	
310-203561-8	MW-307	Total/NA	Water	SM 2320B	
MB 310-312502/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-312502/2	Lab Control Sample	Total/NA	Water	SM 2320B	
310-203561-1 MS	MW-301	Total/NA	Water	SM 2320B	
310-203561-1 MSD	MW-301	Total/NA	Water	SM 2320B	

Analysis Batch: 312686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-203561-9	Field Blank	Total/NA	Water	2320B	
MB 310-312686/1	Method Blank	Total/NA	Water	2320B	
LCS 310-312686/2	Lab Control Sample	Total/NA	Water	2320B	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-301

Lab Sample ID: 310-203561-1

Date Collected: 04/05/21 16:40

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:17	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:45	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-203561-2

Date Collected: 04/05/21 08:15

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:30	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:48	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-203561-3

Date Collected: 04/05/21 10:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:33	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:53	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-203561-4

Date Collected: 04/05/21 11:35

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:35	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:56	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: MW-304A

Lab Sample ID: 310-203561-5

Date Collected: 04/05/21 12:15

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:38	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 00:59	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Client Sample ID: MW-305

Lab Sample ID: 310-203561-6

Date Collected: 04/05/21 13:35

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:41	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 01:01	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-203561-7

Date Collected: 04/05/21 15:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:43	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 01:04	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Client Sample ID: MW-307

Lab Sample ID: 310-203561-8

Date Collected: 04/05/21 18:35

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			311763	04/07/21 08:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	312157	04/08/21 21:51	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	312157	04/09/21 01:07	SAD	TAL CF
Total/NA	Prep	3010A			311762	04/07/21 08:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	312332	04/09/21 17:04	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	312502	04/13/21 09:12	WJF	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Client Sample ID: Field Blank

Lab Sample ID: 310-203561-9

Date Collected: 04/05/21 14:00

Matrix: Water

Date Received: 04/06/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2320B		1	312686	04/14/21 11:20	DFS	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

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Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

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Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-203561-3

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment Testing
TestAmerica



310-203561 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>JA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>7-6-21</u>	TIME <u>630</u>	Received By: <u>EL</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>3</u>
Cooler Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>		Correction Factor (°C): <u>0</u>	
Temp Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.3</u>		Corrected Temp (°C): <u>1.3</u>	
Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>CLIC</u>	STATE <u>IA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>4-6-21</u>	TIME <u>630</u>	Received By: <u>ELC</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>3</u>
Cooler Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>		Correction Factor (°C): <u>0</u>	
Temp Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>plastic 250ml</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>1.6</u>		
Corrected Temp (°C):	<u>1.4</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	<small>CITY</small> <u>Clive</u>	<small>STATE</small> <u>JA</u>	Project: <u>ML KAPP</u>
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>7-6-21</u>	<small>TIME</small> <u>830</u>	Received By: <u>EL</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>3</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.9</u>	Corrected Temp (°C):	<u>1.9</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Sampler: <u>Tantem Buszka</u>		Lab PM: <u>Fredrick, Sandie</u>		Carrier Tracking No(s):		COC No: <u>310-59478-16397.1</u>	
Client Contact: <u>Tantem Buszka</u>		Phone: <u>269-493-0855</u>		E-Mail: <u>sandra.fredrick@eurofinset.com</u>		State of Origin:		Page: <u>Page 1 of 1</u>	
Company: <u>SCS Engineers</u>		PWSID:		Analysis Requested		Job #:		Preservation Codes:	
Address: <u>8450 Hickman Road Suite 27</u>		Due Date Requested:		Field Filtered Sample (Yes or No)		Total Number of Containers		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)	
City: <u>Clive</u>		TAT Requested (days):		Perform MS/MSD (Yes or No)		Dissolved Metals (Cobalt, Iron, Manganese)		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 Other:	
State, Zip: <u>IA, 50325</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)		Sulfate by 9056		Nitric preserved 250ml bottle is filtered per each set Special Instructions/Note:	
Phone: <u>25221077</u>		PO #: <u>25221077</u>		Sample Type (C=Comp, G=grab)		Chloride by 9056			
Email: <u>tbuszka@scsengineers.com</u>		WO #: <u>31011020</u>		Sample Time		Fluoride by 9056			
Project Name: <u>ML Kapp 25221077</u>		Sample Date		Preservation Code:		Total Alkalinity as CaCO3			
Site: <u>31011020</u>		Sample Date: <u>4-5-21</u>		Sample Time: <u>16:40</u>		Nitrite by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>8:15</u>		Nitrate by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>10:00</u>		Total Hardness by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>11:35</u>		Total Solids by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>12:15</u>		Total Suspended Solids by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>13:35</u>		Total Dissolved Solids by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>15:00</u>		Total Phosphate by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>18:35</u>		Total Ammonia Nitrogen by 9056			
		Sample Date: <u>4-5-21</u>		Sample Time: <u>14:00</u>		Total Nitrogen by 9056			
Field Blank									

<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:		Special Instructions/QC Requirements:	
Relinquished by: <u>Tantem Buszka</u>		Time: _____	
Date/Time: <u>4-6-21 8:37</u>		Method of Shipment:	
Relinquished by: _____		Date/Time: <u>4-6-21 8:30</u>	
Relinquished by: _____		Date/Time: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



Client Information Client Contact: Tanten Buszka Company: SCS Engineers Address: 8450 Hickman Road, Suite 27 City: Cedar Falls, IA State, Zip: IA, 50625 Phone: 269-993-0855 Email: tbuszka@scsengineers.com Project Name: ML Kapp 2522-1077 Site: ML Kapp, Clinton, IA		Lab PM: Fredrick, Sandle E-Mail: sandra.fredrick@eurofins.com State of Origin:	
Sampler: Tanten Buszka Phone: 269-993-0855 PWSID:		Carrier Tracking No(s): 310-59476-16397-1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No PO #: 25221077 W.C.#: Project #: 31011020 SOW#:		Analysis Requested Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): 503.0, 904.0 5020A - Metals (9) 2540C Calc'd, 9056A, ORGF, 26D, SM4560, H+	
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - H2SO4 F - MeOH G - Amplex H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Preservation Codes: M - Hexane N - None O - AsHClO2 P - Na2S2O3 Q - Na2SO3 R - Na2S2O4 S - H2O2 T - TSP Dodecyl sulfate U - Acetone V - MCAA W - pH 4-5 X - EDA Z - other (specify)	
Special Instructions/Note: Total Number of containers:			
Sample Identification MW-301 MW-302 MW-303 MW-304 MW-304A MW-305 MW-306 MW-307 Field Blank	Sample Date 4-5-21 4-5-21 4-5-21 4-5-21 4-5-21 4-5-21 4-5-21 4-5-21	Sample Time 16:40 8:15 10:00 11:35 12:15 13:35 15:00 18:35 14:00	Matrix (W=Water, S=Soil, O=Organic, D=Dust, G=Grab) Water Water Water Water Water Water Water Water Water
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input checked="" type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological			
Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by Relinquished by: Tanten Buszka Date/Time: 4-6-21 8:37 Company: SCS Relinquished by:			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Method of Shipment:			
Date/Time: 4-6-21 8:30 Company:			
Date/Time:			
Date/Time:			
Cooler Temperature(s) °C and Other Remarks:			



Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	Field Blank	TOTAL	
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (total/unfiltered)	Boron	X	X	X	X	X	X	X	X	X	9
		Calcium	X	X	X	X	X	X	X	X	X	9
		Chloride	X	X	X	X	X	X	X	X	X	9
		Fluoride	X	X	X	X	X	X	X	X	X	9
		pH	X	X	X	X	X	X	X	X	X	9
		Sulfate	X	X	X	X	X	X	X	X	X	9
		TDS	X	X	X	X	X	X	X	X	X	9
	Appendix IV Parameters (total/unfiltered)	Antimony	X	X	X	X	X	X	X	X	X	9
		Arsenic	X	X	X	X	X	X	X	X	X	9
		Barium	X	X	X	X	X	X	X	X	X	9
		Beryllium	X	X	X	X	X	X	X	X	X	9
		Cadmium	X	X	X	X	X	X	X	X	X	9
		Chromium	X	X	X	X	X	X	X	X	X	9
		Cobalt	X	X	X	X	X	X	X	X	X	9
		Fluoride	X	X	X	X	X	X	X	X	X	9
		Lead	X	X	X	X	X	X	X	X	X	9
		Lithium	X	X	X	X	X	X	X	X	X	9
		Mercury	X	X	X	X	X	X	X	X	X	9
		Molybdenum	X	X	X	X	X	X	X	X	X	9
		Selenium	X	X	X	X	X	X	X	X	X	9
	Thallium	X	X	X	X	X	X	X	X	X	9	
	Radium	X	X	X	X	X	X	X	X	X	9	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X		8
		pH (field)	X	X	X	X	X	X	X	X		8
		Well Depth	X	X	X	X	X	X	X	X		8
		Specific Conductance	X	X	X	X	X	X	X	X		8
		Dissolved Oxygen	X	X	X	X	X	X	X	X		8
		ORP	X	X	X	X	X	X	X	X		8
		Temperature	X	X	X	X	X	X	X	X		8
		Turbidity	X	X	X	X	X	X	X	X		8
		Color	X	X	X	X	X	X	X	X		8
	Odor	X	X	X	X	X	X	X	X		8	
	COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X		8
Iron			X	X	X	X	X	X	X	X		8
Magnesium			X	X	X	X	X	X	X	X		8
Manganese			X	X	X	X	X	X	X	X		8
Potassium			X	X	X	X	X	X	X	X		8
Sodium			X	X	X	X	X	X	X	X		8
Dissolved (Filtered)		Arsenic			X	X						2
		Iron	X	X	X	X	X	X	X	X		8
		Manganese	X	X	X	X	X	X	X	X		8
Field Parameters		Molybdenum	X	X	X	X		X				5
		Sulfide, Field	X	X	X	X	X	X	X	X		8
		Total Iron, Field	X	X	X	X	X	X	X	X		8
	Ferrous Iron, Field	X	X	X	X	X	X	X	X		8	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-203561-3

Login Number: 203561

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

D3 June 2021 Assessment Monitoring

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-209172-1
Client Project/Site: ML Kapp - 25221077
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
7/21/2021 12:01:06 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Job ID: 310-209172-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-209172-1

Comments

Revised. Reanalysis for Field blank due to suspect lab contamination. Removal of 5 metals to secondary report.

Receipt

The samples were received on 6/19/2021 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: MW307 (310-209172-1), MW308 (310-209172-2), MW309 (310-209172-3) and FB (310-209172-4).

Client requested reanalysis of the FB due to contamination in initial sample result (Metals).

HPLC/IC

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

Metals

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

General Chemistry

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-209172-1	MW307	Ground Water	06/17/21 14:20	06/19/21 10:15	
310-209172-2	MW308	Ground Water	06/17/21 16:00	06/19/21 10:15	
310-209172-3	MW309	Ground Water	06/17/21 17:00	06/19/21 10:15	
310-209172-4	FB	Ground Water	06/17/21 16:20	06/19/21 10:15	

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: MW307

Lab Sample ID: 310-209172-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	77		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	19		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	310		2.0	0.30	ug/L	1		6020A	Total/NA
Cadmium	0.11		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	210		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	3.1		0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	750		250	130	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	593.33				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	90				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.2				mg/L	1		Field Sampling	Total/NA
pH, Field	6.66				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1565				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.71				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW308

Lab Sample ID: 310-209172-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	33		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	74		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	92		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	400		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.14		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	84		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.3		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.46	J	0.50	0.21	ug/L	1		6020A	Total/NA
Total Dissolved Solids	530		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	576.05				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	101				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.3				mg/L	1		Field Sampling	Total/NA
pH, Field	6.51				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	863				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	48.2				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW309

Lab Sample ID: 310-209172-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	39		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.34	J	0.50	0.28	mg/L	5		9056A	Total/NA
Arsenic	0.84	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	210		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	480		100	58	ug/L	1		6020A	Total/NA
Calcium	140		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.91		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.34	J	0.50	0.21	ug/L	1		6020A	Total/NA
Total Dissolved Solids	460		250	130	mg/L	1		SM 2540C	Total/NA
pH	6.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	571.84				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-91				millivolts	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: MW309 (Continued)

Lab Sample ID: 310-209172-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxygen, Dissolved, Client Supplied	0.3				mg/L	1		Field Sampling	Total/NA
pH, Field	6.79				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	961				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	18.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	47.2				NTU	1		Field Sampling	Total/NA

Client Sample ID: FB

Lab Sample ID: 310-209172-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.31	J	2.0	0.30	ug/L	1		6020A	Total/NA
pH	6.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: MW307

Lab Sample ID: 310-209172-1

Date Collected: 06/17/21 14:20

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77		5.0	2.2	mg/L			06/22/21 13:38	5
Fluoride	<0.28		0.50	0.28	mg/L			06/22/21 13:38	5
Sulfate	19		5.0	2.5	mg/L			06/22/21 13:38	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		06/22/21 09:00	06/23/21 14:52	1
Arsenic	<0.75		2.0	0.75	ug/L		06/22/21 09:00	06/23/21 14:52	1
Barium	310		2.0	0.30	ug/L		06/22/21 09:00	06/23/21 14:52	1
Beryllium	<0.27		1.0	0.27	ug/L		06/22/21 09:00	06/23/21 14:52	1
Boron	<58		100	58	ug/L		06/22/21 09:00	06/23/21 14:52	1
Cadmium	0.11		0.10	0.051	ug/L		06/22/21 09:00	06/23/21 14:52	1
Calcium	210		0.50	0.19	mg/L		06/22/21 09:00	06/23/21 14:52	1
Chromium	<1.1		5.0	1.1	ug/L		06/22/21 09:00	06/23/21 14:52	1
Cobalt	3.1		0.50	0.091	ug/L		06/22/21 09:00	06/23/21 14:52	1
Lead	<0.21		0.50	0.21	ug/L		06/22/21 09:00	06/23/21 14:52	1
Lithium	<2.5		10	2.5	ug/L		06/22/21 09:00	06/23/21 14:52	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/22/21 09:00	06/23/21 14:52	1
Selenium	<0.96		5.0	0.96	ug/L		06/22/21 09:00	06/23/21 14:52	1
Thallium	<0.26		1.0	0.26	ug/L		06/22/21 09:00	06/23/21 14:52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		06/23/21 13:37	06/24/21 12:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		250	130	mg/L			06/21/21 15:49	1
pH	7.0	HF	0.1	0.1	SU			06/21/21 15:33	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	593.33				ft			06/17/21 14:20	1
Oxidation Reduction Potential	90				millivolts			06/17/21 14:20	1
Oxygen, Dissolved, Client Supplied	0.2				mg/L			06/17/21 14:20	1
pH, Field	6.66				SU			06/17/21 14:20	1
Specific Conductance, Field	1565				umhos/cm			06/17/21 14:20	1
Temperature, Field	12.4				Degrees C			06/17/21 14:20	1
Turbidity, Field	0.71				NTU			06/17/21 14:20	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: MW308

Lab Sample ID: 310-209172-2

Date Collected: 06/17/21 16:00

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33		5.0	2.2	mg/L			06/22/21 14:25	5
Fluoride	<0.28		0.50	0.28	mg/L			06/22/21 14:25	5
Sulfate	74		5.0	2.5	mg/L			06/22/21 14:25	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		06/22/21 09:00	06/23/21 14:55	1
Arsenic	<0.75		2.0	0.75	ug/L		06/22/21 09:00	06/23/21 14:55	1
Barium	92		2.0	0.30	ug/L		06/22/21 09:00	06/23/21 14:55	1
Beryllium	<0.27		1.0	0.27	ug/L		06/22/21 09:00	06/23/21 14:55	1
Boron	400		100	58	ug/L		06/22/21 09:00	06/23/21 14:55	1
Cadmium	0.14		0.10	0.051	ug/L		06/22/21 09:00	06/23/21 14:55	1
Calcium	84		0.50	0.19	mg/L		06/22/21 09:00	06/23/21 14:55	1
Chromium	<1.1		5.0	1.1	ug/L		06/22/21 09:00	06/23/21 14:55	1
Cobalt	1.3		0.50	0.091	ug/L		06/22/21 09:00	06/23/21 14:55	1
Lead	0.46 J		0.50	0.21	ug/L		06/22/21 09:00	06/23/21 14:55	1
Lithium	<2.5		10	2.5	ug/L		06/22/21 09:00	06/23/21 14:55	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/22/21 09:00	06/23/21 14:55	1
Selenium	<0.96		5.0	0.96	ug/L		06/22/21 09:00	06/23/21 14:55	1
Thallium	<0.26		1.0	0.26	ug/L		06/22/21 09:00	06/23/21 14:55	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		06/21/21 16:00	06/22/21 13:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	530		50	26	mg/L			06/22/21 13:44	1
pH	6.7	HF	0.1	0.1	SU			06/21/21 15:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	576.05				ft			06/17/21 16:00	1
Oxidation Reduction Potential	101				millivolts			06/17/21 16:00	1
Oxygen, Dissolved, Client Supplied	0.3				mg/L			06/17/21 16:00	1
pH, Field	6.51				SU			06/17/21 16:00	1
Specific Conductance, Field	863				umhos/cm			06/17/21 16:00	1
Temperature, Field	12.1				Degrees C			06/17/21 16:00	1
Turbidity, Field	48.2				NTU			06/17/21 16:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: MW309

Lab Sample ID: 310-209172-3

Date Collected: 06/17/21 17:00

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39		5.0	2.2	mg/L			06/22/21 14:41	5
Fluoride	0.34	J	0.50	0.28	mg/L			06/22/21 14:41	5
Sulfate	<2.5		5.0	2.5	mg/L			06/22/21 14:41	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		06/22/21 09:00	06/23/21 14:57	1
Arsenic	0.84	J	2.0	0.75	ug/L		06/22/21 09:00	06/23/21 14:57	1
Barium	210		2.0	0.30	ug/L		06/22/21 09:00	06/23/21 14:57	1
Beryllium	<0.27		1.0	0.27	ug/L		06/22/21 09:00	06/23/21 14:57	1
Boron	480		100	58	ug/L		06/22/21 09:00	06/23/21 14:57	1
Cadmium	<0.051		0.10	0.051	ug/L		06/22/21 09:00	06/23/21 14:57	1
Calcium	140		0.50	0.19	mg/L		06/22/21 09:00	06/23/21 14:57	1
Chromium	<1.1		5.0	1.1	ug/L		06/22/21 09:00	06/23/21 14:57	1
Cobalt	0.91		0.50	0.091	ug/L		06/22/21 09:00	06/23/21 14:57	1
Lead	0.34	J	0.50	0.21	ug/L		06/22/21 09:00	06/23/21 14:57	1
Lithium	<2.5		10	2.5	ug/L		06/22/21 09:00	06/23/21 14:57	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/22/21 09:00	06/23/21 14:57	1
Selenium	<0.96		5.0	0.96	ug/L		06/22/21 09:00	06/23/21 14:57	1
Thallium	<0.26		1.0	0.26	ug/L		06/22/21 09:00	06/23/21 14:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		06/21/21 16:00	06/22/21 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	460		250	130	mg/L			06/21/21 15:49	1
pH	6.9	HF	0.1	0.1	SU			06/21/21 15:36	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	571.84				ft			06/17/21 17:00	1
Oxidation Reduction Potential	-91				millivolts			06/17/21 17:00	1
Oxygen, Dissolved, Client Supplied	0.3				mg/L			06/17/21 17:00	1
pH, Field	6.79				SU			06/17/21 17:00	1
Specific Conductance, Field	961				umhos/cm			06/17/21 17:00	1
Temperature, Field	18.0				Degrees C			06/17/21 17:00	1
Turbidity, Field	47.2				NTU			06/17/21 17:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: FB

Lab Sample ID: 310-209172-4

Date Collected: 06/17/21 16:20

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			06/22/21 14:56	1
Fluoride	<0.055		0.10	0.055	mg/L			06/22/21 14:56	1
Sulfate	<0.49		1.0	0.49	mg/L			06/22/21 14:56	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		06/22/21 09:00	06/23/21 15:00	1
Arsenic	<0.75		2.0	0.75	ug/L		06/22/21 09:00	06/23/21 15:00	1
Barium	0.31	J	2.0	0.30	ug/L		06/22/21 09:00	06/23/21 15:00	1
Beryllium	<0.27		1.0	0.27	ug/L		06/22/21 09:00	06/23/21 15:00	1
Boron	<58		100	58	ug/L		06/22/21 09:00	06/23/21 15:00	1
Cadmium	<0.051		0.10	0.051	ug/L		06/22/21 09:00	06/23/21 15:00	1
Calcium	<0.19		0.50	0.19	mg/L		06/22/21 09:00	06/23/21 15:00	1
Chromium	<1.1		5.0	1.1	ug/L		06/22/21 09:00	06/23/21 15:00	1
Cobalt	<0.091		0.50	0.091	ug/L		06/22/21 09:00	06/23/21 15:00	1
Lead	<0.21		0.50	0.21	ug/L		07/13/21 09:00	07/14/21 21:54	1
Lithium	<2.5		10	2.5	ug/L		06/22/21 09:00	06/23/21 15:00	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/22/21 09:00	06/23/21 15:00	1
Selenium	<0.96		5.0	0.96	ug/L		06/22/21 09:00	06/23/21 15:00	1
Thallium	<0.26		1.0	0.26	ug/L		06/22/21 09:00	06/23/21 15:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		06/21/21 16:00	06/22/21 14:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			06/21/21 15:49	1
pH	6.5	HF	0.1	0.1	SU			06/21/21 15:39	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-320315/3
Matrix: Water
Analysis Batch: 320315

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			06/22/21 08:26	1
Fluoride	<0.055		0.10	0.055	mg/L			06/22/21 08:26	1
Sulfate	<0.49		1.0	0.49	mg/L			06/22/21 08:26	1

Lab Sample ID: LCS 310-320315/4
Matrix: Water
Analysis Batch: 320315

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.60		mg/L		96	90 - 110
Fluoride	2.00	2.02		mg/L		101	90 - 110
Sulfate	10.0	10.2		mg/L		102	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-320087/1-A
Matrix: Water
Analysis Batch: 320347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320087

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		06/22/21 09:00	06/23/21 13:33	1
Arsenic	<0.75		2.0	0.75	ug/L		06/22/21 09:00	06/23/21 13:33	1
Barium	<0.30		2.0	0.30	ug/L		06/22/21 09:00	06/23/21 13:33	1
Beryllium	<0.27		1.0	0.27	ug/L		06/22/21 09:00	06/23/21 13:33	1
Boron	<58		100	58	ug/L		06/22/21 09:00	06/23/21 13:33	1
Cadmium	<0.051		0.10	0.051	ug/L		06/22/21 09:00	06/23/21 13:33	1
Calcium	<0.19		0.50	0.19	mg/L		06/22/21 09:00	06/23/21 13:33	1
Chromium	<1.1		5.0	1.1	ug/L		06/22/21 09:00	06/23/21 13:33	1
Cobalt	<0.091		0.50	0.091	ug/L		06/22/21 09:00	06/23/21 13:33	1
Lead	<0.21		0.50	0.21	ug/L		06/22/21 09:00	06/23/21 13:33	1
Lithium	<2.5		10	2.5	ug/L		06/22/21 09:00	06/23/21 13:33	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/22/21 09:00	06/23/21 13:33	1
Selenium	<0.96		5.0	0.96	ug/L		06/22/21 09:00	06/23/21 13:33	1
Thallium	<0.26		1.0	0.26	ug/L		06/22/21 09:00	06/23/21 13:33	1

Lab Sample ID: LCS 310-320087/2-A
Matrix: Water
Analysis Batch: 320347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	197		ug/L		99	80 - 120
Arsenic	200	191		ug/L		95	80 - 120
Barium	100	100		ug/L		100	80 - 120
Beryllium	100	96.2		ug/L		96	80 - 120
Boron	200	198		ug/L		99	80 - 120
Cadmium	100	102		ug/L		102	80 - 120
Calcium	2.00	1.89		mg/L		95	80 - 120
Chromium	100	95.5		ug/L		95	80 - 120
Cobalt	100	96.4		ug/L		96	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

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

Lab Sample ID: LCS 310-320087/2-A
Matrix: Water
Analysis Batch: 320347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	200	193		ug/L		96	80 - 120
Lead	200	194		ug/L		97	80 - 120
Lithium	200	202		ug/L		101	80 - 120
Magnesium	2000	2060		ug/L		103	80 - 120
Manganese	100	96.1		ug/L		96	80 - 120
Molybdenum	200	194		ug/L		97	80 - 120
Potassium	2000	2030		ug/L		101	80 - 120
Selenium	400	374		ug/L		93	80 - 120
Sodium	2000	1990		ug/L		99	80 - 120
Thallium	200	200		ug/L		100	80 - 120

Lab Sample ID: MB 310-322136/1-A
Matrix: Water
Analysis Batch: 322457

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322136

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		07/13/21 09:00	07/14/21 20:01	1
Arsenic	<0.75		2.0	0.75	ug/L		07/13/21 09:00	07/14/21 20:01	1
Barium	<0.30		2.0	0.30	ug/L		07/13/21 09:00	07/14/21 20:01	1
Beryllium	<0.27		1.0	0.27	ug/L		07/13/21 09:00	07/14/21 20:01	1
Boron	<58		100	58	ug/L		07/13/21 09:00	07/14/21 20:01	1
Cadmium	<0.051		0.10	0.051	ug/L		07/13/21 09:00	07/14/21 20:01	1
Calcium	<0.19		0.50	0.19	mg/L		07/13/21 09:00	07/14/21 20:01	1
Chromium	<1.1		5.0	1.1	ug/L		07/13/21 09:00	07/14/21 20:01	1
Cobalt	<0.091		0.50	0.091	ug/L		07/13/21 09:00	07/14/21 20:01	1
Lead	<0.21		0.50	0.21	ug/L		07/13/21 09:00	07/14/21 20:01	1
Lithium	<2.5		10	2.5	ug/L		07/13/21 09:00	07/14/21 20:01	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/13/21 09:00	07/14/21 20:01	1
Selenium	<0.96		5.0	0.96	ug/L		07/13/21 09:00	07/14/21 20:01	1
Thallium	<0.26		1.0	0.26	ug/L		07/13/21 09:00	07/14/21 20:01	1

Lab Sample ID: LCS 310-322136/2-A
Matrix: Water
Analysis Batch: 322457

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	201		ug/L		101	80 - 120
Arsenic	200	200		ug/L		100	80 - 120
Barium	100	103		ug/L		103	80 - 120
Beryllium	100	102		ug/L		102	80 - 120
Boron	200	212		ug/L		106	80 - 120
Cadmium	100	99.3		ug/L		99	80 - 120
Calcium	2.00	2.15		mg/L		108	80 - 120
Chromium	100	102		ug/L		102	80 - 120
Cobalt	100	104		ug/L		104	80 - 120
Iron	200	230		ug/L		115	80 - 120
Lead	200	214		ug/L		107	80 - 120
Lithium	200	211		ug/L		105	80 - 120
Magnesium	2000	2090		ug/L		105	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

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

Lab Sample ID: LCS 310-322136/2-A
Matrix: Water
Analysis Batch: 322457

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	100	100		ug/L		100	80 - 120
Molybdenum	200	208		ug/L		104	80 - 120
Potassium	2000	2160		ug/L		108	80 - 120
Selenium	400	366		ug/L		92	80 - 120
Sodium	2000	2080		ug/L		104	80 - 120
Thallium	200	213		ug/L		106	80 - 120

Lab Sample ID: 310-209172-4 DU
Matrix: Ground Water
Analysis Batch: 322457

Client Sample ID: FB
Prep Type: Total/NA
Prep Batch: 322136

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.1		<1.1		ug/L		NC	20
Arsenic	<0.75		<0.75		ug/L		NC	20
Barium	<0.30		<0.30		ug/L		NC	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Boron	<58		<58		ug/L		NC	20
Cadmium	<0.051		<0.051		ug/L		NC	20
Calcium	<0.19		<0.19		mg/L		NC	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	0.13	J	<0.091		ug/L		NC	20
Lead	<0.21		<0.21		ug/L		NC	20
Lithium	<2.5		<2.5		ug/L		NC	20
Molybdenum	2.2		1.60	J F5	ug/L		32	20
Selenium	<0.96		<0.96		ug/L		NC	20
Thallium	<0.26		<0.26		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-320062/1-A
Matrix: Water
Analysis Batch: 320220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		06/21/21 16:00	06/22/21 12:58	1

Lab Sample ID: LCS 310-320062/2-A
Matrix: Water
Analysis Batch: 320220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.79		ug/L		108	80 - 120

Lab Sample ID: MB 310-320331/1-A
Matrix: Water
Analysis Batch: 320486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320331

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		06/23/21 13:37	06/24/21 11:53	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-320331/2-A
Matrix: Water
Analysis Batch: 320486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320331
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	1.67	1.78		ug/L		107	80 - 120

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

Lab Sample ID: MB 310-320077/1
Matrix: Water
Analysis Batch: 320077

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			06/21/21 15:49	1

Lab Sample ID: LCS 310-320077/2
Matrix: Water
Analysis Batch: 320077

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	1000	964		mg/L		96	90 - 110

Lab Sample ID: 310-209172-E-2 DU
Matrix: Ground Water
Analysis Batch: 320077

Client Sample ID: 310-209172-E-2 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	360		450	F5	mg/L		22	20

Lab Sample ID: MB 310-320193/1
Matrix: Water
Analysis Batch: 320193

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			06/22/21 13:44	1

Lab Sample ID: LCS 310-320193/2
Matrix: Water
Analysis Batch: 320193

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	1000	958		mg/L		96	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-320072/1
Matrix: Water
Analysis Batch: 320072

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
pH	7.00	7.0		SU		101	98 - 102

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

HPLC/IC

Analysis Batch: 320315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	9056A	
310-209172-2	MW308	Total/NA	Ground Water	9056A	
310-209172-3	MW309	Total/NA	Ground Water	9056A	
310-209172-4	FB	Total/NA	Ground Water	9056A	
MB 310-320315/3	Method Blank	Total/NA	Water	9056A	
LCS 310-320315/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 320062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Total/NA	Ground Water	7470A	
310-209172-3	MW309	Total/NA	Ground Water	7470A	
310-209172-4	FB	Total/NA	Ground Water	7470A	
MB 310-320062/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-320062/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 320087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	3010A	
310-209172-2	MW308	Total/NA	Ground Water	3010A	
310-209172-3	MW309	Total/NA	Ground Water	3010A	
310-209172-4	FB	Total/NA	Ground Water	3010A	
MB 310-320087/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-320087/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 320220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Total/NA	Ground Water	7470A	320062
310-209172-3	MW309	Total/NA	Ground Water	7470A	320062
310-209172-4	FB	Total/NA	Ground Water	7470A	320062
MB 310-320062/1-A	Method Blank	Total/NA	Water	7470A	320062
LCS 310-320062/2-A	Lab Control Sample	Total/NA	Water	7470A	320062

Prep Batch: 320331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	7470A	
MB 310-320331/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-320331/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 320347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	6020A	320087
310-209172-2	MW308	Total/NA	Ground Water	6020A	320087
310-209172-3	MW309	Total/NA	Ground Water	6020A	320087
310-209172-4	FB	Total/NA	Ground Water	6020A	320087
MB 310-320087/1-A	Method Blank	Total/NA	Water	6020A	320087
LCS 310-320087/2-A	Lab Control Sample	Total/NA	Water	6020A	320087

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Metals

Analysis Batch: 320486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	7470A	320331
MB 310-320331/1-A	Method Blank	Total/NA	Water	7470A	320331
LCS 310-320331/2-A	Lab Control Sample	Total/NA	Water	7470A	320331

Prep Batch: 322136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-4	FB	Total/NA	Ground Water	3010A	
MB 310-322136/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322136/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-209172-4 DU	FB	Total/NA	Ground Water	3010A	

Analysis Batch: 322457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-4	FB	Total/NA	Ground Water	6020A	322136
MB 310-322136/1-A	Method Blank	Total/NA	Water	6020A	322136
LCS 310-322136/2-A	Lab Control Sample	Total/NA	Water	6020A	322136
310-209172-4 DU	FB	Total/NA	Ground Water	6020A	322136

General Chemistry

Analysis Batch: 320072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	SM 4500 H+ B	
310-209172-2	MW308	Total/NA	Ground Water	SM 4500 H+ B	
310-209172-3	MW309	Total/NA	Ground Water	SM 4500 H+ B	
310-209172-4	FB	Total/NA	Ground Water	SM 4500 H+ B	
LCS 310-320072/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 320077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	SM 2540C	
310-209172-3	MW309	Total/NA	Ground Water	SM 2540C	
310-209172-4	FB	Total/NA	Ground Water	SM 2540C	
MB 310-320077/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-320077/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-209172-E-2 DU	310-209172-E-2 DU	Total/NA	Ground Water	SM 2540C	

Analysis Batch: 320193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Total/NA	Ground Water	SM 2540C	
MB 310-320193/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-320193/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 321922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	Field Sampling	
310-209172-2	MW308	Total/NA	Ground Water	Field Sampling	
310-209172-3	MW309	Total/NA	Ground Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: MW307

Date Collected: 06/17/21 14:20

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	320315	06/22/21 13:38	JNR	TAL CF
Total/NA	Prep	3010A			320087	06/22/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	320347	06/23/21 14:52	SAP	TAL CF
Total/NA	Prep	7470A			320331	06/23/21 13:37	HED	TAL CF
Total/NA	Analysis	7470A		1	320486	06/24/21 12:22	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	320077	06/21/21 15:49	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	320072	06/21/21 15:33	JWH	TAL CF
Total/NA	Analysis	Field Sampling		1	321922	06/17/21 14:20	SLD	TAL CF

Client Sample ID: MW308

Date Collected: 06/17/21 16:00

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	320315	06/22/21 14:25	JNR	TAL CF
Total/NA	Prep	3010A			320087	06/22/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	320347	06/23/21 14:55	SAP	TAL CF
Total/NA	Prep	7470A			320062	06/21/21 16:00	HED	TAL CF
Total/NA	Analysis	7470A		1	320220	06/22/21 13:58	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	320193	06/22/21 13:44	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	320072	06/21/21 15:29	JWH	TAL CF
Total/NA	Analysis	Field Sampling		1	321922	06/17/21 16:00	SLD	TAL CF

Client Sample ID: MW309

Date Collected: 06/17/21 17:00

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	320315	06/22/21 14:41	JNR	TAL CF
Total/NA	Prep	3010A			320087	06/22/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	320347	06/23/21 14:57	SAP	TAL CF
Total/NA	Prep	7470A			320062	06/21/21 16:00	HED	TAL CF
Total/NA	Analysis	7470A		1	320220	06/22/21 14:00	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	320077	06/21/21 15:49	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	320072	06/21/21 15:36	JWH	TAL CF
Total/NA	Analysis	Field Sampling		1	321922	06/17/21 17:00	SLD	TAL CF

Client Sample ID: FB

Date Collected: 06/17/21 16:20

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	320315	06/22/21 14:56	JNR	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Client Sample ID: FB

Lab Sample ID: 310-209172-4

Date Collected: 06/17/21 16:20

Matrix: Ground Water

Date Received: 06/19/21 10:15

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	3010A			322136	07/13/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	322457	07/14/21 21:54	SAP	TAL CF
Total/NA	Prep	3010A			320087	06/22/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	320347	06/23/21 15:00	SAP	TAL CF
Total/NA	Prep	7470A			320062	06/21/21 16:00	HED	TAL CF
Total/NA	Analysis	7470A		1	320220	06/22/21 14:07	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	320077	06/21/21 15:49	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	320072	06/21/21 15:39	JWH	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
TestAmerica



310-209172 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <i>ETS</i> ^{CP/PA} <i>Face Analytical</i>		
City/State: <i>CITY</i> <i>IA</i>	Project:	
Receipt Information		
Date/Time Received: <i>6/1/21</i> <i>10:15</i>	Received By: <i>CP</i>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <i>Swift</i> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>CP Coll 9/21</i>	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <i>N</i>	Correction Factor (°C): <i>0</i>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <i>PL 500ml</i>	<u>CONTAINER 2</u> <i>PI 1L</i>
Uncorrected Temp (°C):	<i>6.7</i>	<i>7.4</i>
Corrected Temp (°C):	<i>6.7</i>	<i>7.4</i>
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



MN: 612-607-1700 WI: 920-469-2436



CHAIN OF CUSTODY

Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Y/N	Pick Letter	ANALYZES REQUESTED	DATE	TIME	MATRIX
N	D	Radium 903.0, 904.0	6/17	1420	GW
N	A	6030 Metals (ly)			
N	A	054DC-Calc			
N	A	0905-6A-OR&TM-200			
N	A	SM-4500-Hr-PH			
N	A	Chloride Sulfate Hexide			
N	A	Iron, Lithium, Mn, Molybdenum			
N	A	Na, K, Mg, Fe Total			
N	A	Carbonate			

FILTERED? (YES/NO)	PRESERVATION (CODE)*	Regulatory Program:	COLLECTION		CLIENT FIELD ID
			DATE	TIME	
			6/17	1420	MW307
				1600	MW308
				1700	MW309
				1620	FB

(Please Print Clearly)

Company Name: SCS

Branch/Location: Madison

Project Contact: Meg Blodgett

Phone: 608 216 4362

Project Number: 25321077

Project Name: MLC Kapp

Project State: Iowa

Sampled By (Print): ZACH WATSON

Sampled By (Sign): *Zach Watson*

PO #: _____

Data Package Options (billable)

EPA Level III

EPA Level IV

On your sample (billable)

NOT needed on your sample

Matrix Codes

A = Air
 B = Biota
 C = Charcoal
 O = Oil
 S = Soil
 SI = Sludge
 W = Water
 DW = Drinking Water
 GW = Ground Water
 SW = Surface Water
 WM = Waste Water
 WP = Wipe

CLIENT FIELD ID

MS/MSD: On your sample (billable) NOT needed on your sample

Relinquished By: *Zach Watson* **Date:** 6-17-2021 **Time:** 1600

Relinquished By: _____ **Date:** _____ **Time:** _____

Relinquished By: _____ **Date:** _____ **Time:** _____

Relinquished By: _____ **Date:** _____ **Time:** _____

Relinquished By: _____ **Date:** _____ **Time:** _____



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-209172-1

Login Number: 209172

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Groundwater Monitoring Results - Field Parameters
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00
June 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-307	6/17/2021 1400	593.33	12.4	6.66	0.2	1,565	90	0.71
MW-308	6/17/2021 1535	576.05	12.1	6.51	0.3	863	101	48.2
MW-309	6/17/2021 1655	571.84	18.0	6.79	0.3	961	-91	47.2

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

Notes:

None

Created by: NDK
 Last revision by: ZTW
 Checked by: NDK

Date: 4/12/2021
 Date: 6/23/2021
 Date: 6/23/2021

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\PAJXB4G4\[2106_M.L. Kapp_CCR_Field.xlsx]GW Field Parameters

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-209172-2
Client Project/Site: ML Kapp - 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



*Authorized for release by:
7/21/2021 1:09:53 PM*

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

LINKS

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results through
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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Job ID: 310-209172-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-209172-2

Comments

No additional comments.

Receipt

The samples were received on 6/19/2021 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

RAD

Methods 903.0, 9315: Radium 226 prep batch 515656 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW307 (310-209172-1), MW308 (310-209172-2), MW309 (310-209172-3), FB (310-209172-4), (LCS 160-515656/1-A), (LCSD 160-515656/2-A) and (MB 160-515656/22-A)

Methods 903.0, 9315: Radium-226 Batch 515656 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW307 (310-209172-1), MW308 (310-209172-2), MW309 (310-209172-3), FB (310-209172-4), (LCS 160-515656/1-A), (LCSD 160-515656/2-A) and (MB 160-515656/22-A)

Methods 904.0, 9320: Radium-228 Batch 515663 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW307 (310-209172-1), MW308 (310-209172-2), MW309 (310-209172-3), FB (310-209172-4), (LCS 160-515663/1-A), (LCSD 160-515663/2-A) and (MB 160-515663/22-A)

Method PrecSep_0: Ra-228 Batch 160-515663: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW307 (310-209172-1) and FB (310-209172-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Ra-228 Batch 160-515663: The following samples were prepared at a reduced aliquot due to Matrix: MW308 (310-209172-2) and MW309 (310-209172-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-515656: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW307 (310-209172-1) and FB (310-209172-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-515656: The following samples were prepared at a reduced aliquot due to Matrix: MW308 (310-209172-2) and MW309 (310-209172-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-209172-1	MW307	Ground Water	06/17/21 14:20	06/19/21 10:15
310-209172-2	MW308	Ground Water	06/17/21 16:00	06/19/21 10:15
310-209172-3	MW309	Ground Water	06/17/21 17:00	06/19/21 10:15
310-209172-4	FB	Ground Water	06/17/21 16:20	06/19/21 10:15

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Client Sample ID: MW307

Lab Sample ID: 310-209172-1

No Detections.

Client Sample ID: MW308

Lab Sample ID: 310-209172-2

No Detections.

Client Sample ID: MW309

Lab Sample ID: 310-209172-3

No Detections.

Client Sample ID: FB

Lab Sample ID: 310-209172-4

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Client Sample ID: MW307

Lab Sample ID: 310-209172-1

Date Collected: 06/17/21 14:20

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.331		0.157	0.160	1.00	0.197	pCi/L	06/23/21 13:55	07/17/21 18:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	81.6		40 - 110					06/23/21 13:55	07/17/21 18:49	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.298	U	0.305	0.306	1.00	0.497	pCi/L	06/23/21 14:37	07/14/21 10:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	81.6		40 - 110					06/23/21 14:37	07/14/21 10:28	1
Y Carrier	89.0		40 - 110					06/23/21 14:37	07/14/21 10:28	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.629		0.343	0.345	5.00	0.497	pCi/L		07/21/21 12:49	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Client Sample ID: MW308
Date Collected: 06/17/21 16:00
Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-2
Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.245	U	0.214	0.216	1.00	0.333	pCi/L	06/23/21 13:55	07/17/21 18:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	72.0		40 - 110					06/23/21 13:55	07/17/21 18:49	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.648	U	0.452	0.456	1.00	0.699	pCi/L	06/23/21 14:37	07/14/21 10:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	72.0		40 - 110					06/23/21 14:37	07/14/21 10:30	1
Y Carrier	90.5		40 - 110					06/23/21 14:37	07/14/21 10:30	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.893		0.500	0.505	5.00	0.699	pCi/L		07/21/21 12:49	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Client Sample ID: MW309
 Date Collected: 06/17/21 17:00
 Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-3
 Matrix: Ground Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.578		0.230	0.236	1.00	0.244	pCi/L	06/23/21 13:55	07/17/21 18:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	88.6		40 - 110					06/23/21 13:55	07/17/21 18:49	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.07		0.404	0.416	1.00	0.548	pCi/L	06/23/21 14:37	07/14/21 10:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	88.6		40 - 110					06/23/21 14:37	07/14/21 10:28	1
Y Carrier	89.6		40 - 110					06/23/21 14:37	07/14/21 10:28	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.64		0.465	0.478	5.00	0.548	pCi/L		07/21/21 12:49	1

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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Client Sample ID: FB

Lab Sample ID: 310-209172-4

Date Collected: 06/17/21 16:20

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00114	U	0.0987	0.0987	1.00	0.196	pCi/L	06/23/21 13:55	07/17/21 18:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	80.4		40 - 110					06/23/21 13:55	07/17/21 18:50	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.473	U	0.362	0.365	1.00	0.575	pCi/L	06/23/21 14:37	07/14/21 10:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	80.4		40 - 110					06/23/21 14:37	07/14/21 10:29	1
Y Carrier	88.1		40 - 110					06/23/21 14:37	07/14/21 10:29	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.474	U	0.375	0.378	5.00	0.575	pCi/L		07/21/21 12:49	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-515656/22-A
Matrix: Water
Analysis Batch: 519061

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 515656

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.1141	U	0.126	0.127	1.00	0.203	pCi/L	06/23/21 13:55	07/17/21 22:31	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Barium	76.8		40 - 110			06/23/21 13:55	07/17/21 22:31	1		

Lab Sample ID: LCS 160-515656/1-A
Matrix: Water
Analysis Batch: 519061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 515656

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.00		1.24	1.00	0.197	pCi/L	97	75 - 125
Carrier	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Barium	74.7		40 - 110						

Lab Sample ID: LCSD 160-515656/2-A
Matrix: Water
Analysis Batch: 519061

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 515656

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	10.56		1.17	1.00	0.165	pCi/L	93	75 - 125	0.18	1
Carrier	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Barium	84.3		40 - 110								

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-515663/22-A
Matrix: Water
Analysis Batch: 518562

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 515663

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.1518	U	0.287	0.288	1.00	0.541	pCi/L	06/23/21 14:37	07/14/21 10:41	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Barium	76.8		40 - 110			06/23/21 14:37	07/14/21 10:41	1		
Y Carrier	92.6		40 - 110			06/23/21 14:37	07/14/21 10:41	1		

QC Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-515663/1-A
Matrix: Water
Analysis Batch: 518681

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 515663

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium-228	9.53	10.16		1.25	1.00	0.506	pCi/L	107	75	125
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
Barium	74.7		40 - 110							
Y Carrier	88.7		40 - 110							

Lab Sample ID: LCSD 160-515663/2-A
Matrix: Water
Analysis Batch: 518681

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 515663

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit
									75	125	0.04	1
Radium-228	9.53	10.25		1.23	1.00	0.476	pCi/L	108	75	125	0.04	1
LCSD LCSD												
Carrier	%Yield	Qualifier	Limits									
Barium	84.3		40 - 110									
Y Carrier	89.0		40 - 110									

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Rad

Prep Batch: 515656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	PrecSep-21	
310-209172-2	MW308	Total/NA	Ground Water	PrecSep-21	
310-209172-3	MW309	Total/NA	Ground Water	PrecSep-21	
310-209172-4	FB	Total/NA	Ground Water	PrecSep-21	
MB 160-515656/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-515656/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-515656/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 515663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-1	MW307	Total/NA	Ground Water	PrecSep_0	
310-209172-2	MW308	Total/NA	Ground Water	PrecSep_0	
310-209172-3	MW309	Total/NA	Ground Water	PrecSep_0	
310-209172-4	FB	Total/NA	Ground Water	PrecSep_0	
MB 160-515663/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-515663/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-515663/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Client Sample ID: MW307

Date Collected: 06/17/21 14:20

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			515656	06/23/21 13:55	MJ	TAL SL
Total/NA	Analysis	903.0		1	519061	07/17/21 18:49	FLC	TAL SL
Total/NA	Prep	PrecSep_0			515663	06/23/21 14:37	MJ	TAL SL
Total/NA	Analysis	904.0		1	518681	07/14/21 10:28	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	519529	07/21/21 12:49	SCB	TAL SL

Client Sample ID: MW308

Date Collected: 06/17/21 16:00

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			515656	06/23/21 13:55	MJ	TAL SL
Total/NA	Analysis	903.0		1	519061	07/17/21 18:49	FLC	TAL SL
Total/NA	Prep	PrecSep_0			515663	06/23/21 14:37	MJ	TAL SL
Total/NA	Analysis	904.0		1	518681	07/14/21 10:30	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	519529	07/21/21 12:49	SCB	TAL SL

Client Sample ID: MW309

Date Collected: 06/17/21 17:00

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			515656	06/23/21 13:55	MJ	TAL SL
Total/NA	Analysis	903.0		1	519061	07/17/21 18:49	FLC	TAL SL
Total/NA	Prep	PrecSep_0			515663	06/23/21 14:37	MJ	TAL SL
Total/NA	Analysis	904.0		1	518681	07/14/21 10:28	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	519529	07/21/21 12:49	SCB	TAL SL

Client Sample ID: FB

Date Collected: 06/17/21 16:20

Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			515656	06/23/21 13:55	MJ	TAL SL
Total/NA	Analysis	903.0		1	519061	07/17/21 18:50	FLC	TAL SL
Total/NA	Prep	PrecSep_0			515663	06/23/21 14:37	MJ	TAL SL
Total/NA	Analysis	904.0		1	518681	07/14/21 10:29	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	519529	07/21/21 12:49	SCB	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-21 *
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	07-01-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21 *
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

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

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566





Environment Testing
TestAmerica



310-209172 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <i>ETS (P/PA) Pace Analytical</i>		
City/State: <i>CITY STATE IA</i>	Project:	
Receipt Information		
Date/Time Received: <i>6/1/12 10:15</i>	Received By: <i>CD</i>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <i>Swift</i> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>CB Coll 9/12</i>	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <i>N</i>	Correction Factor (°C): <i>0</i>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <i>PL 500ml</i>	<u>CONTAINER 2</u> <i>PI 1L</i>
Uncorrected Temp (°C):	<i>6.7</i>	<i>7.4</i>
Corrected Temp (°C):	<i>6.7</i>	<i>7.4</i>
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-209172-2

Login Number: 209172

List Number: 1

Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-209172-2

Login Number: 209172

List Number: 2

Creator: Geiler, Autumn R

List Source: Eurofins TestAmerica, St. Louis

List Creation: 06/22/21 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is < /= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)							
310-209172-1	MW307	81.6							
310-209172-2	MW308	72.0							
310-209172-3	MW309	88.6							
310-209172-4	FB	80.4							

Tracer/Carrier Legend

Ba = Barium

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)							
LCS 160-515656/1-A	Lab Control Sample	74.7							
LCSD 160-515656/2-A	Lab Control Sample Dup	84.3							
MB 160-515656/22-A	Method Blank	76.8							

Tracer/Carrier Legend

Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Ground Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
310-209172-1	MW307	81.6	89.0						
310-209172-2	MW308	72.0	90.5						
310-209172-3	MW309	88.6	89.6						
310-209172-4	FB	80.4	88.1						

Tracer/Carrier Legend

Ba = Barium

Y = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
LCS 160-515663/1-A	Lab Control Sample	74.7	88.7						
LCSD 160-515663/2-A	Lab Control Sample Dup	84.3	89.0						
MB 160-515663/22-A	Method Blank	76.8	92.6						

Tracer/Carrier Legend

Ba = Barium

Y = Y Carrier

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-209172-3
Client Project/Site: ML Kapp - 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Jodie Bracken

Authorized for release by:
6/25/2021 12:51:31 PM
Jodie Bracken, Project Management Assistant II
Jodie.Bracken@Eurofinset.com

Designee for
Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Job ID: 310-209172-3

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-209172-3

Comments

No additional comments.

Receipt

The samples were received on 6/19/2021 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: MW307 (310-209172-1), MW308 (310-209172-2), MW309 (310-209172-3) and FB (310-209172-4).

Metals

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

General Chemistry

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

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Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-209172-2	MW308	Ground Water	06/17/21 16:00	06/19/21 10:15	
310-209172-3	MW309	Ground Water	06/17/21 17:00	06/19/21 10:15	

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Detection Summary

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Client Sample ID: MW308

Lab Sample ID: 310-209172-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	42000		1000	610	ug/L	1		6020A	Total/NA
Potassium	1100		500	150	ug/L	1		6020A	Total/NA
Iron	940		100	36	ug/L	1		6020A	Total/NA
Magnesium	52000		500	100	ug/L	1		6020A	Total/NA
Manganese	990		10	4.4	ug/L	1		6020A	Total/NA
Iron	340		100	36	ug/L	1		6020A	Dissolved
Manganese	970		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	420		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	420		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW309

Lab Sample ID: 310-209172-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	10000		1000	610	ug/L	1		6020A	Total/NA
Potassium	3200		500	150	ug/L	1		6020A	Total/NA
Iron	16000		100	36	ug/L	1		6020A	Total/NA
Magnesium	37000		500	100	ug/L	1		6020A	Total/NA
Manganese	3100		10	4.4	ug/L	1		6020A	Total/NA
Iron	16000		100	36	ug/L	1		6020A	Dissolved
Manganese	3100		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	520		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	520		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Client Sample ID: MW308

Lab Sample ID: 310-209172-2

Date Collected: 06/17/21 16:00

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	42000		1000	610	ug/L		06/22/21 09:00	06/23/21 14:55	1
Potassium	1100		500	150	ug/L		06/22/21 09:00	06/23/21 14:55	1
Iron	940		100	36	ug/L		06/22/21 09:00	06/23/21 14:55	1
Magnesium	52000		500	100	ug/L		06/22/21 09:00	06/23/21 14:55	1
Manganese	990		10	4.4	ug/L		06/22/21 09:00	06/23/21 14:55	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	340		100	36	ug/L		06/23/21 09:00	06/24/21 12:36	1
Lithium	<2.5		10	2.5	ug/L		06/23/21 09:00	06/24/21 12:36	1
Manganese	970		10	4.4	ug/L		06/23/21 09:00	06/24/21 12:36	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/23/21 09:00	06/24/21 12:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	420		10	4.6	mg/L			06/23/21 10:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			06/23/21 10:12	1
Total Alkalinity as CaCO3	420		10	4.6	mg/L			06/23/21 10:12	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Client Sample ID: MW309

Lab Sample ID: 310-209172-3

Date Collected: 06/17/21 17:00

Matrix: Ground Water

Date Received: 06/19/21 10:15

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	10000		1000	610	ug/L		06/22/21 09:00	06/23/21 14:57	1
Potassium	3200		500	150	ug/L		06/22/21 09:00	06/23/21 14:57	1
Iron	16000		100	36	ug/L		06/22/21 09:00	06/23/21 14:57	1
Magnesium	37000		500	100	ug/L		06/22/21 09:00	06/23/21 14:57	1
Manganese	3100		10	4.4	ug/L		06/22/21 09:00	06/23/21 14:57	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	16000		100	36	ug/L		06/23/21 09:00	06/24/21 12:38	1
Lithium	<2.5		10	2.5	ug/L		06/23/21 09:00	06/24/21 12:38	1
Manganese	3100		10	4.4	ug/L		06/23/21 09:00	06/24/21 12:38	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/23/21 09:00	06/24/21 12:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	520		10	4.6	mg/L			06/23/21 10:12	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			06/23/21 10:12	1
Total Alkalinity as CaCO3	520		10	4.6	mg/L			06/23/21 10:12	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-320087/1-A
Matrix: Water
Analysis Batch: 320347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320087

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sodium	<610		1000	610	ug/L		06/22/21 09:00	06/23/21 13:33	1
Potassium	<150		500	150	ug/L		06/22/21 09:00	06/23/21 13:33	1
Iron	<36		100	36	ug/L		06/22/21 09:00	06/23/21 13:33	1
Magnesium	<100		500	100	ug/L		06/22/21 09:00	06/23/21 13:33	1
Manganese	<4.4		10	4.4	ug/L		06/22/21 09:00	06/23/21 13:33	1

Lab Sample ID: LCS 310-320087/2-A
Matrix: Water
Analysis Batch: 320347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	2000	1990		ug/L		99	80 - 120
Potassium	2000	2030		ug/L		101	80 - 120
Iron	200	193		ug/L		96	80 - 120
Magnesium	2000	2060		ug/L		103	80 - 120
Manganese	100	96.1		ug/L		96	80 - 120

Lab Sample ID: MB 310-320218/1-A
Matrix: Water
Analysis Batch: 320546

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 320218

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lithium	<2.5		10	2.5	ug/L		06/23/21 09:00	06/24/21 12:31	1
Molybdenum	<1.3		2.0	1.3	ug/L		06/23/21 09:00	06/24/21 12:31	1
Iron	<36		100	36	ug/L		06/23/21 09:00	06/24/21 12:31	1
Manganese	<4.4		10	4.4	ug/L		06/23/21 09:00	06/24/21 12:31	1

Lab Sample ID: LCS 310-320218/2-A
Matrix: Water
Analysis Batch: 320546

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 320218

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	200	204		ug/L		102	80 - 120
Molybdenum	200	199		ug/L		100	80 - 120
Iron	200	216		ug/L		108	80 - 120
Manganese	100	98.7		ug/L		99	80 - 120

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-320302/1
Matrix: Water
Analysis Batch: 320302

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			06/23/21 10:12	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			06/23/21 10:12	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			06/23/21 10:12	1

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 310-320302/2
Matrix: Water
Analysis Batch: 320302

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	1010		mg/L		101	90 - 110

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QC Association Summary

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Metals

Prep Batch: 320087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Total/NA	Ground Water	3010A	
310-209172-3	MW309	Total/NA	Ground Water	3010A	
MB 310-320087/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-320087/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 320218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Dissolved	Ground Water	3010A	
310-209172-3	MW309	Dissolved	Ground Water	3010A	
MB 310-320218/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-320218/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 320347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Total/NA	Ground Water	6020A	320087
310-209172-3	MW309	Total/NA	Ground Water	6020A	320087
MB 310-320087/1-A	Method Blank	Total/NA	Water	6020A	320087
LCS 310-320087/2-A	Lab Control Sample	Total/NA	Water	6020A	320087

Analysis Batch: 320546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Dissolved	Ground Water	6020A	320218
310-209172-3	MW309	Dissolved	Ground Water	6020A	320218
MB 310-320218/1-A	Method Blank	Total/NA	Water	6020A	320218
LCS 310-320218/2-A	Lab Control Sample	Total/NA	Water	6020A	320218

General Chemistry

Analysis Batch: 320302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-209172-2	MW308	Total/NA	Ground Water	SM 2320B	
310-209172-3	MW309	Total/NA	Ground Water	SM 2320B	
MB 310-320302/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-320302/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: SCS Engineers
 Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Client Sample ID: MW308
Date Collected: 06/17/21 16:00
Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-2
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			320218	06/23/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	320546	06/24/21 12:36	SAD	TAL CF
Total/NA	Prep	3010A			320087	06/22/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	320347	06/23/21 14:55	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	320302	06/23/21 10:12	DFS	TAL CF

Client Sample ID: MW309
Date Collected: 06/17/21 17:00
Date Received: 06/19/21 10:15

Lab Sample ID: 310-209172-3
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			320218	06/23/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	320546	06/24/21 12:38	SAD	TAL CF
Total/NA	Prep	3010A			320087	06/22/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	320347	06/23/21 14:57	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	320302	06/23/21 10:12	DFS	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

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Method Summary

Client: SCS Engineers
Project/Site: ML Kapp - 25221077

Job ID: 310-209172-3

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment Testing
TestAmerica



310-209172 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <i>ETS</i> ^{CP/PA} <i>Face Analytical</i>		
City/State: <i>IA</i>	Project:	
Receipt Information		
Date/Time Received: <i>6/1/12</i> ^{DATE} <i>10:15</i> ^{TIME}	Received By: <i>CP</i>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <i>Swift</i> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No ^{CP Coll 9/12}	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <i>N</i>	Correction Factor (°C): <i>0</i>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <i>PL 500ml</i>	<u>CONTAINER 2</u> <i>PI 1L</i>
Uncorrected Temp (°C):	<i>6.7</i>	<i>7.4</i>
Corrected Temp (°C):	<i>6.7</i>	<i>7.4</i>
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-209172-3

Login Number: 209172

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

D4 July 2021 Assessment Monitoring

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-211561-1
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
7/30/2021 3:54:45 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Job ID: 310-211561-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-211561-1

Comments

No additional comments.

Receipt

The samples were received on 7/23/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3° C.

HPLC/IC

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

Metals

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

General Chemistry

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

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Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211561-1	MW-307	Water	07/22/21 11:15	07/23/21 10:00
310-211561-2	Field Blank	Water	07/22/21 11:15	07/23/21 10:00

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Client Sample ID: MW-307

Lab Sample ID: 310-211561-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	82		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	18		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.98	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	290		2.0	0.30	ug/L	1		6020A	Total/NA
Cadmium	0.083	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	240		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.6		0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	710		250	130	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	592.65				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	69.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.74				mg/L	1		Field Sampling	Total/NA
pH, Field	7.71				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1712				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-211561-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Client Sample ID: MW-307

Lab Sample ID: 310-211561-1

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	82		5.0	2.2	mg/L			07/30/21 00:20	5
Fluoride	<0.28		0.50	0.28	mg/L			07/30/21 00:20	5
Sulfate	18		5.0	2.5	mg/L			07/30/21 00:20	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		07/26/21 09:00	07/27/21 17:27	1
Arsenic	0.98	J	2.0	0.75	ug/L		07/26/21 09:00	07/27/21 17:27	1
Barium	290		2.0	0.30	ug/L		07/26/21 09:00	07/27/21 17:27	1
Beryllium	<0.27		1.0	0.27	ug/L		07/26/21 09:00	07/27/21 17:27	1
Boron	<58		100	58	ug/L		07/26/21 09:00	07/27/21 17:27	1
Cadmium	0.083	J	0.10	0.051	ug/L		07/26/21 09:00	07/27/21 17:27	1
Calcium	240		0.50	0.19	mg/L		07/26/21 09:00	07/27/21 17:27	1
Chromium	<1.1		5.0	1.1	ug/L		07/26/21 09:00	07/27/21 17:27	1
Cobalt	1.6		0.50	0.091	ug/L		07/26/21 09:00	07/27/21 17:27	1
Lead	<0.21		0.50	0.21	ug/L		07/26/21 09:00	07/27/21 17:27	1
Lithium	<2.5		10	2.5	ug/L		07/26/21 09:00	07/27/21 17:27	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/26/21 09:00	07/27/21 17:27	1
Selenium	<0.96		5.0	0.96	ug/L		07/26/21 09:00	07/27/21 17:27	1
Thallium	<0.26		1.0	0.26	ug/L		07/26/21 09:00	07/27/21 17:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		07/28/21 10:55	07/29/21 11:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	710		250	130	mg/L			07/28/21 17:46	1
pH	6.7	HF	0.1	0.1	SU			07/23/21 14:21	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	592.65				ft			07/22/21 11:15	1
Oxidation Reduction Potential	69.5				millivolts			07/22/21 11:15	1
Oxygen, Dissolved, Client Supplied	0.74				mg/L			07/22/21 11:15	1
pH, Field	7.71				SU			07/22/21 11:15	1
Specific Conductance, Field	1712				umhos/cm			07/22/21 11:15	1
Temperature, Field	16.0				Degrees C			07/22/21 11:15	1
Turbidity, Field	0.00				NTU			07/22/21 11:15	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Client Sample ID: Field Blank

Lab Sample ID: 310-211561-2

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			07/30/21 01:07	1
Fluoride	<0.055		0.10	0.055	mg/L			07/30/21 01:07	1
Sulfate	<0.49		1.0	0.49	mg/L			07/30/21 01:07	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		07/26/21 09:00	07/27/21 17:54	1
Arsenic	<0.75		2.0	0.75	ug/L		07/26/21 09:00	07/27/21 17:54	1
Barium	<0.30		2.0	0.30	ug/L		07/26/21 09:00	07/27/21 17:54	1
Beryllium	<0.27		1.0	0.27	ug/L		07/26/21 09:00	07/27/21 17:54	1
Boron	<58		100	58	ug/L		07/26/21 09:00	07/27/21 17:54	1
Cadmium	<0.051		0.10	0.051	ug/L		07/26/21 09:00	07/27/21 17:54	1
Calcium	<0.19		0.50	0.19	mg/L		07/26/21 09:00	07/27/21 17:54	1
Chromium	<1.1		5.0	1.1	ug/L		07/26/21 09:00	07/27/21 17:54	1
Cobalt	<0.091		0.50	0.091	ug/L		07/26/21 09:00	07/27/21 17:54	1
Lead	<0.21		0.50	0.21	ug/L		07/26/21 09:00	07/27/21 17:54	1
Lithium	<2.5		10	2.5	ug/L		07/26/21 09:00	07/27/21 17:54	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/26/21 09:00	07/27/21 17:54	1
Selenium	<0.96		5.0	0.96	ug/L		07/26/21 09:00	07/27/21 17:54	1
Thallium	<0.26		1.0	0.26	ug/L		07/26/21 09:00	07/27/21 17:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		07/28/21 10:55	07/29/21 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			07/28/21 17:46	1
pH	6.5	HF	0.1	0.1	SU			07/23/21 14:22	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-323953/3
Matrix: Water
Analysis Batch: 323953

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.43		1.0	0.43	mg/L			07/29/21 22:47	1
Fluoride	<0.055		0.10	0.055	mg/L			07/29/21 22:47	1
Sulfate	<0.49		1.0	0.49	mg/L			07/29/21 22:47	1

Lab Sample ID: LCS 310-323953/4
Matrix: Water
Analysis Batch: 323953

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.00	1.88		mg/L		94	90 - 110
Sulfate	10.0	9.73		mg/L		97	90 - 110

Lab Sample ID: 310-211561-1 MS
Matrix: Water
Analysis Batch: 323953

Client Sample ID: MW-307
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.28		5.00	4.48		mg/L		90	80 - 120
Sulfate	18		25.0	39.6		mg/L		85	80 - 120

Lab Sample ID: 310-211561-1 MSD
Matrix: Water
Analysis Batch: 323953

Client Sample ID: MW-307
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.28		5.00	4.39		mg/L		88	80 - 120	2	15
Sulfate	18		25.0	39.3		mg/L		84	80 - 120	1	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-323393/1-A
Matrix: Water
Analysis Batch: 323696

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 323393

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<1.1		2.0	1.1	ug/L		07/26/21 09:00	07/27/21 17:20	1
Arsenic	<0.75		2.0	0.75	ug/L		07/26/21 09:00	07/27/21 17:20	1
Barium	<0.30		2.0	0.30	ug/L		07/26/21 09:00	07/27/21 17:20	1
Beryllium	<0.27		1.0	0.27	ug/L		07/26/21 09:00	07/27/21 17:20	1
Boron	<58		100	58	ug/L		07/26/21 09:00	07/27/21 17:20	1
Cadmium	<0.051		0.10	0.051	ug/L		07/26/21 09:00	07/27/21 17:20	1
Calcium	<0.19		0.50	0.19	mg/L		07/26/21 09:00	07/27/21 17:20	1
Chromium	<1.1		5.0	1.1	ug/L		07/26/21 09:00	07/27/21 17:20	1
Cobalt	<0.091		0.50	0.091	ug/L		07/26/21 09:00	07/27/21 17:20	1
Lead	<0.21		0.50	0.21	ug/L		07/26/21 09:00	07/27/21 17:20	1
Lithium	<2.5		10	2.5	ug/L		07/26/21 09:00	07/27/21 17:20	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/26/21 09:00	07/27/21 17:20	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

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

Lab Sample ID: MB 310-323393/1-A
Matrix: Water
Analysis Batch: 323696

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 323393

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.96		5.0	0.96	ug/L		07/26/21 09:00	07/27/21 17:20	1
Thallium	<0.26		1.0	0.26	ug/L		07/26/21 09:00	07/27/21 17:20	1

Lab Sample ID: LCS 310-323393/2-A
Matrix: Water
Analysis Batch: 323696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 323393

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	190		ug/L		95	80 - 120
Arsenic	200	202		ug/L		101	80 - 120
Barium	100	100		ug/L		100	80 - 120
Beryllium	100	96.7		ug/L		97	80 - 120
Boron	200	195		ug/L		98	80 - 120
Cadmium	100	96.4		ug/L		96	80 - 120
Calcium	2.00	1.94		mg/L		97	80 - 120
Chromium	100	94.8		ug/L		95	80 - 120
Cobalt	100	94.6		ug/L		95	80 - 120
Lead	200	199		ug/L		100	80 - 120
Lithium	200	198		ug/L		99	80 - 120
Molybdenum	200	192		ug/L		96	80 - 120
Selenium	400	364		ug/L		91	80 - 120
Thallium	200	204		ug/L		102	80 - 120

Lab Sample ID: 310-211561-1 MS
Matrix: Water
Analysis Batch: 323696

Client Sample ID: MW-307
Prep Type: Total/NA
Prep Batch: 323393

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<1.1		200	187		ug/L		94	75 - 125
Arsenic	0.98	J	200	215		ug/L		107	75 - 125
Barium	290		100	392		ug/L		104	75 - 125
Beryllium	<0.27		100	102		ug/L		102	75 - 125
Boron	<58		200	190		ug/L		95	75 - 125
Cadmium	0.083	J	100	98.2		ug/L		98	75 - 125
Calcium	240		2.00	235	4	mg/L		-3	75 - 125
Chromium	<1.1		100	99.5		ug/L		99	75 - 125
Cobalt	1.6		100	97.9		ug/L		96	75 - 125
Lead	<0.21		200	193		ug/L		96	75 - 125
Lithium	<2.5		200	195		ug/L		98	75 - 125
Molybdenum	<1.3		200	203		ug/L		101	75 - 125
Selenium	<0.96		400	389		ug/L		97	75 - 125
Thallium	<0.26		200	199		ug/L		100	75 - 125

Lab Sample ID: 310-211561-1 MSD
Matrix: Water
Analysis Batch: 323696

Client Sample ID: MW-307
Prep Type: Total/NA
Prep Batch: 323393

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<1.1		200	187		ug/L		94	75 - 125	0	20

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

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

Lab Sample ID: 310-211561-1 MSD
Matrix: Water
Analysis Batch: 323696

Client Sample ID: MW-307
Prep Type: Total/NA
Prep Batch: 323393

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.98	J	200	218		ug/L		109	75 - 125	1	20
Barium	290		100	393		ug/L		104	75 - 125	0	20
Beryllium	<0.27		100	104		ug/L		104	75 - 125	2	20
Boron	<58		200	189		ug/L		94	75 - 125	1	20
Cadmium	0.083	J	100	98.3		ug/L		98	75 - 125	0	20
Calcium	240		2.00	228	4	mg/L		-366	75 - 125	3	20
Chromium	<1.1		100	100		ug/L		100	75 - 125	1	20
Cobalt	1.6		100	98.9		ug/L		97	75 - 125	1	20
Lead	<0.21		200	192		ug/L		96	75 - 125	1	20
Lithium	<2.5		200	198		ug/L		99	75 - 125	2	20
Molybdenum	<1.3		200	205		ug/L		102	75 - 125	1	20
Selenium	<0.96		400	398		ug/L		100	75 - 125	2	20
Thallium	<0.26		200	198		ug/L		99	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-323715/1-A
Matrix: Water
Analysis Batch: 323876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 323715

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		07/28/21 10:55	07/29/21 11:21	1

Lab Sample ID: LCS 310-323715/2-A
Matrix: Water
Analysis Batch: 323876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 323715

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.63		ug/L		98	80 - 120

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

Lab Sample ID: MB 310-323762/1
Matrix: Water
Analysis Batch: 323762

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			07/28/21 17:46	1

Lab Sample ID: LCS 310-323762/2
Matrix: Water
Analysis Batch: 323762

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	934		mg/L		93	90 - 110

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-323374/27
Matrix: Water
Analysis Batch: 323374

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	98 - 102

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QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

HPLC/IC

Analysis Batch: 323953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	9056A	
310-211561-2	Field Blank	Total/NA	Water	9056A	
MB 310-323953/3	Method Blank	Total/NA	Water	9056A	
LCS 310-323953/4	Lab Control Sample	Total/NA	Water	9056A	
310-211561-1 MS	MW-307	Total/NA	Water	9056A	
310-211561-1 MSD	MW-307	Total/NA	Water	9056A	

Metals

Prep Batch: 323393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	3010A	
310-211561-2	Field Blank	Total/NA	Water	3010A	
MB 310-323393/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-323393/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211561-1 MS	MW-307	Total/NA	Water	3010A	
310-211561-1 MSD	MW-307	Total/NA	Water	3010A	

Analysis Batch: 323696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	6020A	323393
310-211561-2	Field Blank	Total/NA	Water	6020A	323393
MB 310-323393/1-A	Method Blank	Total/NA	Water	6020A	323393
LCS 310-323393/2-A	Lab Control Sample	Total/NA	Water	6020A	323393
310-211561-1 MS	MW-307	Total/NA	Water	6020A	323393
310-211561-1 MSD	MW-307	Total/NA	Water	6020A	323393

Prep Batch: 323715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	7470A	
310-211561-2	Field Blank	Total/NA	Water	7470A	
MB 310-323715/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-323715/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 323876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	7470A	323715
310-211561-2	Field Blank	Total/NA	Water	7470A	323715
MB 310-323715/1-A	Method Blank	Total/NA	Water	7470A	323715
LCS 310-323715/2-A	Lab Control Sample	Total/NA	Water	7470A	323715

General Chemistry

Analysis Batch: 323374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	SM 4500 H+ B	
310-211561-2	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-323374/27	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 323762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

General Chemistry (Continued)

Analysis Batch: 323762 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-2	Field Blank	Total/NA	Water	SM 2540C	
MB 310-323762/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-323762/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 323642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211561-1	MW-307	Total/NA	Water	Field Sampling	

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Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Client Sample ID: MW-307

Lab Sample ID: 310-211561-1

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	323953	07/30/21 00:20	JNR	TAL CF
Total/NA	Prep	3010A			323393	07/26/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323696	07/27/21 17:27	SAP	TAL CF
Total/NA	Prep	7470A			323715	07/28/21 10:55	JNR	TAL CF
Total/NA	Analysis	7470A		1	323876	07/29/21 11:42	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	323762	07/28/21 17:46	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	323374	07/23/21 14:21	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	323642	07/22/21 11:15	SJF	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-211561-2

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	323953	07/30/21 01:07	JNR	TAL CF
Total/NA	Prep	3010A			323393	07/26/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323696	07/27/21 17:54	SAP	TAL CF
Total/NA	Prep	7470A			323715	07/28/21 10:55	JNR	TAL CF
Total/NA	Analysis	7470A		1	323876	07/29/21 11:44	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	323762	07/28/21 17:46	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	323374	07/23/21 14:22	ARG	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
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Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211561-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
TestAmerica



310-211561 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Eng.</u>			
City/State:	CITY <u>Madison</u>	STATE <u>WI</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>7/23/2021</u>	TIME <u>1050</u>	Received By: <u>AW</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>3.3</u>	Corrected Temp (°C): <u>3.3</u>		
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

Parameter	301	302	303	304	304A	305	306	307	308	309	Blank	TOTAL
Boron												2
Calcium												2
Chloride												2
Appendix III Parameters (total/filtered)												2
pH												2
Sulfate												2
TDS												2
Antimony												2
Arsenic												2
Barium												2
Beryllium												2
Cadmium												2
Chromium												2
Cobalt												2
Appendix IV Parameters (total/filtered)												2
Lead												2
Lithium												2
Mercury												2
Molybdenum												2
Selenium												2
Thallium												2
Radium												2
Groundwater Elevation												1
pH (field)												1
Well Depth												1
Specific Conductance												1
Dissolved Oxygen												1
ORP												1
Temperature												1
Turbidity												1
Color												1
Odor												1
Alkalinity - Carbonate												1
Alkalinity - Bicarbonate												1
Total (Unfiltered)												1
Iron												1
Magnesium												1
Manganese												1
Potassium												1
Sodium												1
Arsenic												0
Dissolved Iron												1
Manganese (Filtered)												1
Molybdenum												0
Sulfide, Field												1
Total Iron, Field												1
Ferrous Iron, Field												1

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - M.L. Kapp Ash Pond/SCS Engineers Project #25220077.00

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211561-1

Login Number: 211561

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Groundwater Monitoring Results - Field Parameters
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00
July 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-307	7/22/2021 1115	592.65	16.0	7.71	0.74	1,712	69.5	0.00

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

Notes:

None

Created by: NDK
 Last revision by: NDK
 Checked by: RM

Date: 7/27/2021
 Date: 7/27/2021
 Date: 7/27/2021

C:\Users\Fredrick\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\PAJXB4G4\[2107_M.L. Kapp_CCR_Field.xlsx]GW Field Parameters



ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-211560-1
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
8/25/2021 7:45:45 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Job ID: 310-211560-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-211560-1

Comments

No additional comments.

Receipt

The samples were received on 7/23/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3° C.

RAD

Methods 903.0, 9315: Radium-226 prep batch 160-520685: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. (LCS 160-520685/1-A), (MB 160-520685/23-A), (160-42851-E-1-A) and (160-42851-C-1-B DU)

Method 903.0: Radium-226 prep batch 160-520685: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-307 (310-211560-1) and Field Blank (310-211560-2)

Methods 904.0, 9320: Radium-228 prep batch 160-520692: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-307 (310-211560-1), Field Blank (310-211560-2), (LCS 160-520692/1-A), (MB 160-520692/23-A), (160-42851-E-1-B) and (160-42851-C-1-C DU)

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211560-1	MW-307	Water	07/22/21 11:15	07/23/21 10:00
310-211560-2	Field Blank	Water	07/22/21 11:15	07/23/21 10:00

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Client Sample ID: MW-307

Lab Sample ID: 310-211560-1

No Detections.

Client Sample ID: Field Blank

Lab Sample ID: 310-211560-2

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Client Sample ID: MW-307
Date Collected: 07/22/21 11:15
Date Received: 07/23/21 10:00

Lab Sample ID: 310-211560-1
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.111	U	0.104	0.105	1.00	0.164	pCi/L	07/29/21 13:29	08/24/21 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	85.1		40 - 110					07/29/21 13:29	08/24/21 11:33	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.127	U	0.211	0.211	1.00	0.357	pCi/L	07/29/21 14:21	08/13/21 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	85.1		40 - 110					07/29/21 14:21	08/13/21 12:55	1
Y Carrier	93.2		40 - 110					07/29/21 14:21	08/13/21 12:55	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.238	U	0.235	0.236	5.00	0.357	pCi/L		08/24/21 19:43	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Client Sample ID: Field Blank

Lab Sample ID: 310-211560-2

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.0213	U	0.0555	0.0556	1.00	0.125	pCi/L	07/29/21 13:29	08/24/21 11:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	83.1		40 - 110					07/29/21 13:29	08/24/21 11:33	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	-0.212	U	0.198	0.199	1.00	0.395	pCi/L	07/29/21 14:21	08/13/21 12:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	83.1		40 - 110					07/29/21 14:21	08/13/21 12:55	1
Y Carrier	91.7		40 - 110					07/29/21 14:21	08/13/21 12:55	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.206	0.207	5.00	0.395	pCi/L		08/24/21 19:43	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-520685/23-A
Matrix: Water
Analysis Batch: 523450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 520685

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 226	0.02277	U	0.0745	0.0746	1.00	0.139	pCi/L	07/29/21 13:29	08/20/21 09:35	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba	89.7		40 - 110		07/29/21 13:29	08/20/21 09:35	1			

Lab Sample ID: LCS 160-520685/1-A
Matrix: Water
Analysis Batch: 523366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 520685

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
		Result	Qual	Uncert. (2σ+/-)					
Radium 226	11.3	10.78		1.15	1.00	0.158	pCi/L	95	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba	87.5		40 - 110						

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-520692/23-A
Matrix: Water
Analysis Batch: 522527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 520692

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 228	0.08975	U	0.219	0.219	1.00	0.377	pCi/L	07/29/21 14:21	08/13/21 12:57	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba	89.7		40 - 110		07/29/21 14:21	08/13/21 12:57	1			
Y Carrier	93.2		40 - 110		07/29/21 14:21	08/13/21 12:57	1			

Lab Sample ID: LCS 160-520692/1-A
Matrix: Water
Analysis Batch: 522668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 520692

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
		Result	Qual	Uncert. (2σ+/-)					
Radium 228	9.43	9.200		1.07	1.00	0.411	pCi/L	98	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba	87.5		40 - 110						
Y Carrier	88.7		40 - 110						

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Rad

Prep Batch: 520685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211560-1	MW-307	Total/NA	Water	PrecSep-21	
310-211560-2	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-520685/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-520685/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 520692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211560-1	MW-307	Total/NA	Water	PrecSep_0	
310-211560-2	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-520692/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-520692/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

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Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Client Sample ID: MW-307

Lab Sample ID: 310-211560-1

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			520685	07/29/21 13:29	MJ	TAL SL
Total/NA	Analysis	903.0		1	523894	08/24/21 11:33	SCB	TAL SL
Total/NA	Prep	PrecSep_0			520692	07/29/21 14:21	MJ	TAL SL
Total/NA	Analysis	904.0		1	522814	08/13/21 12:55	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	523945	08/24/21 19:43	EMH	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-211560-2

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			520685	07/29/21 13:29	MJ	TAL SL
Total/NA	Analysis	903.0		1	523894	08/24/21 11:33	SCB	TAL SL
Total/NA	Prep	PrecSep_0			520692	07/29/21 14:21	MJ	TAL SL
Total/NA	Analysis	904.0		1	522814	08/13/21 12:55	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	523945	08/24/21 19:43	EMH	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-21 *
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21 *
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-22

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

Eurofins TestAmerica, Cedar Falls

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566





Environment Testing
TestAmerica



310-211560 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Eng</u>		
City/State: <u>McGonish</u> <small>CITY</small>	<u>WI</u> <small>STATE</small>	Project:
Receipt Information		
Date/Time Received: <u>7/23/2021</u> <small>DATE</small>	<u>10:50</u> <small>TIME</small>	Received By: <u>AW</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C): <u>3.3</u>	Corrected Temp (°C): <u>3.3</u>	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):		
Corrected Temp (°C):		
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

Parameter	301	302	303	304	304A	305	306	307	308	309	Blank	TOTAL
Boron								X				X
Appendix III Parameters (total)								X				X
Calcium								X				X
Chloride								X				X
Fluoride								X				X
pH								X				X
Sulfate								X				X
TDS								X				X
Antimony								X				X
Arsenic								X				X
Barium								X				X
Beryllium								X				X
Cadmium								X				X
Chromium								X				X
Cobalt								X				X
Fluoride (total)								X				X
Lead								X				X
Lithium								X				X
Mercury								X				X
Molybdenum								X				X
Selenium								X				X
Thallium								X				X
Radium								X				X
Groundwater Elevation								X				1
pH (field)								X				1
Well Depth								X				1
Specific Conductance								X				1
Dissolved Oxygen								X				1
ORP								X				1
Temperature								X				1
Turbidity								X				1
Color								X				1
Odor								X				1
Alkalinity - Carbonate								X				1
Alkalinity - Bicarbonate								X				1
Total Iron								X				1
Magnesium								X				1
Manganese								X				1
Potassium								X				1
Sodium								X				1
Arsenic								X				0
Dissolved Iron								X				1
Manganese (Filtered)								X				1
Molybdenum								X				0
Sulfide, Field								X				1
Total Iron, Field								X				1
Ferrous Iron, Field								X				1

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - M. L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211560-1

Login Number: 211560

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211560-1

Login Number: 211560

List Number: 2

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 07/26/21 07:47 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211560-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)							
310-211560-1	MW-307	85.1							
310-211560-2	Field Blank	83.1							
LCS 160-520685/1-A	Lab Control Sample	87.5							
MB 160-520685/23-A	Method Blank	89.7							

Tracer/Carrier Legend

Ba = Ba

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
310-211560-1	MW-307	85.1	93.2						
310-211560-2	Field Blank	83.1	91.7						
LCS 160-520692/1-A	Lab Control Sample	87.5	88.7						
MB 160-520692/23-A	Method Blank	89.7	93.2						

Tracer/Carrier Legend

Ba = Ba

Y = Y Carrier

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-211563-1
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
8/3/2021 10:10:44 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Job ID: 310-211563-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211563-1

Comments

No additional comments.

Receipt

The samples were received on 7/23/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3° C.

Metals

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

General Chemistry

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

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Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211563-1	MW-307	Water	07/22/21 11:15	07/23/21 10:00
310-211563-2	Field Blank	Water	07/22/21 11:15	07/23/21 10:00

- 1
- 2
- 3
- 4
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- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Client Sample ID: MW-307

Lab Sample ID: 310-211563-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	65	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	92000		2000	400	ug/L	4		6020A	Total/NA
Manganese	1100		10	4.4	ug/L	1		6020A	Total/NA
Potassium	320	J	500	150	ug/L	1		6020A	Total/NA
Sodium	17000		1000	610	ug/L	1		6020A	Total/NA
Iron	85	J	100	36	ug/L	1		6020A	Dissolved
Manganese	1000		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	860		9.1	4.2	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	860		9.1	4.2	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-211563-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Client Sample ID: MW-307

Lab Sample ID: 310-211563-1

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	65	J	100	36	ug/L		07/26/21 09:00	07/27/21 17:57	1
Magnesium	92000		2000	400	ug/L		07/26/21 09:00	07/28/21 12:10	4
Manganese	1100		10	4.4	ug/L		07/26/21 09:00	07/27/21 17:57	1
Potassium	320	J	500	150	ug/L		07/26/21 09:00	07/27/21 17:57	1
Sodium	17000		1000	610	ug/L		07/26/21 09:00	07/27/21 17:57	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	85	J	100	36	ug/L		07/27/21 09:00	07/30/21 20:14	1
Manganese	1000		10	4.4	ug/L		07/27/21 09:00	07/30/21 20:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	860		9.1	4.2	mg/L			08/02/21 12:49	1
Carbonate Alkalinity as CaCO3	<4.2		9.1	4.2	mg/L			08/02/21 12:49	1
Total Alkalinity as CaCO3	860		9.1	4.2	mg/L			08/02/21 12:49	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Client Sample ID: Field Blank

Lab Sample ID: 310-211563-2

Date Collected: 07/22/21 11:15

Matrix: Water

Date Received: 07/23/21 10:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		07/26/21 09:00	07/27/21 18:01	1
Magnesium	<100		500	100	ug/L		07/26/21 09:00	07/27/21 18:01	1
Manganese	<4.4		10	4.4	ug/L		07/26/21 09:00	07/27/21 18:01	1
Potassium	<150		500	150	ug/L		07/26/21 09:00	07/27/21 18:01	1
Sodium	<610		1000	610	ug/L		07/26/21 09:00	07/27/21 18:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 15:06	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 15:06	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 15:06	1



Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-323393/1-A
Matrix: Water
Analysis Batch: 323696

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 323393

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<36		100	36	ug/L		07/26/21 09:00	07/27/21 17:20	1
Magnesium	<100		500	100	ug/L		07/26/21 09:00	07/27/21 17:20	1
Manganese	<4.4		10	4.4	ug/L		07/26/21 09:00	07/27/21 17:20	1
Potassium	<150		500	150	ug/L		07/26/21 09:00	07/27/21 17:20	1
Sodium	<610		1000	610	ug/L		07/26/21 09:00	07/27/21 17:20	1

Lab Sample ID: LCS 310-323393/2-A
Matrix: Water
Analysis Batch: 323696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 323393

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	2000	2040		ug/L	102	80 - 120	
Manganese	100	97.7		ug/L	98	80 - 120	
Potassium	2000	2100		ug/L	105	80 - 120	
Sodium	2000	2070		ug/L	103	80 - 120	

Lab Sample ID: MB 310-323559/1-A
Matrix: Water
Analysis Batch: 324076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 323559

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<36		100	36	ug/L		07/27/21 09:00	07/30/21 19:33	1
Manganese	<4.4		10	4.4	ug/L		07/27/21 09:00	07/30/21 19:33	1

Lab Sample ID: LCS 310-323559/2-A
Matrix: Water
Analysis Batch: 324076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 323559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	100	88.9		ug/L	89	80 - 120	

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-324150/1
Matrix: Water
Analysis Batch: 324150

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 15:06	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 15:06	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 15:06	1

Lab Sample ID: LCS 310-324150/2
Matrix: Water
Analysis Batch: 324150

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-324120/1
Matrix: Water
Analysis Batch: 324120

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 12:49	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 12:49	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			08/02/21 12:49	1

Lab Sample ID: LCS 310-324120/2
Matrix: Water
Analysis Batch: 324120

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	926		mg/L		93	90 - 110

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Metals

Prep Batch: 323393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211563-1	MW-307	Total/NA	Water	3010A	
310-211563-2	Field Blank	Total/NA	Water	3010A	
MB 310-323393/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-323393/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 323559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211563-1	MW-307	Dissolved	Water	3010A	
MB 310-323559/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-323559/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 323696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211563-1	MW-307	Total/NA	Water	6020A	323393
310-211563-2	Field Blank	Total/NA	Water	6020A	323393
MB 310-323393/1-A	Method Blank	Total/NA	Water	6020A	323393
LCS 310-323393/2-A	Lab Control Sample	Total/NA	Water	6020A	323393

Analysis Batch: 323730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211563-1	MW-307	Total/NA	Water	6020A	323393

Analysis Batch: 324076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211563-1	MW-307	Dissolved	Water	6020A	323559
MB 310-323559/1-A	Method Blank	Total/NA	Water	6020A	323559
LCS 310-323559/2-A	Lab Control Sample	Total/NA	Water	6020A	323559

General Chemistry

Analysis Batch: 324120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211563-1	MW-307	Total/NA	Water	SM 2320B	
MB 310-324120/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-324120/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 324150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211563-2	Field Blank	Total/NA	Water	2320B	
MB 310-324150/1	Method Blank	Total/NA	Water	2320B	
LCS 310-324150/2	Lab Control Sample	Total/NA	Water	2320B	

Lab Chronicle

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Client Sample ID: MW-307
Date Collected: 07/22/21 11:15
Date Received: 07/23/21 10:00

Lab Sample ID: 310-211563-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			323559	07/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	324076	07/30/21 20:14	SAP	TAL CF
Total/NA	Prep	3010A			323393	07/26/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323696	07/27/21 17:57	SAP	TAL CF
Total/NA	Prep	3010A			323393	07/26/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		4	323730	07/28/21 12:10	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	324120	08/02/21 12:49	DFS	TAL CF

Client Sample ID: Field Blank
Date Collected: 07/22/21 11:15
Date Received: 07/23/21 10:00

Lab Sample ID: 310-211563-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			323393	07/26/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323696	07/27/21 18:01	SAP	TAL CF
Total/NA	Analysis	2320B		1	324150	08/02/21 15:06	DFS	TAL CF

Laboratory References:
 TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
- 2
- 3
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- 13
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Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-211563-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment Testing
TestAmerica



310-211563 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Eng.</u>			
City/State: <u>McDisen</u>	CITY	STATE <u>WI</u>	Project:
Receipt Information			
Date/Time Received: <u>7/23/2021</u>	DATE	<u>1050</u>	TIME
Received By: <u>AW</u>			
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp. Blank Temperature - If no temp. blank, or temp. blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>3.3</u>	Corrected Temp (°C): <u>3.3</u>		
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Document: CF-LG-WI-002
Revision: 25
Date: 06/17/2019

Eurofins TestAmerica, Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
 Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	MW-308	MW-309	Field Blank	TOTAL	
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (total/unfiltered)	Boron							X			X	2	
		Calcium							X			X	2	
		Chloride							X			X	2	
		Fluoride							X			X	2	
		pH							X			X	2	
		Sulfate							X			X	2	
		TDS							X			X	2	
	Appendix IV Parameters (total/unfiltered)	Antimony								X			X	2
		Arsenic								X			X	2
		Barium								X			X	2
		Beryllium								X			X	2
		Cadmium								X			X	2
		Chromium								X			X	2
		Cobalt								X			X	2
		Fluoride								X			X	2
		Lead								X			X	2
		Lithium								X			X	2
		Mercury								X			X	2
		Molybdenum								X			X	2
		Selenium								X			X	2
		Thallium								X			X	2
	Radium								X			X	2	
	Field Parameters	Groundwater Elevation								X				1
		pH (field)								X				1
		Well Depth								X				1
		Specific Conductance								X				1
		Dissolved Oxygen								X				1
		ORP								X				1
		Temperature								X				1
		Turbidity								X				1
		Color								X				1
		Odor								X				1
	COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate							X				1
Alkalinity - Bicarbonate									X				1	
Iron									X				1	
Magnesium									X				1	
Manganese									X				1	
Potassium									X				1	
Sodium									X				1	
Dissolved (Filtered)		Arsenic												0
		Iron							X					1
		Manganese							X					1
Field Parameters		Molybdenum												0
		Sulfide, Field							X					1
		Total Iron, Field							X					1
	Ferrous Iron, Field							X					1	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211563-1

Login Number: 211563

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

D5 October 2021 Supplemental Monitoring

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-216554-1
Client Project/Site: ML Kapp 25221077
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
10/21/2021 4:34:39 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

LINKS

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results through
TotalAccess

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Job ID: 310-216554-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-216554-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 10/12/2021. The report (revision 1) is being revised due to: Client requested re-analysis..

Receipt

The samples were received on 10/5/2021 4:40 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 6.3° C.

HPLC/IC

Method 9056A: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 310-331057 recovered outside control limits for the following analytes: Fluoride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-310 (310-216554-1) and Field Blank (310-216554-2). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216554-1	MW-310	Water	10/05/21 13:45	10/05/21 16:40
310-216554-2	Field Blank	Water	10/05/21 14:00	10/05/21 16:40

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Client Sample ID: MW-310

Lab Sample ID: 310-216554-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	81		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	120		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	110		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	1000		100	58	ug/L	1		6020A	Total/NA
Calcium	100		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.67		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	4.0	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	2.0		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	640		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Dissolved Oxygen, Field	1.52				mg/L	1		Field Sampling	Total/NA
Ground Water Elevation	NA				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	53.7				millivolts	1		Field Sampling	Total/NA
pH, Field	7.20				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1141				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.74				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-216554-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Client Sample ID: MW-310

Lab Sample ID: 310-216554-1

Date Collected: 10/05/21 13:45

Matrix: Water

Date Received: 10/05/21 16:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	81		5.0	2.2	mg/L			10/08/21 02:51	5
Fluoride	<0.28	*+	0.50	0.28	mg/L			10/08/21 02:51	5
Sulfate	120		5.0	2.5	mg/L			10/08/21 02:51	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/07/21 09:00	10/08/21 18:05	1
Arsenic	<0.75		2.0	0.75	ug/L		10/07/21 09:00	10/08/21 18:05	1
Barium	110		2.0	0.37	ug/L		10/07/21 09:00	10/08/21 18:05	1
Beryllium	<0.27		1.0	0.27	ug/L		10/07/21 09:00	10/08/21 18:05	1
Boron	1000		100	58	ug/L		10/07/21 09:00	10/08/21 18:05	1
Cadmium	<0.051		0.10	0.051	ug/L		10/07/21 09:00	10/08/21 18:05	1
Calcium	100		0.50	0.19	mg/L		10/07/21 09:00	10/08/21 18:05	1
Chromium	<1.1		5.0	1.1	ug/L		10/07/21 09:00	10/08/21 18:05	1
Cobalt	0.67		0.50	0.19	ug/L		10/07/21 09:00	10/08/21 18:05	1
Lead	<0.21		0.50	0.21	ug/L		10/07/21 09:00	10/08/21 18:05	1
Lithium	4.0	J	10	2.5	ug/L		10/07/21 09:00	10/08/21 18:05	1
Molybdenum	2.0		2.0	1.3	ug/L		10/07/21 09:00	10/08/21 18:05	1
Selenium	<0.96		5.0	0.96	ug/L		10/14/21 09:00	10/21/21 12:59	1
Thallium	<0.26		1.0	0.26	ug/L		10/14/21 09:00	10/21/21 12:59	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/07/21 11:34	10/08/21 11:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	640		50	26	mg/L			10/07/21 14:39	1
pH	7.3	HF	0.1	0.1	SU			10/05/21 21:19	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Oxygen, Field	1.52				mg/L			10/05/21 13:45	1
Ground Water Elevation	NA				ft			10/05/21 13:45	1
Oxidation Reduction Potential	53.7				millivolts			10/05/21 13:45	1
pH, Field	7.20				SU			10/05/21 13:45	1
Specific Conductance, Field	1141				umhos/cm			10/05/21 13:45	1
Temperature, Field	14.3				Degrees C			10/05/21 13:45	1
Turbidity, Field	2.74				NTU			10/05/21 13:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Client Sample ID: Field Blank

Lab Sample ID: 310-216554-2

Date Collected: 10/05/21 14:00

Matrix: Water

Date Received: 10/05/21 16:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			10/08/21 03:07	1
Fluoride	<0.055	*+	0.10	0.055	mg/L			10/08/21 03:07	1
Sulfate	<0.49		1.0	0.49	mg/L			10/08/21 03:07	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/07/21 09:00	10/08/21 18:32	1
Arsenic	<0.75		2.0	0.75	ug/L		10/07/21 09:00	10/08/21 18:32	1
Barium	<0.37		2.0	0.37	ug/L		10/07/21 09:00	10/08/21 18:32	1
Beryllium	<0.27		1.0	0.27	ug/L		10/07/21 09:00	10/08/21 18:32	1
Boron	<58		100	58	ug/L		10/07/21 09:00	10/08/21 18:32	1
Cadmium	<0.051		0.10	0.051	ug/L		10/07/21 09:00	10/08/21 18:32	1
Calcium	<0.19		0.50	0.19	mg/L		10/07/21 09:00	10/08/21 18:32	1
Chromium	<1.1		5.0	1.1	ug/L		10/07/21 09:00	10/08/21 18:32	1
Cobalt	<0.19		0.50	0.19	ug/L		10/07/21 09:00	10/08/21 18:32	1
Lead	<0.21		0.50	0.21	ug/L		10/07/21 09:00	10/08/21 18:32	1
Lithium	<2.5		10	2.5	ug/L		10/07/21 09:00	10/08/21 18:32	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/07/21 09:00	10/08/21 18:32	1
Selenium	<0.96		5.0	0.96	ug/L		10/14/21 09:00	10/21/21 13:02	1
Thallium	<0.26		1.0	0.26	ug/L		10/14/21 09:00	10/21/21 13:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15	F2	0.20	0.15	ug/L		10/07/21 11:34	10/08/21 11:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/07/21 14:39	1
pH	6.2	HF	0.1	0.1	SU			10/05/21 21:23	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-331057/3
Matrix: Water
Analysis Batch: 331057

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			10/07/21 22:57	1
Fluoride	<0.055		0.10	0.055	mg/L			10/07/21 22:57	1
Sulfate	<0.49		1.0	0.49	mg/L			10/07/21 22:57	1

Lab Sample ID: LCS 310-331057/4
Matrix: Water
Analysis Batch: 331057

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.96		mg/L		100	90 - 110
Fluoride	2.00	2.27	*+	mg/L		113	90 - 110
Sulfate	10.0	10.6		mg/L		106	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-330689/1-A
Matrix: Water
Analysis Batch: 331156

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 330689

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/07/21 09:00	10/08/21 17:58	1
Arsenic	<0.75		2.0	0.75	ug/L		10/07/21 09:00	10/08/21 17:58	1
Barium	<0.37		2.0	0.37	ug/L		10/07/21 09:00	10/08/21 17:58	1
Beryllium	<0.27		1.0	0.27	ug/L		10/07/21 09:00	10/08/21 17:58	1
Boron	<58		100	58	ug/L		10/07/21 09:00	10/08/21 17:58	1
Cadmium	<0.051		0.10	0.051	ug/L		10/07/21 09:00	10/08/21 17:58	1
Calcium	<0.19		0.50	0.19	mg/L		10/07/21 09:00	10/08/21 17:58	1
Chromium	<1.1		5.0	1.1	ug/L		10/07/21 09:00	10/08/21 17:58	1
Cobalt	<0.19		0.50	0.19	ug/L		10/07/21 09:00	10/08/21 17:58	1
Lead	<0.21		0.50	0.21	ug/L		10/07/21 09:00	10/08/21 17:58	1
Lithium	<2.5		10	2.5	ug/L		10/07/21 09:00	10/08/21 17:58	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/07/21 09:00	10/08/21 17:58	1
Selenium	<0.96		5.0	0.96	ug/L		10/07/21 09:00	10/08/21 17:58	1
Thallium	<0.26		1.0	0.26	ug/L		10/07/21 09:00	10/08/21 17:58	1

Lab Sample ID: LCS 310-330689/2-A
Matrix: Water
Analysis Batch: 331156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330689

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	188		ug/L		94	80 - 120
Arsenic	200	197		ug/L		98	80 - 120
Barium	100	100		ug/L		100	80 - 120
Beryllium	100	101		ug/L		101	80 - 120
Boron	200	176		ug/L		88	80 - 120
Cadmium	100	98.3		ug/L		98	80 - 120
Calcium	2.00	1.78		mg/L		89	80 - 120
Chromium	100	97.2		ug/L		97	80 - 120
Cobalt	100	100		ug/L		100	80 - 120

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

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

Lab Sample ID: LCS 310-330689/2-A
Matrix: Water
Analysis Batch: 331156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330689

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	200	200		ug/L		100	80 - 120
Lithium	200	197		ug/L		99	80 - 120
Molybdenum	200	188		ug/L		94	80 - 120
Selenium	400	366		ug/L		92	80 - 120
Thallium	200	198		ug/L		99	80 - 120

Lab Sample ID: 310-216554-1 MS
Matrix: Water
Analysis Batch: 331156

Client Sample ID: MW-310
Prep Type: Total/NA
Prep Batch: 330689

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<1.1		200	183		ug/L		92	75 - 125
Arsenic	<0.75		200	208		ug/L		104	75 - 125
Barium	110		100	205		ug/L		96	75 - 125
Beryllium	<0.27		100	96.8		ug/L		97	75 - 125
Boron	1000		200	1190	4	ug/L		94	75 - 125
Cadmium	<0.051		100	93.3		ug/L		93	75 - 125
Calcium	100		2.00	102	4	mg/L		-78	75 - 125
Chromium	<1.1		100	94.1		ug/L		94	75 - 125
Cobalt	0.67		100	95.7		ug/L		95	75 - 125
Lead	<0.21		200	190		ug/L		95	75 - 125
Lithium	4.0	J	200	192		ug/L		94	75 - 125
Molybdenum	2.0		200	194		ug/L		96	75 - 125
Selenium	1.1	J	400	375		ug/L		94	75 - 125
Thallium	0.63	J	200	182		ug/L		91	75 - 125

Lab Sample ID: 310-216554-1 MSD
Matrix: Water
Analysis Batch: 331156

Client Sample ID: MW-310
Prep Type: Total/NA
Prep Batch: 330689

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	<1.1		200	188		ug/L		94	75 - 125	3	20
Arsenic	<0.75		200	213		ug/L		106	75 - 125	3	20
Barium	110		100	207		ug/L		98	75 - 125	1	20
Beryllium	<0.27		100	99.8		ug/L		100	75 - 125	3	20
Boron	1000		200	1200	4	ug/L		97	75 - 125	0	20
Cadmium	<0.051		100	95.3		ug/L		95	75 - 125	2	20
Calcium	100		2.00	103	4	mg/L		-40	75 - 125	1	20
Chromium	<1.1		100	95.6		ug/L		96	75 - 125	2	20
Cobalt	0.67		100	97.3		ug/L		97	75 - 125	2	20
Lead	<0.21		200	191		ug/L		96	75 - 125	1	20
Lithium	4.0	J	200	197		ug/L		97	75 - 125	3	20
Molybdenum	2.0		200	199		ug/L		98	75 - 125	2	20
Selenium	1.1	J	400	382		ug/L		95	75 - 125	2	20
Thallium	0.63	J	200	185		ug/L		92	75 - 125	2	20

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

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

Lab Sample ID: MB 310-331516/1-A
Matrix: Water
Analysis Batch: 332520

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 331516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/14/21 09:00	10/21/21 15:34	1
Arsenic	<0.75		2.0	0.75	ug/L		10/14/21 09:00	10/21/21 15:34	1
Barium	<0.37		2.0	0.37	ug/L		10/14/21 09:00	10/21/21 15:34	1
Beryllium	<0.27		1.0	0.27	ug/L		10/14/21 09:00	10/21/21 15:34	1
Boron	<58		100	58	ug/L		10/14/21 09:00	10/21/21 15:34	1
Cadmium	<0.051		0.10	0.051	ug/L		10/14/21 09:00	10/21/21 15:34	1
Calcium	<0.19		0.50	0.19	mg/L		10/14/21 09:00	10/21/21 15:34	1
Chromium	<1.1		5.0	1.1	ug/L		10/14/21 09:00	10/21/21 15:34	1
Cobalt	<0.19		0.50	0.19	ug/L		10/14/21 09:00	10/21/21 15:34	1
Lead	<0.21		0.50	0.21	ug/L		10/14/21 09:00	10/21/21 15:34	1
Lithium	<2.5		10	2.5	ug/L		10/14/21 09:00	10/21/21 15:34	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/14/21 09:00	10/21/21 15:34	1
Selenium	<0.96		5.0	0.96	ug/L		10/14/21 09:00	10/21/21 15:34	1
Thallium	<0.26		1.0	0.26	ug/L		10/14/21 09:00	10/21/21 15:34	1

Lab Sample ID: LCS 310-331516/2-A
Matrix: Water
Analysis Batch: 332520

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 331516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	200	185		ug/L		92	80 - 120
Arsenic	200	193		ug/L		96	80 - 120
Barium	100	94.6		ug/L		95	80 - 120
Beryllium	100	94.7		ug/L		95	80 - 120
Boron	200	199		ug/L		100	80 - 120
Cadmium	100	97.6		ug/L		98	80 - 120
Calcium	2.00	1.83		mg/L		92	80 - 120
Chromium	100	88.9		ug/L		89	80 - 120
Cobalt	100	98.4		ug/L		98	80 - 120
Lead	200	197		ug/L		99	80 - 120
Lithium	200	194		ug/L		97	80 - 120
Molybdenum	200	193		ug/L		97	80 - 120
Selenium	400	354		ug/L		88	80 - 120
Thallium	200	200		ug/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-330830/1-A
Matrix: Water
Analysis Batch: 331049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 330830

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/07/21 11:34	10/08/21 11:25	1

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 310-330830/2-A
Matrix: Water
Analysis Batch: 331049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330830
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	1.67	1.72		ug/L		103	80 - 120

Lab Sample ID: 310-216554-2 MS
Matrix: Water
Analysis Batch: 331049

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 330830
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	<0.15	F2	1.67	1.69		ug/L		101	80 - 120

Lab Sample ID: 310-216554-2 MSD
Matrix: Water
Analysis Batch: 331049

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 330830
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	<0.15	F2	1.67	1.37	F2	ug/L		82	80 - 120	21	20

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

Lab Sample ID: MB 310-330855/1
Matrix: Water
Analysis Batch: 330855

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/07/21 14:39	1

Lab Sample ID: LCS 310-330855/2
Matrix: Water
Analysis Batch: 330855

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	1000	956		mg/L		96	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-330594/1
Matrix: Water
Analysis Batch: 330594

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: 310-216554-1 DU
Matrix: Water
Analysis Batch: 330594

Client Sample ID: MW-310
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.3	HF	7.3		SU		0.5	20

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

HPLC/IC

Analysis Batch: 331057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	9056A	
310-216554-2	Field Blank	Total/NA	Water	9056A	
MB 310-331057/3	Method Blank	Total/NA	Water	9056A	
LCS 310-331057/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 330689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	3010A	
310-216554-2	Field Blank	Total/NA	Water	3010A	
MB 310-330689/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-330689/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-216554-1 MS	MW-310	Total/NA	Water	3010A	
310-216554-1 MSD	MW-310	Total/NA	Water	3010A	

Prep Batch: 330830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	7470A	
310-216554-2	Field Blank	Total/NA	Water	7470A	
MB 310-330830/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-330830/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-216554-2 MS	Field Blank	Total/NA	Water	7470A	
310-216554-2 MSD	Field Blank	Total/NA	Water	7470A	

Analysis Batch: 331049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	7470A	330830
310-216554-2	Field Blank	Total/NA	Water	7470A	330830
MB 310-330830/1-A	Method Blank	Total/NA	Water	7470A	330830
LCS 310-330830/2-A	Lab Control Sample	Total/NA	Water	7470A	330830
310-216554-2 MS	Field Blank	Total/NA	Water	7470A	330830
310-216554-2 MSD	Field Blank	Total/NA	Water	7470A	330830

Analysis Batch: 331156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	6020A	330689
310-216554-2	Field Blank	Total/NA	Water	6020A	330689
MB 310-330689/1-A	Method Blank	Total/NA	Water	6020A	330689
LCS 310-330689/2-A	Lab Control Sample	Total/NA	Water	6020A	330689
310-216554-1 MS	MW-310	Total/NA	Water	6020A	330689
310-216554-1 MSD	MW-310	Total/NA	Water	6020A	330689

Prep Batch: 331516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	3010A	
310-216554-2	Field Blank	Total/NA	Water	3010A	
MB 310-331516/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-331516/2-A	Lab Control Sample	Total/NA	Water	3010A	

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Metals

Analysis Batch: 332515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	6020A	331516
310-216554-2	Field Blank	Total/NA	Water	6020A	331516

Analysis Batch: 332520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-331516/1-A	Method Blank	Total/NA	Water	6020A	331516
LCS 310-331516/2-A	Lab Control Sample	Total/NA	Water	6020A	331516

General Chemistry

Analysis Batch: 330594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	SM 4500 H+ B	
310-216554-2	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-330594/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-216554-1 DU	MW-310	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 330855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	SM 2540C	
310-216554-2	Field Blank	Total/NA	Water	SM 2540C	
MB 310-330855/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-330855/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 330696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Client Sample ID: MW-310

Lab Sample ID: 310-216554-1

Date Collected: 10/05/21 13:45

Matrix: Water

Date Received: 10/05/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	331057	10/08/21 02:51	JNR	TAL CF
Total/NA	Prep	3010A			330689	10/07/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	331156	10/08/21 18:05	SAP	TAL CF
Total/NA	Prep	3010A			331516	10/14/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332515	10/21/21 12:59	SAP	TAL CF
Total/NA	Prep	7470A			330830	10/07/21 11:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	331049	10/08/21 11:29	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	330855	10/07/21 14:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	330594	10/05/21 21:19	JWH	TAL CF
Total/NA	Analysis	Field Sampling		1	330696	10/05/21 13:45	SLD	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-216554-2

Date Collected: 10/05/21 14:00

Matrix: Water

Date Received: 10/05/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	331057	10/08/21 03:07	JNR	TAL CF
Total/NA	Prep	3010A			330689	10/07/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	331156	10/08/21 18:32	SAP	TAL CF
Total/NA	Prep	3010A			331516	10/14/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	332515	10/21/21 13:02	SAP	TAL CF
Total/NA	Prep	7470A			330830	10/07/21 11:34	EAM	TAL CF
Total/NA	Analysis	7470A		1	331049	10/08/21 11:31	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	330855	10/07/21 14:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	330594	10/05/21 21:23	JWH	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
- 2
- 3
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- 5
- 6
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- 8
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- 10
- 11
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- 13
- 14
- 15

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
TestAmerica



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Madison</u>	STATE <u>WI</u>	Project: <u>MC KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>10/5/21</u>	TIME <u>1640</u>	Received By: <u>MRH</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>		Correction Factor (°C): <u>0.0</u>	
• Temp/Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml Plus NT</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>6.3</u>		
Corrected Temp (°C):	<u>6.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
 Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25221077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	River Elevation Point	Field Blank	TOTAL
Appendix III Parameters (total/unfiltered)	Boron											x		x	2
	Calcium											x		x	2
	Chloride											x		x	2
	Fluoride											x		x	2
	pH											x		x	2
	Sulfate											x		x	2
	TDS											x		x	2
Appendix IV Parameters (total/unfiltered)	Antimony											x		x	2
	Arsenic											x		x	2
	Barium											x		x	2
	Beryllium											x		x	2
	Cadmium											x		x	2
	Chromium											x		x	2
	Cobalt											x		x	2
	Fluoride											x		x	2
	Lead											x		x	2
	Lithium											x		x	2
	Mercury											x		x	2
	Molybdenum											x		x	2
	Selenium											x		x	2
	Thallium											x		x	2
Radium											x		x	2	
Field Parameters	Groundwater Elevation											x			1
	pH (field)											x			1
	Well Depth											x			1
	Specific Conductance											x			1
	Dissolved Oxygen											x			1
	ORP											x			1
	Temperature											x			1
	Turbidity											x			1
	Color											x			1
	Odor											x			1

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-216554-1

Login Number: 216554

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Groundwater Monitoring Results - Field Parameters
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00
October 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-310	10/5/2021 1345	NA	14.3	7.20	1.52	1,141	53.7	2.74

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

Notes:

None

Created by: NDK
 Last revision by: NDK
 Checked by: JR

Date: 10/6/2021
 Date: 10/6/2021
 Date: 10/6/2021

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\JLFW7F\ [2110_M.L. Kapp_CCR_Field.xlsx]GW Field Parameters



ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-216554-2
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
11/8/2021 7:57:32 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Job ID: 310-216554-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-216554-2

Comments

No additional comments.

Receipt

The samples were received on 10/5/2021 4:40 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 6.3° C.

RAD

Methods 903.0, 9315: Radium 226 batch 530645 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-310 (310-216554-1), Field Blank (310-216554-2), (LCS 160-530645/1-A), (LCSD 160-530645/2-A) and (MB 160-530645/23-A)

Methods 904.0, 9320: Radium 228 batch 530648 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date MW-310 (310-216554-1), Field Blank (310-216554-2), (LCS 160-530648/1-A), (LCSD 160-530648/2-A) and (MB 160-530648/23-A)

Method PrecSep_0: Radium-228 Prep Batch 160-530648 The following samples were prepared at a reduced aliquot due to Matrix: MW-310 (310-216554-1) and Field Blank (310-216554-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-530645 The following samples were prepared at a reduced aliquot due to Matrix: MW-310 (310-216554-1) and Field Blank (310-216554-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-216554-1	MW-310	Water	10/05/21 13:45	10/05/21 16:40
310-216554-2	Field Blank	Water	10/05/21 14:00	10/05/21 16:40

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Client Sample ID: MW-310

Lab Sample ID: 310-216554-1

No Detections.

Client Sample ID: Field Blank

Lab Sample ID: 310-216554-2

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Client Sample ID: MW-310
Date Collected: 10/05/21 13:45
Date Received: 10/05/21 16:40

Lab Sample ID: 310-216554-1
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.206	U	0.267	0.267	1.00	0.445	pCi/L	10/11/21 10:03	11/03/21 22:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	96.9		40 - 110					10/11/21 10:03	11/03/21 22:48	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.878		0.366	0.375	1.00	0.510	pCi/L	10/11/21 10:40	11/03/21 13:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	96.9		40 - 110					10/11/21 10:40	11/03/21 13:05	1
Y Carrier	82.2		40 - 110					10/11/21 10:40	11/03/21 13:05	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.08		0.453	0.460	5.00	0.510	pCi/L		11/05/21 19:08	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Client Sample ID: Field Blank

Lab Sample ID: 310-216554-2

Date Collected: 10/05/21 14:00

Matrix: Water

Date Received: 10/05/21 16:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.224	U	0.251	0.252	1.00	0.585	pCi/L	10/11/21 10:03	11/03/21 22:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	90.7		40 - 110					10/11/21 10:03	11/03/21 22:48	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.669		0.419	0.423	1.00	0.644	pCi/L	10/11/21 10:40	11/03/21 13:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	90.7		40 - 110					10/11/21 10:40	11/03/21 13:13	1
Y Carrier	82.2		40 - 110					10/11/21 10:40	11/03/21 13:13	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.445	U	0.488	0.492	5.00	0.644	pCi/L		11/05/21 19:08	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-530645/23-A
Matrix: Water
Analysis Batch: 535165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530645

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 226	0.2362	U	0.259	0.260	1.00	0.418	pCi/L	10/11/21 10:03	11/04/21 08:21	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed	Dil Fac
Ba	84.2		40 - 110				10/11/21 10:03		11/04/21 08:21	1

Lab Sample ID: LCS 160-530645/1-A
Matrix: Water
Analysis Batch: 534853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530645

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium 226	15.1	14.07		1.80	1.00	0.489	pCi/L	93	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba	97.4		40 - 110						

Lab Sample ID: LCSD 160-530645/2-A
Matrix: Water
Analysis Batch: 534853

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 530645

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium 226	15.1	13.33		1.70	1.00	0.422	pCi/L	88	75 - 125	0.21	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba	97.4		40 - 110								

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-530648/23-A
Matrix: Water
Analysis Batch: 534860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530648

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 228	0.6923		0.415	0.420	1.00	0.635	pCi/L	10/11/21 10:40	11/03/21 13:11	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed	Dil Fac
Ba	84.2		40 - 110				10/11/21 10:40		11/03/21 13:11	1
Y Carrier	89.3		40 - 110				10/11/21 10:40		11/03/21 13:11	1

QC Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-530648/1-A
Matrix: Water
Analysis Batch: 534851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530648

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	
									75	125
Radium 228	12.2	12.37		1.47	1.00	0.488	pCi/L	101	75	125
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
Ba	97.4		40 - 110							
Y Carrier	80.4		40 - 110							

Lab Sample ID: LCSD 160-530648/2-A
Matrix: Water
Analysis Batch: 535010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 530648

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit
									75	125	0.15	1
Radium 228	12.2	12.80		1.51	1.00	0.557	pCi/L	105	75	125	0.15	1
LCSD LCSD												
Carrier	%Yield	Qualifier	Limits									
Ba	97.4		40 - 110									
Y Carrier	81.5		40 - 110									

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Rad

Prep Batch: 530645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	PrecSep-21	
310-216554-2	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-530645/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-530645/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-530645/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 530648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-216554-1	MW-310	Total/NA	Water	PrecSep_0	
310-216554-2	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-530648/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-530648/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-530648/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Client Sample ID: MW-310

Lab Sample ID: 310-216554-1

Date Collected: 10/05/21 13:45

Matrix: Water

Date Received: 10/05/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	903.0		1	534853	11/03/21 22:48	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	904.0		1	535010	11/03/21 13:05	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	535296	11/05/21 19:08	MLK	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-216554-2

Date Collected: 10/05/21 14:00

Matrix: Water

Date Received: 10/05/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			530645	10/11/21 10:03	BMP	TAL SL
Total/NA	Analysis	903.0		1	534853	11/03/21 22:48	FLC	TAL SL
Total/NA	Prep	PrecSep_0			530648	10/11/21 10:40	BMP	TAL SL
Total/NA	Analysis	904.0		1	534853	11/03/21 13:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	535296	11/05/21 19:08	MLK	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21 *
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566





Environment Testing
TestAmerica



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Madison</u>	STATE <u>WI</u>	Project: <u>MC KAPP</u>
Receipt Information			
Date/Time Received:	DATE <u>10/5/21</u>	TIME <u>1640</u>	Received By: <u>MRH</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>R</u>	Correction Factor (°C):	<u>0.0</u>
• Temp/Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml Plus NT</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>6.3</u>		
Corrected Temp (°C):	<u>6.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
 Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25221077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	River Elevation Point	Field Blank	TOTAL
Appendix III Parameters (total/unfiltered)	Boron											x		x	2
	Calcium											x		x	2
	Chloride											x		x	2
	Fluoride											x		x	2
	pH											x		x	2
	Sulfate											x		x	2
	TDS											x		x	2
Appendix IV Parameters (total/unfiltered)	Antimony											x		x	2
	Arsenic											x		x	2
	Barium											x		x	2
	Beryllium											x		x	2
	Cadmium											x		x	2
	Chromium											x		x	2
	Cobalt											x		x	2
	Fluoride											x		x	2
	Lead											x		x	2
	Lithium											x		x	2
	Mercury											x		x	2
	Molybdenum											x		x	2
	Selenium											x		x	2
	Thallium											x		x	2
Radium											x		x	2	
Field Parameters	Groundwater Elevation											x			1
	pH (field)											x			1
	Well Depth											x			1
	Specific Conductance											x			1
	Dissolved Oxygen											x			1
	ORP											x			1
	Temperature											x			1
	Turbidity											x			1
	Color											x			1
	Odor											x			1

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-216554-2

Login Number: 216554

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-216554-2

Login Number: 216554

List Number: 2

Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis

List Creation: 10/08/21 06:10 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-216554-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)							
310-216554-1	MW-310	96.9							
310-216554-2	Field Blank	90.7							
LCS 160-530645/1-A	Lab Control Sample	97.4							
LCSD 160-530645/2-A	Lab Control Sample Dup	97.4							
MB 160-530645/23-A	Method Blank	84.2							

Tracer/Carrier Legend

Ba = Ba

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
310-216554-1	MW-310	96.9	82.2						
310-216554-2	Field Blank	90.7	82.2						
LCS 160-530648/1-A	Lab Control Sample	97.4	80.4						
LCSD 160-530648/2-A	Lab Control Sample Dup	97.4	81.5						
MB 160-530648/23-A	Method Blank	84.2	89.3						

Tracer/Carrier Legend

Ba = Ba

Y = Y Carrier

D6 October 2021 Assessment Monitoring

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-217794-1
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
11/3/2021 2:51:08 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Job ID: 310-217794-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-217794-1

Comments

No additional comments.

Receipt

The samples were received on 10/20/2021 12:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.6° C, 4.3° C, 5.3° C and 5.3° C.

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-217794-1), MW-302 (310-217794-2), MW-303 (310-217794-3), MW-304 (310-217794-4), MW-304A (310-217794-5), MW-305 (310-217794-6), MW-306 (310-217794-7), MW-307 (310-217794-8), MW-308 (310-217794-9), MW-309 (310-217794-10) and MW-310 (310-217794-11). 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.

Metals

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

General Chemistry

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-217794-1	MW-301	Water	10/19/21 11:05	10/20/21 12:20
310-217794-2	MW-302	Water	10/19/21 09:25	10/20/21 12:20
310-217794-3	MW-303	Water	10/18/21 17:20	10/20/21 12:20
310-217794-4	MW-304	Water	10/18/21 15:15	10/20/21 12:20
310-217794-5	MW-304A	Water	10/18/21 16:30	10/20/21 12:20
310-217794-6	MW-305	Water	10/18/21 13:35	10/20/21 12:20
310-217794-7	MW-306	Water	10/18/21 11:45	10/20/21 12:20
310-217794-8	MW-307	Water	10/19/21 13:45	10/20/21 12:20
310-217794-9	MW-308	Water	10/19/21 16:20	10/20/21 12:20
310-217794-10	MW-309	Water	10/19/21 15:05	10/20/21 12:20
310-217794-11	MW-310	Water	10/19/21 17:46	10/20/21 12:20
310-217794-12	Field Blank	Water	10/19/21 09:45	10/20/21 12:20

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Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-301

Lab Sample ID: 310-217794-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	310		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	1.7	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	77		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	13000		400	230	ug/L	4		6020A	Total/NA
Cadmium	0.22		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	5.1		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.48	J	0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	5.8	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	430		2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	1.4	J	5.0	0.96	ug/L	1		6020A	Total/NA
Thallium	0.29	J	1.0	0.26	ug/L	1		6020A	Total/NA
Total Dissolved Solids	630		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	576.35				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	107.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.42				mg/L	1		Field Sampling	Total/NA
pH, Field	6.69				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1012				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	57.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-217794-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13	F1	5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	260		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	7.5		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	73		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	6200		400	230	ug/L	4		6020A	Total/NA
Cadmium	0.11		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	100		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.30	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	20		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	200		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	510		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	573.32				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	118.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.23				mg/L	1		Field Sampling	Total/NA
pH, Field	7.47				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	832				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	11.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-217794-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	24		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	240		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	81		2.0	0.75	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-303 (Continued)

Lab Sample ID: 310-217794-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	220		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	5300		400	230	ug/L	4		6020A	Total/NA
Cadmium	0.064	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	70		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.74		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	14		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	190		2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	2.7	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	430		50	26	mg/L	1		SM 2540C	Total/NA
pH	9.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	573.97				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	61.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.25				mg/L	1		Field Sampling	Total/NA
pH, Field	8.89				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	768				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	110				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-217794-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	26		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	300		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	3.1		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	100		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	8900		400	230	ug/L	4		6020A	Total/NA
Cadmium	0.33		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	78		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.1		0.50	0.19	ug/L	1		6020A	Total/NA
Molybdenum	1200		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	520		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	573.33				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	84				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.40				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	868				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	110.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A

Lab Sample ID: 310-217794-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	72		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	1.7	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	110		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	470		100	58	ug/L	1		6020A	Total/NA
Calcium	85		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.35	J	0.50	0.19	ug/L	1		6020A	Total/NA
Molybdenum	6.0		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	350		50	26	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-304A (Continued)

Lab Sample ID: 310-217794-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1	0.1	SU		1	SM 4500 H+ B	Total/NA
Ground Water Elevation	573.41				ft		1	Field Sampling	Total/NA
Oxidation Reduction Potential	10.2				millivolts		1	Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.15				mg/L		1	Field Sampling	Total/NA
pH, Field	7.09				SU		1	Field Sampling	Total/NA
Specific Conductance, Field	654				umhos/cm		1	Field Sampling	Total/NA
Temperature, Field	13.2				Degrees C		1	Field Sampling	Total/NA
Turbidity, Field	9.6				NTU		1	Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-217794-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	23		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	470		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	3.1		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	74		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	13000		1000	580	ug/L	10		6020A	Total/NA
Cadmium	0.18		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.33	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	13		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	810		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	810		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU		1	SM 4500 H+ B	Total/NA
Ground Water Elevation	573.20				ft		1	Field Sampling	Total/NA
Oxidation Reduction Potential	-85.0				millivolts		1	Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.29				mg/L		1	Field Sampling	Total/NA
pH, Field	7.49				SU		1	Field Sampling	Total/NA
Specific Conductance, Field	1224				umhos/cm		1	Field Sampling	Total/NA
Temperature, Field	18.9				Degrees C		1	Field Sampling	Total/NA
Turbidity, Field	28.5				NTU		1	Field Sampling	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-217794-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	190		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	320		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	84		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	15000		1000	580	ug/L	10		6020A	Total/NA
Calcium	160		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.19	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	89		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	57		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	1000		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU		1	SM 4500 H+ B	Total/NA
Ground Water Elevation	567.49				ft		1	Field Sampling	Total/NA
Oxidation Reduction Potential	134.4				millivolts		1	Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.70				mg/L		1	Field Sampling	Total/NA
pH, Field	7.24				SU		1	Field Sampling	Total/NA
Specific Conductance, Field	1594				umhos/cm		1	Field Sampling	Total/NA
Temperature, Field	15.3				Degrees C		1	Field Sampling	Total/NA
Turbidity, Field	10.00				NTU		1	Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-307

Lab Sample ID: 310-217794-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	71		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	22		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.99	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	330		2.0	0.37	ug/L	1		6020A	Total/NA
Cadmium	0.085	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	200		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	4.8		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	4.8	J	10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	770		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	590.84				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	50.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.15				mg/L	1		Field Sampling	Total/NA
pH, Field	6.63				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1501				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	13.1				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	86		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	77		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	460		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.052	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	92		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.2		0.50	0.19	ug/L	1		6020A	Total/NA
Total Dissolved Solids	470		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	573.43				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	61.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.06				mg/L	1		Field Sampling	Total/NA
pH, Field	6.52				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	959				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	22.7				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 310-217794-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	47		5.0	2.2	mg/L	5		9056A	Total/NA
Arsenic	1.4	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	180		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	550		100	58	ug/L	1		6020A	Total/NA
Calcium	170		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.60		0.50	0.19	ug/L	1		6020A	Total/NA
Total Dissolved Solids	580		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	571.64				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	124.0				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.16				mg/L	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-309 (Continued)

Lab Sample ID: 310-217794-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH, Field	6.87				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1192				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	19				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	27.3				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	83		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	120		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	96		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	1100		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.68		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	3.0	J	10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	610		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	NA				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	83.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.28				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1150				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	20.8				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-301

Lab Sample ID: 310-217794-1

Date Collected: 10/19/21 11:05

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		5.0	2.2	mg/L			10/21/21 21:17	5
Fluoride	<0.28		0.50	0.28	mg/L			10/21/21 21:17	5
Sulfate	310		5.0	2.5	mg/L			10/21/21 21:17	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 17:37	1
Arsenic	1.7	J	2.0	0.75	ug/L		10/22/21 09:00	10/30/21 17:37	1
Barium	77		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 17:37	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 17:37	1
Boron	13000		400	230	ug/L		10/22/21 09:00	11/02/21 12:11	4
Cadmium	0.22		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 17:37	1
Calcium	130		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 17:37	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 17:37	1
Cobalt	5.1		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 17:37	1
Lead	0.48	J	0.50	0.21	ug/L		10/22/21 09:00	10/30/21 17:37	1
Lithium	5.8	J	10	2.5	ug/L		10/22/21 09:00	10/30/21 17:37	1
Molybdenum	430		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 17:37	1
Selenium	1.4	J	5.0	0.96	ug/L		10/22/21 09:00	10/30/21 17:37	1
Thallium	0.29	J	1.0	0.26	ug/L		10/22/21 09:00	10/30/21 17:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	630		50	26	mg/L			10/21/21 14:03	1
pH	6.7	HF	0.1	0.1	SU			10/20/21 14:56	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	576.35				ft			10/19/21 11:05	1
Oxidation Reduction Potential	107.4				millivolts			10/19/21 11:05	1
Oxygen, Dissolved, Client Supplied	0.42				mg/L			10/19/21 11:05	1
pH, Field	6.69				SU			10/19/21 11:05	1
Specific Conductance, Field	1012				umhos/cm			10/19/21 11:05	1
Temperature, Field	15.4				Degrees C			10/19/21 11:05	1
Turbidity, Field	57.0				NTU			10/19/21 11:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-302

Lab Sample ID: 310-217794-2

Date Collected: 10/19/21 09:25

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13	F1	5.0	2.2	mg/L			10/21/21 21:33	5
Fluoride	<0.28	F2	0.50	0.28	mg/L			10/21/21 21:33	5
Sulfate	260		5.0	2.5	mg/L			10/21/21 21:33	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 17:41	1
Arsenic	7.5		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 17:41	1
Barium	73		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 17:41	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 17:41	1
Boron	6200		400	230	ug/L		10/22/21 09:00	11/01/21 18:58	4
Cadmium	0.11		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 17:41	1
Calcium	100		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 17:41	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 17:41	1
Cobalt	0.30	J	0.50	0.19	ug/L		10/22/21 09:00	10/30/21 17:41	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 17:41	1
Lithium	20		10	2.5	ug/L		10/22/21 09:00	10/30/21 17:41	1
Molybdenum	200		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 17:41	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 17:41	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 17:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	510		50	26	mg/L			10/21/21 14:03	1
pH	7.7	HF	0.1	0.1	SU			10/20/21 14:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	573.32				ft			10/19/21 09:25	1
Oxidation Reduction Potential	118.8				millivolts			10/19/21 09:25	1
Oxygen, Dissolved, Client Supplied	0.23				mg/L			10/19/21 09:25	1
pH, Field	7.47				SU			10/19/21 09:25	1
Specific Conductance, Field	832				umhos/cm			10/19/21 09:25	1
Temperature, Field	14.1				Degrees C			10/19/21 09:25	1
Turbidity, Field	11.0				NTU			10/19/21 09:25	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-303

Lab Sample ID: 310-217794-3

Date Collected: 10/18/21 17:20

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		5.0	2.2	mg/L			10/21/21 22:52	5
Fluoride	<0.28		0.50	0.28	mg/L			10/21/21 22:52	5
Sulfate	240		5.0	2.5	mg/L			10/21/21 22:52	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 17:58	1
Arsenic	81		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 17:58	1
Barium	220		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 17:58	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 17:58	1
Boron	5300		400	230	ug/L		10/22/21 09:00	11/01/21 19:01	4
Cadmium	0.064	J	0.10	0.051	ug/L		10/22/21 09:00	10/30/21 17:58	1
Calcium	70		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 17:58	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 17:58	1
Cobalt	0.74		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 17:58	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 17:58	1
Lithium	14		10	2.5	ug/L		10/22/21 09:00	10/30/21 17:58	1
Molybdenum	190		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 17:58	1
Selenium	2.7	J	5.0	0.96	ug/L		10/22/21 09:00	10/30/21 17:58	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 17:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	430		50	26	mg/L			10/21/21 14:03	1
pH	9.6	HF	0.1	0.1	SU			10/20/21 14:38	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	573.97				ft			10/18/21 17:20	1
Oxidation Reduction Potential	61.5				millivolts			10/18/21 17:20	1
Oxygen, Dissolved, Client Supplied	0.25				mg/L			10/18/21 17:20	1
pH, Field	8.89				SU			10/18/21 17:20	1
Specific Conductance, Field	768				umhos/cm			10/18/21 17:20	1
Temperature, Field	14.3				Degrees C			10/18/21 17:20	1
Turbidity, Field	110				NTU			10/18/21 17:20	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-304

Lab Sample ID: 310-217794-4

Date Collected: 10/18/21 15:15

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26		5.0	2.2	mg/L			10/21/21 23:08	5
Fluoride	<0.28		0.50	0.28	mg/L			10/21/21 23:08	5
Sulfate	300		5.0	2.5	mg/L			10/21/21 23:08	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:04	1
Arsenic	3.1		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:04	1
Barium	100		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:04	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:04	1
Boron	8900		400	230	ug/L		10/22/21 09:00	11/01/21 19:06	4
Cadmium	0.33		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:04	1
Calcium	78		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:04	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:04	1
Cobalt	1.1		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:04	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:04	1
Lithium	<2.5		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:04	1
Molybdenum	1200		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:04	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:04	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	520		50	26	mg/L			10/21/21 14:03	1
pH	7.3	HF	0.1	0.1	SU			10/20/21 14:39	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	573.33				ft			10/18/21 15:15	1
Oxidation Reduction Potential	84				millivolts			10/18/21 15:15	1
Oxygen, Dissolved, Client Supplied	0.10				mg/L			10/18/21 15:15	1
pH, Field	7.40				SU			10/18/21 15:15	1
Specific Conductance, Field	868				umhos/cm			10/18/21 15:15	1
Temperature, Field	15.3				Degrees C			10/18/21 15:15	1
Turbidity, Field	110.0				NTU			10/18/21 15:15	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-304A

Lab Sample ID: 310-217794-5

Date Collected: 10/18/21 16:30

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		5.0	2.2	mg/L			10/21/21 23:25	5
Fluoride	<0.28		0.50	0.28	mg/L			10/21/21 23:25	5
Sulfate	72		5.0	2.5	mg/L			10/21/21 23:25	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:08	1
Arsenic	1.7	J	2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:08	1
Barium	110		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:08	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:08	1
Boron	470		100	58	ug/L		10/22/21 09:00	11/01/21 19:09	1
Cadmium	<0.051		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:08	1
Calcium	85		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:08	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:08	1
Cobalt	0.35	J	0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:08	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:08	1
Lithium	<2.5		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:08	1
Molybdenum	6.0		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:08	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:08	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		50	26	mg/L			10/21/21 14:03	1
pH	7.3	HF	0.1	0.1	SU			10/20/21 14:40	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	573.41				ft			10/18/21 16:30	1
Oxidation Reduction Potential	10.2				millivolts			10/18/21 16:30	1
Oxygen, Dissolved, Client Supplied	0.15				mg/L			10/18/21 16:30	1
pH, Field	7.09				SU			10/18/21 16:30	1
Specific Conductance, Field	654				umhos/cm			10/18/21 16:30	1
Temperature, Field	13.2				Degrees C			10/18/21 16:30	1
Turbidity, Field	9.6				NTU			10/18/21 16:30	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-305

Lab Sample ID: 310-217794-6

Date Collected: 10/18/21 13:35

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		5.0	2.2	mg/L			10/21/21 23:41	5
Fluoride	<0.28		0.50	0.28	mg/L			10/21/21 23:41	5
Sulfate	470		5.0	2.5	mg/L			10/21/21 23:41	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:11	1
Arsenic	3.1		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:11	1
Barium	74		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:11	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:11	1
Boron	13000		1000	580	ug/L		10/22/21 09:00	11/01/21 19:11	10
Cadmium	0.18		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:11	1
Calcium	130		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:11	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:11	1
Cobalt	0.33 J		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:11	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:11	1
Lithium	13		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:11	1
Molybdenum	810		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:11	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:11	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	810		50	26	mg/L			10/21/21 14:03	1
pH	7.4	HF	0.1	0.1	SU			10/20/21 14:41	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	573.20				ft			10/18/21 13:35	1
Oxidation Reduction Potential	-85.0				millivolts			10/18/21 13:35	1
Oxygen, Dissolved, Client Supplied	0.29				mg/L			10/18/21 13:35	1
pH, Field	7.49				SU			10/18/21 13:35	1
Specific Conductance, Field	1224				umhos/cm			10/18/21 13:35	1
Temperature, Field	18.9				Degrees C			10/18/21 13:35	1
Turbidity, Field	28.5				NTU			10/18/21 13:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-306

Lab Sample ID: 310-217794-7

Date Collected: 10/18/21 11:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		5.0	2.2	mg/L			10/21/21 23:57	5
Fluoride	<0.28		0.50	0.28	mg/L			10/21/21 23:57	5
Sulfate	320		5.0	2.5	mg/L			10/21/21 23:57	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:15	1
Arsenic	<0.75		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:15	1
Barium	84		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:15	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:15	1
Boron	15000		1000	580	ug/L		10/22/21 09:00	11/01/21 19:14	10
Cadmium	<0.051		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:15	1
Calcium	160		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:15	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:15	1
Cobalt	0.19	J	0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:15	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:15	1
Lithium	89		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:15	1
Molybdenum	57		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:15	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:15	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		50	26	mg/L			10/21/21 14:03	1
pH	7.3	HF	0.1	0.1	SU			10/20/21 14:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	567.49				ft			10/18/21 11:45	1
Oxidation Reduction Potential	134.4				millivolts			10/18/21 11:45	1
Oxygen, Dissolved, Client Supplied	0.70				mg/L			10/18/21 11:45	1
pH, Field	7.24				SU			10/18/21 11:45	1
Specific Conductance, Field	1594				umhos/cm			10/18/21 11:45	1
Temperature, Field	15.3				Degrees C			10/18/21 11:45	1
Turbidity, Field	10.00				NTU			10/18/21 11:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-307

Lab Sample ID: 310-217794-8

Date Collected: 10/19/21 13:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71		5.0	2.2	mg/L			10/22/21 00:14	5
Fluoride	<0.28		0.50	0.28	mg/L			10/22/21 00:14	5
Sulfate	22		5.0	2.5	mg/L			10/22/21 00:14	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:18	1
Arsenic	0.99	J	2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:18	1
Barium	330		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:18	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:18	1
Boron	<58		100	58	ug/L		10/22/21 09:00	11/01/21 19:27	1
Cadmium	0.085	J	0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:18	1
Calcium	200		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:18	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:18	1
Cobalt	4.8		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:18	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:18	1
Lithium	4.8	J	10	2.5	ug/L		10/22/21 09:00	10/30/21 18:18	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:18	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:18	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		50	26	mg/L			10/21/21 14:03	1
pH	6.7	HF	0.1	0.1	SU			10/20/21 14:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	590.84				ft			10/19/21 13:45	1
Oxidation Reduction Potential	50.4				millivolts			10/19/21 13:45	1
Oxygen, Dissolved, Client Supplied	1.15				mg/L			10/19/21 13:45	1
pH, Field	6.63				SU			10/19/21 13:45	1
Specific Conductance, Field	1501				umhos/cm			10/19/21 13:45	1
Temperature, Field	15.3				Degrees C			10/19/21 13:45	1
Turbidity, Field	13.1				NTU			10/19/21 13:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Date Collected: 10/19/21 16:20

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36		5.0	2.2	mg/L			10/22/21 00:30	5
Fluoride	<0.28		0.50	0.28	mg/L			10/22/21 00:30	5
Sulfate	86		5.0	2.5	mg/L			10/22/21 00:30	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:21	1
Arsenic	<0.75		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:21	1
Barium	77		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:21	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:21	1
Boron	460		100	58	ug/L		10/22/21 09:00	11/01/21 19:29	1
Cadmium	0.052	J	0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:21	1
Calcium	92		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:21	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:21	1
Cobalt	1.2		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:21	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:21	1
Lithium	<2.5		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:21	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:21	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:21	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:37	10/27/21 12:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	470		50	26	mg/L			10/21/21 14:03	1
pH	6.7	HF	0.1	0.1	SU			10/20/21 14:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	573.43				ft			10/19/21 16:20	1
Oxidation Reduction Potential	61.8				millivolts			10/19/21 16:20	1
Oxygen, Dissolved, Client Supplied	1.06				mg/L			10/19/21 16:20	1
pH, Field	6.52				SU			10/19/21 16:20	1
Specific Conductance, Field	959				umhos/cm			10/19/21 16:20	1
Temperature, Field	16.2				Degrees C			10/19/21 16:20	1
Turbidity, Field	22.7				NTU			10/19/21 16:20	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-309

Lab Sample ID: 310-217794-10

Date Collected: 10/19/21 15:05

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47		5.0	2.2	mg/L			10/22/21 00:47	5
Fluoride	<0.28		0.50	0.28	mg/L			10/22/21 00:47	5
Sulfate	<2.5		5.0	2.5	mg/L			10/22/21 00:47	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:25	1
Arsenic	1.4	J	2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:25	1
Barium	180		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:25	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:25	1
Boron	550		100	58	ug/L		10/22/21 09:00	11/01/21 19:32	1
Cadmium	<0.051		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:25	1
Calcium	170		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:25	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:25	1
Cobalt	0.60		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:25	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:25	1
Lithium	<2.5		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:25	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:25	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:25	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:37	10/27/21 12:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	580		50	26	mg/L			10/21/21 14:03	1
pH	6.9	HF	0.1	0.1	SU			10/20/21 14:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	571.64				ft			10/19/21 15:05	1
Oxidation Reduction Potential	124.0				millivolts			10/19/21 15:05	1
Oxygen, Dissolved, Client Supplied	0.16				mg/L			10/19/21 15:05	1
pH, Field	6.87				SU			10/19/21 15:05	1
Specific Conductance, Field	1192				umhos/cm			10/19/21 15:05	1
Temperature, Field	19				Degrees C			10/19/21 15:05	1
Turbidity, Field	27.3				NTU			10/19/21 15:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Date Collected: 10/19/21 17:46

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83		5.0	2.2	mg/L			10/22/21 01:03	5
Fluoride	<0.28		0.50	0.28	mg/L			10/22/21 01:03	5
Sulfate	120		5.0	2.5	mg/L			10/22/21 01:03	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:28	1
Arsenic	<0.75		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:28	1
Barium	96		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:28	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:28	1
Boron	1100		100	58	ug/L		10/22/21 09:00	11/01/21 19:35	1
Cadmium	<0.051		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:28	1
Calcium	110		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:28	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:28	1
Cobalt	0.68		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:28	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:28	1
Lithium	3.0	J	10	2.5	ug/L		10/22/21 09:00	10/30/21 18:28	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:28	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:28	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:37	10/27/21 12:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	610		50	26	mg/L			10/21/21 14:03	1
pH	7.3	HF	0.1	0.1	SU			10/20/21 14:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	NA				ft			10/19/21 17:46	1
Oxidation Reduction Potential	83.5				millivolts			10/19/21 17:46	1
Oxygen, Dissolved, Client Supplied	0.28				mg/L			10/19/21 17:46	1
pH, Field	7.17				SU			10/19/21 17:46	1
Specific Conductance, Field	1150				umhos/cm			10/19/21 17:46	1
Temperature, Field	13.9				Degrees C			10/19/21 17:46	1
Turbidity, Field	20.8				NTU			10/19/21 17:46	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

Date Collected: 10/19/21 09:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			10/22/21 01:52	1
Fluoride	<0.055		0.10	0.055	mg/L			10/22/21 01:52	1
Sulfate	<0.49		1.0	0.49	mg/L			10/22/21 01:52	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:45	1
Arsenic	<0.75		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:45	1
Barium	<0.37		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 18:45	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 18:45	1
Boron	<58		100	58	ug/L		10/22/21 09:00	11/01/21 19:37	1
Cadmium	<0.051		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 18:45	1
Calcium	<0.19		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 18:45	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 18:45	1
Cobalt	<0.19		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 18:45	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 18:45	1
Lithium	<2.5		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:45	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:45	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 18:45	1
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 18:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:37	10/27/21 12:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/22/21 09:18	1
pH	7.4	HF	0.1	0.1	SU			10/20/21 14:55	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-333173/3
Matrix: Water
Analysis Batch: 333173

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.43		1.0	0.43	mg/L			10/21/21 19:27	1
Fluoride	<0.055		0.10	0.055	mg/L			10/21/21 19:27	1
Sulfate	<0.49		1.0	0.49	mg/L			10/21/21 19:27	1

Lab Sample ID: LCS 310-333173/4
Matrix: Water
Analysis Batch: 333173

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.00	2.10		mg/L		105	90 - 110
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: 310-217794-2 MS
Matrix: Water
Analysis Batch: 333173

Client Sample ID: MW-302
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.28	F2	5.00	4.33		mg/L		87	80 - 120
Sulfate	260		25.0	330	4	mg/L		299	80 - 120

Lab Sample ID: 310-217794-2 MSD
Matrix: Water
Analysis Batch: 333173

Client Sample ID: MW-302
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.28	F2	5.00	5.35	F2	mg/L		107	80 - 120	21	15
Sulfate	260		25.0	331	4	mg/L		304	80 - 120	0	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-332413/1-A
Matrix: Water
Analysis Batch: 333745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332413

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<1.1		2.0	1.1	ug/L		10/22/21 09:00	10/30/21 16:40	1
Arsenic	<0.75		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 16:40	1
Barium	<0.37		2.0	0.37	ug/L		10/22/21 09:00	10/30/21 16:40	1
Beryllium	<0.27		1.0	0.27	ug/L		10/22/21 09:00	10/30/21 16:40	1
Cadmium	<0.051		0.10	0.051	ug/L		10/22/21 09:00	10/30/21 16:40	1
Calcium	<0.19		0.50	0.19	mg/L		10/22/21 09:00	10/30/21 16:40	1
Chromium	<1.1		5.0	1.1	ug/L		10/22/21 09:00	10/30/21 16:40	1
Cobalt	<0.19		0.50	0.19	ug/L		10/22/21 09:00	10/30/21 16:40	1
Lead	<0.21		0.50	0.21	ug/L		10/22/21 09:00	10/30/21 16:40	1
Lithium	<2.5		10	2.5	ug/L		10/22/21 09:00	10/30/21 16:40	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 16:40	1
Selenium	<0.96		5.0	0.96	ug/L		10/22/21 09:00	10/30/21 16:40	1

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

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

Lab Sample ID: MB 310-332413/1-A
Matrix: Water
Analysis Batch: 333745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332413

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.26		1.0	0.26	ug/L		10/22/21 09:00	10/30/21 16:40	1

Lab Sample ID: MB 310-332413/1-A
Matrix: Water
Analysis Batch: 333938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332413

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<58		100	58	ug/L		10/22/21 09:00	11/01/21 18:33	1

Lab Sample ID: LCS 310-332413/2-A ^10
Matrix: Water
Analysis Batch: 333745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	2000	1900		ug/L		95	80 - 120
Arsenic	2000	2070		ug/L		104	80 - 120
Barium	1000	1000		ug/L		100	80 - 120
Beryllium	1000	1010		ug/L		101	80 - 120
Cadmium	1000	937		ug/L		94	80 - 120
Calcium	20.0	18.3		mg/L		92	80 - 120
Chromium	1000	986		ug/L		99	80 - 120
Cobalt	1000	1010		ug/L		101	80 - 120
Lead	2000	2030		ug/L		102	80 - 120
Lithium	2000	1950		ug/L		97	80 - 120
Molybdenum	2000	1860		ug/L		93	80 - 120
Selenium	4000	3820		ug/L		96	80 - 120
Thallium	2000	2100		ug/L		105	80 - 120

Lab Sample ID: LCS 310-332413/2-A ^10
Matrix: Water
Analysis Batch: 333938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	2000	1740		ug/L		87	80 - 120

Lab Sample ID: 310-217794-3 DU
Matrix: Water
Analysis Batch: 333745

Client Sample ID: MW-303
Prep Type: Total/NA
Prep Batch: 332413

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.1		<1.1		ug/L		NC	20
Arsenic	81		81.3		ug/L		0.6	20
Barium	220		221		ug/L		0.4	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Cadmium	0.064	J	0.0560	J	ug/L		13	20
Calcium	70		71.6		mg/L		3	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	0.74		0.744		ug/L		0.7	20
Lead	<0.21		<0.21		ug/L		NC	20
Lithium	14		14.5		ug/L		7	20

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

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

Lab Sample ID: 310-217794-3 DU
Matrix: Water
Analysis Batch: 333745

Client Sample ID: MW-303
Prep Type: Total/NA
Prep Batch: 332413

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Molybdenum	190		193		ug/L		0.09	20
Selenium	2.7	J	2.78	J	ug/L		5	20
Thallium	<0.26		<0.26		ug/L		NC	20

Lab Sample ID: 310-217794-3 DU
Matrix: Water
Analysis Batch: 333938

Client Sample ID: MW-303
Prep Type: Total/NA
Prep Batch: 332413

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Boron	5300		5250		ug/L		0.8	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-332953/1-A
Matrix: Water
Analysis Batch: 333160

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332953

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:33	10/27/21 10:46	1

Lab Sample ID: LCS 310-332953/2-A
Matrix: Water
Analysis Batch: 333160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332953
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	1.67	1.74		ug/L		104	80 - 120

Lab Sample ID: MB 310-332954/1-A
Matrix: Water
Analysis Batch: 333160

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332954

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/26/21 10:37	10/27/21 11:50	1

Lab Sample ID: LCS 310-332954/2-A
Matrix: Water
Analysis Batch: 333160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332954
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	1.67	1.70		ug/L		102	80 - 120

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

Lab Sample ID: MB 310-332501/1
Matrix: Water
Analysis Batch: 332501

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/21/21 14:03	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

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

Lab Sample ID: LCS 310-332501/2
Matrix: Water
Analysis Batch: 332501

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	916		mg/L		92	90 - 110

Lab Sample ID: 310-217794-4 DU
Matrix: Water
Analysis Batch: 332501

Client Sample ID: MW-304
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	520		594		mg/L		13	20

Lab Sample ID: MB 310-332599/1
Matrix: Water
Analysis Batch: 332599

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/22/21 09:18	1

Lab Sample ID: LCS 310-332599/2
Matrix: Water
Analysis Batch: 332599

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	900		mg/L		90	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-332320/1
Matrix: Water
Analysis Batch: 332320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: LCS 310-332320/26
Matrix: Water
Analysis Batch: 332320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: LCS 310-332320/48
Matrix: Water
Analysis Batch: 332320

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	98 - 102

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-217794-7 DU
Matrix: Water
Analysis Batch: 332320

Client Sample ID: MW-306
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	HF	7.3		SU		0.4	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

HPLC/IC

Analysis Batch: 333173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	9056A	
310-217794-2	MW-302	Total/NA	Water	9056A	
310-217794-3	MW-303	Total/NA	Water	9056A	
310-217794-4	MW-304	Total/NA	Water	9056A	
310-217794-5	MW-304A	Total/NA	Water	9056A	
310-217794-6	MW-305	Total/NA	Water	9056A	
310-217794-7	MW-306	Total/NA	Water	9056A	
310-217794-8	MW-307	Total/NA	Water	9056A	
310-217794-9	MW-308	Total/NA	Water	9056A	
310-217794-10	MW-309	Total/NA	Water	9056A	
310-217794-11	MW-310	Total/NA	Water	9056A	
310-217794-12	Field Blank	Total/NA	Water	9056A	
MB 310-333173/3	Method Blank	Total/NA	Water	9056A	
LCS 310-333173/4	Lab Control Sample	Total/NA	Water	9056A	
310-217794-2 MS	MW-302	Total/NA	Water	9056A	
310-217794-2 MSD	MW-302	Total/NA	Water	9056A	

Metals

Prep Batch: 332413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	3005A	
310-217794-2	MW-302	Total/NA	Water	3005A	
310-217794-3	MW-303	Total/NA	Water	3005A	
310-217794-4	MW-304	Total/NA	Water	3005A	
310-217794-5	MW-304A	Total/NA	Water	3005A	
310-217794-6	MW-305	Total/NA	Water	3005A	
310-217794-7	MW-306	Total/NA	Water	3005A	
310-217794-8	MW-307	Total/NA	Water	3005A	
310-217794-9	MW-308	Total/NA	Water	3005A	
310-217794-10	MW-309	Total/NA	Water	3005A	
310-217794-11	MW-310	Total/NA	Water	3005A	
310-217794-12	Field Blank	Total/NA	Water	3005A	
MB 310-332413/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-332413/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	
310-217794-3 DU	MW-303	Total/NA	Water	3005A	

Prep Batch: 332953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	7470A	
310-217794-2	MW-302	Total/NA	Water	7470A	
310-217794-3	MW-303	Total/NA	Water	7470A	
310-217794-4	MW-304	Total/NA	Water	7470A	
310-217794-5	MW-304A	Total/NA	Water	7470A	
310-217794-6	MW-305	Total/NA	Water	7470A	
310-217794-7	MW-306	Total/NA	Water	7470A	
310-217794-8	MW-307	Total/NA	Water	7470A	
MB 310-332953/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-332953/2-A	Lab Control Sample	Total/NA	Water	7470A	

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Metals

Prep Batch: 332954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-9	MW-308	Total/NA	Water	7470A	
310-217794-10	MW-309	Total/NA	Water	7470A	
310-217794-11	MW-310	Total/NA	Water	7470A	
310-217794-12	Field Blank	Total/NA	Water	7470A	
MB 310-332954/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-332954/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 333160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	7470A	332953
310-217794-2	MW-302	Total/NA	Water	7470A	332953
310-217794-3	MW-303	Total/NA	Water	7470A	332953
310-217794-4	MW-304	Total/NA	Water	7470A	332953
310-217794-5	MW-304A	Total/NA	Water	7470A	332953
310-217794-6	MW-305	Total/NA	Water	7470A	332953
310-217794-7	MW-306	Total/NA	Water	7470A	332953
310-217794-8	MW-307	Total/NA	Water	7470A	332953
310-217794-9	MW-308	Total/NA	Water	7470A	332954
310-217794-10	MW-309	Total/NA	Water	7470A	332954
310-217794-11	MW-310	Total/NA	Water	7470A	332954
310-217794-12	Field Blank	Total/NA	Water	7470A	332954
MB 310-332953/1-A	Method Blank	Total/NA	Water	7470A	332953
MB 310-332954/1-A	Method Blank	Total/NA	Water	7470A	332954
LCS 310-332953/2-A	Lab Control Sample	Total/NA	Water	7470A	332953
LCS 310-332954/2-A	Lab Control Sample	Total/NA	Water	7470A	332954

Analysis Batch: 333745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	6020A	332413
310-217794-2	MW-302	Total/NA	Water	6020A	332413
310-217794-3	MW-303	Total/NA	Water	6020A	332413
310-217794-4	MW-304	Total/NA	Water	6020A	332413
310-217794-5	MW-304A	Total/NA	Water	6020A	332413
310-217794-6	MW-305	Total/NA	Water	6020A	332413
310-217794-7	MW-306	Total/NA	Water	6020A	332413
310-217794-8	MW-307	Total/NA	Water	6020A	332413
310-217794-9	MW-308	Total/NA	Water	6020A	332413
310-217794-10	MW-309	Total/NA	Water	6020A	332413
310-217794-11	MW-310	Total/NA	Water	6020A	332413
310-217794-12	Field Blank	Total/NA	Water	6020A	332413
MB 310-332413/1-A	Method Blank	Total/NA	Water	6020A	332413
LCS 310-332413/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	332413
310-217794-3 DU	MW-303	Total/NA	Water	6020A	332413

Analysis Batch: 333791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	6020A	332413
310-217794-2	MW-302	Total/NA	Water	6020A	332413
310-217794-3	MW-303	Total/NA	Water	6020A	332413
310-217794-4	MW-304	Total/NA	Water	6020A	332413
310-217794-5	MW-304A	Total/NA	Water	6020A	332413

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QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Metals (Continued)

Analysis Batch: 333791 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-6	MW-305	Total/NA	Water	6020A	332413
310-217794-7	MW-306	Total/NA	Water	6020A	332413
310-217794-8	MW-307	Total/NA	Water	6020A	332413
310-217794-9	MW-308	Total/NA	Water	6020A	332413
310-217794-10	MW-309	Total/NA	Water	6020A	332413
310-217794-11	MW-310	Total/NA	Water	6020A	332413
310-217794-12	Field Blank	Total/NA	Water	6020A	332413
MB 310-332413/1-A	Method Blank	Total/NA	Water	6020A	332413
LCS 310-332413/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	332413
310-217794-3 DU	MW-303	Total/NA	Water	6020A	332413

Analysis Batch: 333938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-2	MW-302	Total/NA	Water	6020A	332413
310-217794-3	MW-303	Total/NA	Water	6020A	332413
310-217794-4	MW-304	Total/NA	Water	6020A	332413
310-217794-5	MW-304A	Total/NA	Water	6020A	332413
310-217794-6	MW-305	Total/NA	Water	6020A	332413
310-217794-7	MW-306	Total/NA	Water	6020A	332413
310-217794-8	MW-307	Total/NA	Water	6020A	332413
310-217794-9	MW-308	Total/NA	Water	6020A	332413
310-217794-10	MW-309	Total/NA	Water	6020A	332413
310-217794-11	MW-310	Total/NA	Water	6020A	332413
310-217794-12	Field Blank	Total/NA	Water	6020A	332413
MB 310-332413/1-A	Method Blank	Total/NA	Water	6020A	332413
LCS 310-332413/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	332413
310-217794-3 DU	MW-303	Total/NA	Water	6020A	332413

Analysis Batch: 334010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	6020A	332413

General Chemistry

Analysis Batch: 332320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-217794-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-217794-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-217794-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-217794-5	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-217794-6	MW-305	Total/NA	Water	SM 4500 H+ B	
310-217794-7	MW-306	Total/NA	Water	SM 4500 H+ B	
310-217794-8	MW-307	Total/NA	Water	SM 4500 H+ B	
310-217794-9	MW-308	Total/NA	Water	SM 4500 H+ B	
310-217794-10	MW-309	Total/NA	Water	SM 4500 H+ B	
310-217794-11	MW-310	Total/NA	Water	SM 4500 H+ B	
310-217794-12	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-332320/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-332320/26	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-332320/48	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

General Chemistry (Continued)

Analysis Batch: 332320 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-7 DU	MW-306	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 332501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	SM 2540C	
310-217794-2	MW-302	Total/NA	Water	SM 2540C	
310-217794-3	MW-303	Total/NA	Water	SM 2540C	
310-217794-4	MW-304	Total/NA	Water	SM 2540C	
310-217794-5	MW-304A	Total/NA	Water	SM 2540C	
310-217794-6	MW-305	Total/NA	Water	SM 2540C	
310-217794-7	MW-306	Total/NA	Water	SM 2540C	
310-217794-8	MW-307	Total/NA	Water	SM 2540C	
310-217794-9	MW-308	Total/NA	Water	SM 2540C	
310-217794-10	MW-309	Total/NA	Water	SM 2540C	
310-217794-11	MW-310	Total/NA	Water	SM 2540C	
MB 310-332501/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-332501/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-217794-4 DU	MW-304	Total/NA	Water	SM 2540C	

Analysis Batch: 332599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-12	Field Blank	Total/NA	Water	SM 2540C	
MB 310-332599/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-332599/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 333134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	Field Sampling	
310-217794-2	MW-302	Total/NA	Water	Field Sampling	
310-217794-3	MW-303	Total/NA	Water	Field Sampling	
310-217794-4	MW-304	Total/NA	Water	Field Sampling	
310-217794-5	MW-304A	Total/NA	Water	Field Sampling	
310-217794-6	MW-305	Total/NA	Water	Field Sampling	
310-217794-7	MW-306	Total/NA	Water	Field Sampling	
310-217794-8	MW-307	Total/NA	Water	Field Sampling	
310-217794-9	MW-308	Total/NA	Water	Field Sampling	
310-217794-10	MW-309	Total/NA	Water	Field Sampling	
310-217794-11	MW-310	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-301

Lab Sample ID: 310-217794-1

Date Collected: 10/19/21 11:05

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/21/21 21:17	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 17:37	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 17:37	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	334010	11/02/21 12:11	JNR	TAL CF
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:28	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:56	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/19/21 11:05	SLD	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-217794-2

Date Collected: 10/19/21 09:25

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/21/21 21:33	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 17:41	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 17:41	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	333938	11/01/21 18:58	JNR	TAL CF
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:30	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:37	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/19/21 09:25	SLD	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-217794-3

Date Collected: 10/18/21 17:20

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/21/21 22:52	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 17:58	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 17:58	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	333938	11/01/21 19:01	JNR	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-303

Lab Sample ID: 310-217794-3

Date Collected: 10/18/21 17:20

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:32	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:38	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/18/21 17:20	SLD	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-217794-4

Date Collected: 10/18/21 15:15

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/21/21 23:08	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:04	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:04	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		4	333938	11/01/21 19:06	JNR	TAL CF
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:35	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:39	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/18/21 15:15	SLD	TAL CF

Client Sample ID: MW-304A

Lab Sample ID: 310-217794-5

Date Collected: 10/18/21 16:30

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/21/21 23:25	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:08	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:08	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333938	11/01/21 19:09	JNR	TAL CF
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:37	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:40	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/18/21 16:30	SLD	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-305
Date Collected: 10/18/21 13:35
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/21/21 23:41	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:11	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:11	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		10	333938	11/01/21 19:11	JNR	TAL CF
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:39	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:41	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/18/21 13:35	SLD	TAL CF

Client Sample ID: MW-306
Date Collected: 10/18/21 11:45
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/21/21 23:57	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:15	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:15	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		10	333938	11/01/21 19:14	JNR	TAL CF
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:41	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:43	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/18/21 11:45	SLD	TAL CF

Client Sample ID: MW-307
Date Collected: 10/19/21 13:45
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/22/21 00:14	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:18	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:18	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333938	11/01/21 19:27	JNR	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-307

Lab Sample ID: 310-217794-8

Date Collected: 10/19/21 13:45

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			332953	10/26/21 10:33	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 11:43	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:50	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/19/21 13:45	SLD	TAL CF

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Date Collected: 10/19/21 16:20

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/22/21 00:30	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:21	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:21	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333938	11/01/21 19:29	JNR	TAL CF
Total/NA	Prep	7470A			332954	10/26/21 10:37	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 12:17	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:51	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/19/21 16:20	SLD	TAL CF

Client Sample ID: MW-309

Lab Sample ID: 310-217794-10

Date Collected: 10/19/21 15:05

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/22/21 00:47	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:25	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:25	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333938	11/01/21 19:32	JNR	TAL CF
Total/NA	Prep	7470A			332954	10/26/21 10:37	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 12:20	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:52	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/19/21 15:05	SLD	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Date Collected: 10/19/21 17:46

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	333173	10/22/21 01:03	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:28	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:28	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333938	11/01/21 19:35	JNR	TAL CF
Total/NA	Prep	7470A			332954	10/26/21 10:37	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 12:22	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332501	10/21/21 14:03	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:53	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333134	10/19/21 17:46	SLD	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

Date Collected: 10/19/21 09:45

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	333173	10/22/21 01:52	JNR	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:45	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333791	10/30/21 18:45	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333938	11/01/21 19:37	JNR	TAL CF
Total/NA	Prep	7470A			332954	10/26/21 10:37	EAM	TAL CF
Total/NA	Analysis	7470A		1	333160	10/27/21 12:24	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	332599	10/22/21 09:18	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332320	10/20/21 14:55	JAJ	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401



Environment Testing
TestAmerica



310-217794 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Clive</u>	STATE: <u>IA</u>	Project:	
Receipt Information			
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>		
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp. Blank Temperature → If no temp. blank, or temp. blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>250 ml plastic</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):	<u>5.3</u>		
Corrected Temp (°C):	<u>5.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Chillicothe</u>	STATE: <u>IA</u>	Project:	
Receipt Information			
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>		
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>4.3</u>		
Corrected Temp (°C):	<u>4.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>CA</u>	STATE: <u>IA</u>	Project:
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <u>250 ml Plastic</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):	<u>3.6</u>	
Corrected Temp (°C):	<u>3.6</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>Chive</u> STATE <u>IA</u>	Project:	
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	CONTAINER 1 <u>750 ml plastic</u>	CONTAINER 2
Uncorrected Temp (°C):	<u>5.3</u>	
Corrected Temp (°C):	<u>5.3</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		

Chain of Custody Record

Eurofins TestAmerica, Cedar Falls
 2019 Venture Way
 Cedar Falls, IA 50613
 Phone 319-277-2401 Fax 319-277-2425

Client Information
 Client Contact: Rosa Cruz
 Phone: 608-504-8245
 E-Mail: sarora.fredrick@eurofinset.com
 Address: 8450 Hickman Road, Suite 27, Cedar Falls, IA 50625
 Project Name: ML Kapp 25221077
 Site: 350W#

Analysis Requested
 Perform MS/MSD (Yes or No): Yes
 Field Filtered Sample (Yes or No): Yes
 5400 Catch, 905A, ORGM, 28D, SM450, H+

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code	Matrix (Water, Solid, Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (14/Hg)	2540C Catch, 905A, ORGM, 28D, SM450, H+	Total Number of Containers	Special Instructions/Note
MW-301	10-19-21	11:05	G	6	Water	X	X	X	X	1	Not field
MW-302	10-19-21	9:25	G	6	Water	X	X	X	X	1	Filtered
MW-303	10-18-21	17:20	G	6	Water	X	X	X	X	1	
MW-304	10-18-21	15:15	G	6	Water	X	X	X	X	1	
MW-304A	10-18-21	16:30	G	6	Water	X	X	X	X	1	
MW-305	10-18-21	13:35	G	6	Water	X	X	X	X	1	
MW-306	10-18-21	11:45	G	6	Water	X	X	X	X	1	
MW-307	10-19-21	13:45	G	6	Water	X	X	X	X	1	
MW-308	10-19-21	14:20	G	6	Water	X	X	X	X	1	
MW-309	10-19-21	15:05	G	6	Water	X	X	X	X	1	
MW-310	10-19-21	17:46	G	6	Water	X	X	X	X	1	

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: Rosa Cruz
 Date/Time: 10-20-21 17:00
 Company: SCS

Relinquished by: Rosa Cruz
 Date/Time: 10-20-21 17:00
 Company: SCS

Relinquished by: [Signature]
 Date/Time: 10/20/21 17:00
 Company: [Signature]

Special Disposal (A fee may be assessed if samples are retained longer than 1 month):
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Carrier Tracking (N/A): 310-84953-17083-1
 State of Origin: IA
 Page 1 of 2
 Job #:

Preservation Codes:
 A-HCL, B-NaOH, C-Zn Acetate, D-Nitric Acid, E-NH4SO4, F-MeOH, G-Amchlor, H-Ascorbic Acid, I-Ice, J-Di Water, K-EDTA, L-EDTA, Other

Preservation Codes:
 M-Hexane, N-Nitro, O-AzH2O2, P-Na2O4S, Q-Na2SO3, R-Na2S2O3, S-H2SO4, T-TSP Dodecylaldehyde, U-Acetone, V-MCAA, W-pH 4-5, Z-other (specify)

Method of Shipment: _____
 Date/Time: _____
 Company: _____

Received by: [Signature]
 Date/Time: 10/20/21 17:00
 Company: SCS

Received by: [Signature]
 Date/Time: _____
 Company: _____

Received by: [Signature]
 Date/Time: _____
 Company: _____

Cooler Temperature: _____ °C and Other Remarks



Client Information Client Contact: Rosa Cruz Phone: 608-509-8245 Company: SCS Engineers Address: 8450 Hickman Road Suite 27 City: Clive State, Zip: IA, 50325 Phone: 25221077 Email: rcruz@scsengineers.com Project # 31011020 ML Kapp 25221077 Site: S50W#		Lab PW: Fredrick, Sandie E-Mail: sandra.fredrick@eurofinsnet.com Carrier Tracking Note: 310-94663 17093 2 State of Origin: Page 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: Yes No PO # 25221077 WC # Project # 31011020 Site: S50W#		Analysis Requested Perform MS/MSD (Yes or No) 903 0 904 0 Field Filtered Sample (Yes or No) X 6020A - Metals (14/Hg) D X 2540C, Calc'd, 9056A, ORGFM, 28D, SM4500 H+ N X	
Sample Identification FIELDBLANK	Sample Date 10-19-21	Sample Time 9:45	Sample Type (C=comp, G=grab) G Preservation Code Water
Matrix (w/water, solid, or waste) (B1-Fluor A-A) Water		Total Number of containers: X	
Special Instructions/Note: M - He ars N - No re O - AsNaO2 P - Na2ZAS Q - Na2SO3 R - Na2S2O2 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify) Other:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeCl G - Amchlor H - Ascorbic Acid I - I2 J - DI Water K - EDTA L - EDA Other:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Special Instructions/QC Requirements:			
Relinquished by: Rosa Cruz Date: 10-20-21 12:00 Company: SCS		Received by: M Date/Time: 10/20/21 1220 Company:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: Yes No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
 Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	Field Blank	TOTAL	
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (total/unfiltered)	Boron	X	X	X	X	X	X	X	X	X	X	X	X	12
		Calcium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Chloride	X	X	X	X	X	X	X	X	X	X	X	X	12
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	12
		pH	X	X	X	X	X	X	X	X	X	X	X	X	12
		Sulfate	X	X	X	X	X	X	X	X	X	X	X	X	12
		TDS	X	X	X	X	X	X	X	X	X	X	X	X	12
	Appendix IV Parameters (total/unfiltered)	Antimony	X	X	X	X	X	X	X	X	X	X	X	X	12
		Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	12
		Barium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Beryllium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Cadmium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Chromium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Cobalt	X	X	X	X	X	X	X	X	X	X	X	X	12
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	12
		Lead	X	X	X	X	X	X	X	X	X	X	X	X	12
		Lithium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Mercury	X	X	X	X	X	X	X	X	X	X	X	X	12
		Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	12
		Selenium	X	X	X	X	X	X	X	X	X	X	X	X	12
	Thallium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Radium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	X	X	X		11
		pH (field)	X	X	X	X	X	X	X	X	X	X	X		11
		Well Depth	X	X	X	X	X	X	X	X	X	X	X		11
		Specific Conductance	X	X	X	X	X	X	X	X	X	X	X		11
		Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X		11
		ORP	X	X	X	X	X	X	X	X	X	X	X		11
		Temperature	X	X	X	X	X	X	X	X	X	X	X		11
		Turbidity	X	X	X	X	X	X	X	X	X	X	X		11
		Color	X	X	X	X	X	X	X	X	X	X	X		11
	Odor	X	X	X	X	X	X	X	X	X	X	X		11	
	COC #3 - Additional Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X	X	X	X		11
Iron			X	X	X	X	X	X	X	X	X	X	X		11
Magnesium			X	X	X	X	X	X	X	X	X	X	X		11
Manganese			X	X	X	X	X	X	X	X	X	X	X		11
Potassium			X	X	X	X	X	X	X	X	X	X	X		11
Dissolved (Filtered)		Sodium	X	X	X	X	X	X	X	X	X	X	X		11
		Arsenic			X	X									2
		Iron	X	X	X	X	X	X	X	X	X	X	X		11
		Lithium			X				X						2
		Manganese	X	X	X	X	X	X	X	X	X	X	X		11
Field Parameters		Molybdenum	X	X	X	X		X							5
		Sulfide, Field	X	X	X	X	X	X	X	X	X	X	X		11
		Total Iron, Field	X	X	X	X	X	X	X	X	X	X	X		11
		Ferrous Iron, Field	X	X	X	X	X	X	X	X	X	X		11	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-217794-1

Login Number: 217794

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Groundwater Monitoring Results - Field Parameters
M.L. Kapp Generating Station / SCS Engineers Project #25221077.00
October 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-301	10/19/2021 / 11:05	576.35	15.4	6.69	0.42	1,012	107.4	57.0
MW-302	10/19/2021 / 9:25	573.32	14.1	7.47	0.23	832	118.8	11.0
MW-303	10/18/2021 / 17:20	573.97	14.3	8.89	0.25	768	61.5	110
MW-304	10/18/2021 / 15:15	573.33	15.3	7.40	0.10	868	84	110.0
MW-304A	10/18/2021 / 16:30	573.41	13.2	7.09	0.15	654	10.2	9.6
MW-305	10/18/2021 / 13:35	573.20	18.9	7.49	0.29	1,224	-85.0	28.5
MW-306	10/18/2021 / 11:45	567.49	15.3	7.24	0.70	1,594	134.4	10.00
MW-307	10/19/2021 / 13:45	590.84	15.3	6.63	1.15	1,501	50.4	13.1
MW-308	10/19/2021 / 16:20	573.43	16.2	6.52	1.06	959	61.8	22.7
MW-309	10/19/2021 / 15:05	571.64	19	6.87	0.16	1,192	124.0	27.3
MW-310	10/19/2021 / 17:46	NA	13.9	7.17	0.28	1,150	83.5	20.8

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

NA = not applicable

Notes:

None

Created by: NDK
 Last revision by: REO
 Checked by: NDK

Date: 10/25/2021
 Date: 10/26/2021
 Date: 10/26/2021

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\InetCache\Content.Outlook\W037UEGY\[2010-FULL_M.L. Kapp_CCR_Field.xlsx]GW Field Parameters

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-217794-3
Client Project/Site: ML Kapp 25221077

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
11/19/2021 5:09:38 PM
Robin Kintz, Project Manager II
(708)534-5200
Robin.Kintz@Eurofinset.com

Designee for
Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Job ID: 310-217794-3

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-217794-3

Comments

No additional comments.

Receipt

The samples were received on 10/20/2021 12:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.6° C, 4.3° C, 5.3° C and 5.3° C.

RAD

Methods 903.0, 9315: Radium 226 batch 533887

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-301 (310-217794-1), MW-302 (310-217794-2), MW-303 (310-217794-3), MW-304 (310-217794-4), MW-304A (310-217794-5), MW-305 (310-217794-6), MW-306 (310-217794-7), MW-307 (310-217794-8), MW-308 (310-217794-9), MW-309 (310-217794-10), MW-310 (310-217794-11), Field Blank (310-217794-12), (LCS 160-533887/1-A), (LCSD 160-533887/2-A) and (MB 160-533887/23-A)

Methods 904.0, 9320: Radium 228 batch 533889

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MW-301 (310-217794-1), MW-302 (310-217794-2), MW-303 (310-217794-3), MW-304 (310-217794-4), MW-304A (310-217794-5), MW-305 (310-217794-6), MW-306 (310-217794-7), MW-307 (310-217794-8), MW-308 (310-217794-9), MW-309 (310-217794-10), MW-310 (310-217794-11), Field Blank (310-217794-12), (LCS 160-533889/1-A), (LCSD 160-533889/2-A) and (MB 160-533889/23-A)

Method PrecSep_0: Radium-228 Prep Batch 160-533889

The following samples were prepared at a reduced aliquot due to Matrix: MW-303 (310-217794-3), MW-304 (310-217794-4), MW-307 (310-217794-8), MW-308 (310-217794-9) and MW-309 (310-217794-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-533889

Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-217794-1), MW-302 (310-217794-2), MW-304A (310-217794-5), MW-305 (310-217794-6), MW-306 (310-217794-7), MW-310 (310-217794-11) and Field Blank (310-217794-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-533887

The following samples were prepared at a reduced aliquot due to Matrix: MW-303 (310-217794-3), MW-304 (310-217794-4), MW-307 (310-217794-8), MW-308 (310-217794-9) and MW-309 (310-217794-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-533887

Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-217794-1), MW-302 (310-217794-2), MW-304A (310-217794-5), MW-305 (310-217794-6), MW-306 (310-217794-7), MW-310 (310-217794-11) and Field Blank (310-217794-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-217794-1	MW-301	Water	10/19/21 11:05	10/20/21 12:20
310-217794-2	MW-302	Water	10/19/21 09:25	10/20/21 12:20
310-217794-3	MW-303	Water	10/18/21 17:20	10/20/21 12:20
310-217794-4	MW-304	Water	10/18/21 15:15	10/20/21 12:20
310-217794-5	MW-304A	Water	10/18/21 16:30	10/20/21 12:20
310-217794-6	MW-305	Water	10/18/21 13:35	10/20/21 12:20
310-217794-7	MW-306	Water	10/18/21 11:45	10/20/21 12:20
310-217794-8	MW-307	Water	10/19/21 13:45	10/20/21 12:20
310-217794-9	MW-308	Water	10/19/21 16:20	10/20/21 12:20
310-217794-10	MW-309	Water	10/19/21 15:05	10/20/21 12:20
310-217794-11	MW-310	Water	10/19/21 17:46	10/20/21 12:20
310-217794-12	Field Blank	Water	10/19/21 09:45	10/20/21 12:20

- 1
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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-301

Lab Sample ID: 310-217794-1

Date Collected: 10/19/21 11:05

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.128	U	0.213	0.213	1.00	0.368	pCi/L	10/27/21 14:28	11/18/21 09:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	93.8		40 - 110					10/27/21 14:28	11/18/21 09:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.732		0.290	0.298	1.00	0.408	pCi/L	10/27/21 14:59	11/17/21 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	93.8		40 - 110					10/27/21 14:59	11/17/21 16:44	1
Y Carrier	89.7		40 - 110					10/27/21 14:59	11/17/21 16:44	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.861		0.360	0.366	5.00	0.408	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-302
Date Collected: 10/19/21 09:25
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-2
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.229	U	0.211	0.212	1.00	0.329	pCi/L	10/27/21 14:28	11/18/21 09:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	97.3		40 - 110					10/27/21 14:28	11/18/21 09:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.395	U	0.260	0.263	1.00	0.403	pCi/L	10/27/21 14:59	11/17/21 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	97.3		40 - 110					10/27/21 14:59	11/17/21 16:44	1
Y Carrier	89.3		40 - 110					10/27/21 14:59	11/17/21 16:44	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.624		0.335	0.338	5.00	0.403	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-303
 Date Collected: 10/18/21 17:20
 Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-3
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	1.35		0.447	0.463	1.00	0.448	pCi/L	10/27/21 14:28	11/18/21 09:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	79.0		40 - 110					10/27/21 14:28	11/18/21 09:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	2.45		0.563	0.606	1.00	0.663	pCi/L	10/27/21 14:59	11/17/21 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	79.0		40 - 110					10/27/21 14:59	11/17/21 16:44	1
Y Carrier	85.6		40 - 110					10/27/21 14:59	11/17/21 16:44	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	3.80		0.719	0.763	5.00	0.663	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-304

Lab Sample ID: 310-217794-4

Date Collected: 10/18/21 15:15

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	2.54		0.629	0.669	1.00	0.537	pCi/L	10/27/21 14:28	11/18/21 09:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	67.3		40 - 110					10/27/21 14:28	11/18/21 09:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	2.23		0.606	0.640	1.00	0.766	pCi/L	10/27/21 14:59	11/17/21 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	67.3		40 - 110					10/27/21 14:59	11/17/21 16:44	1
Y Carrier	89.0		40 - 110					10/27/21 14:59	11/17/21 16:44	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	4.77		0.873	0.926	5.00	0.766	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-304A

Lab Sample ID: 310-217794-5

Date Collected: 10/18/21 16:30

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.137	U	0.233	0.233	1.00	0.402	pCi/L	10/27/21 14:28	11/18/21 09:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	88.3		40 - 110					10/27/21 14:28	11/18/21 09:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.636		0.286	0.292	1.00	0.411	pCi/L	10/27/21 14:59	11/17/21 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	88.3		40 - 110					10/27/21 14:59	11/17/21 16:44	1
Y Carrier	88.2		40 - 110					10/27/21 14:59	11/17/21 16:44	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.773		0.369	0.374	5.00	0.411	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-305

Lab Sample ID: 310-217794-6

Date Collected: 10/18/21 13:35

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.142	U	0.198	0.198	1.00	0.334	pCi/L	10/27/21 14:28	11/18/21 09:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	99.3		40 - 110					10/27/21 14:28	11/18/21 09:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.707		0.281	0.288	1.00	0.392	pCi/L	10/27/21 14:59	11/17/21 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	99.3		40 - 110					10/27/21 14:59	11/17/21 16:44	1
Y Carrier	83.7		40 - 110					10/27/21 14:59	11/17/21 16:44	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.849		0.344	0.349	5.00	0.392	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-306

Lab Sample ID: 310-217794-7

Date Collected: 10/18/21 11:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0797	U	0.209	0.209	1.00	0.376	pCi/L	10/27/21 14:28	11/18/21 09:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	97.0		40 - 110					10/27/21 14:28	11/18/21 09:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.136	U	0.241	0.241	1.00	0.408	pCi/L	10/27/21 14:59	11/17/21 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	97.0		40 - 110					10/27/21 14:59	11/17/21 16:44	1
Y Carrier	90.1		40 - 110					10/27/21 14:59	11/17/21 16:44	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.216	U	0.319	0.319	5.00	0.408	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-307

Lab Sample ID: 310-217794-8

Date Collected: 10/19/21 13:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	1.20		0.605	0.614	1.00	0.800	pCi/L	10/27/21 14:28	11/18/21 09:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	79.3		40 - 110					10/27/21 14:28	11/18/21 09:42	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.262	U	0.532	0.533	1.00	0.912	pCi/L	10/27/21 15:00	11/17/21 16:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	79.3		40 - 110					10/27/21 15:00	11/17/21 16:56	1
Y Carrier	84.5		40 - 110					10/27/21 15:00	11/17/21 16:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.46		0.806	0.813	5.00	0.912	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Date Collected: 10/19/21 16:20

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.858		0.367	0.375	1.00	0.450	pCi/L	10/27/21 14:28	11/18/21 09:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.8		40 - 110					10/27/21 14:28	11/18/21 09:43	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.241	U	0.281	0.282	1.00	0.463	pCi/L	10/27/21 15:00	11/17/21 16:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	92.8		40 - 110					10/27/21 15:00	11/17/21 16:56	1
Y Carrier	86.0		40 - 110					10/27/21 15:00	11/17/21 16:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.10		0.462	0.469	5.00	0.463	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-309
 Date Collected: 10/19/21 15:05
 Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-10
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	1.02		0.395	0.405	1.00	0.465	pCi/L	10/27/21 14:28	11/18/21 09:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	90.8		40 - 110					10/27/21 14:28	11/18/21 09:45	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	1.15		0.358	0.373	1.00	0.441	pCi/L	10/27/21 15:00	11/17/21 16:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	90.8		40 - 110					10/27/21 15:00	11/17/21 16:56	1
Y Carrier	89.3		40 - 110					10/27/21 15:00	11/17/21 16:56	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.17		0.533	0.551	5.00	0.465	pCi/L		11/18/21 18:50	1

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Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Date Collected: 10/19/21 17:46

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.471		0.241	0.245	1.00	0.304	pCi/L	10/27/21 14:28	11/18/21 09:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	86.3		40 - 110					10/27/21 14:28	11/18/21 09:46	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.313	U	0.284	0.286	1.00	0.458	pCi/L	10/27/21 15:00	11/17/21 16:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	86.3		40 - 110					10/27/21 15:00	11/17/21 16:57	1
Y Carrier	89.0		40 - 110					10/27/21 15:00	11/17/21 16:57	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.783		0.372	0.377	5.00	0.458	pCi/L		11/18/21 18:50	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

Date Collected: 10/19/21 09:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.413		0.221	0.224	1.00	0.290	pCi/L	10/27/21 14:28	11/18/21 09:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	99.3		40 - 110					10/27/21 14:28	11/18/21 09:46	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	-0.259	U	0.287	0.288	1.00	0.571	pCi/L	10/27/21 15:00	11/17/21 16:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	99.3		40 - 110					10/27/21 15:00	11/17/21 16:53	1
Y Carrier	55.0		40 - 110					10/27/21 15:00	11/17/21 16:53	1

Method: Ra226_Ra228 Pos - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.154	U	0.362	0.365	5.00	0.571	pCi/L		11/18/21 18:50	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-533887/23-A
Matrix: Water
Analysis Batch: 537292

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 533887

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 226	0.2064	U	0.210	0.211	1.00	0.335	pCi/L	10/27/21 14:28	11/18/21 11:35	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Barium	89.8		40 - 110					10/27/21 14:28	11/18/21 11:35	1

Lab Sample ID: LCS 160-533887/1-A
Matrix: Water
Analysis Batch: 537292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 533887

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium 226	11.3	10.58		1.34	1.00	0.335	pCi/L	93	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Barium	81.0		40 - 110					10/27/21 14:28	11/18/21 11:35

Lab Sample ID: LCSD 160-533887/2-A
Matrix: Water
Analysis Batch: 537292

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 533887

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium 226	11.3	11.96		1.46	1.00	0.344	pCi/L	105	75 - 125	0.49	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits		Prepared	Analyzed	Dil Fac				
Barium	82.3		40 - 110					10/27/21 15:00	11/17/21 17:07	1	

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-533889/23-A
Matrix: Water
Analysis Batch: 537097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 533889

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 228	0.6196		0.298	0.303	1.00	0.436	pCi/L	10/27/21 15:00	11/17/21 17:07	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba	89.8		40 - 110					10/27/21 15:00	11/17/21 17:07	1
Y Carrier	89.3		40 - 110		10/27/21 15:00	11/17/21 17:07	1			

QC Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-533889/1-A
Matrix: Water
Analysis Batch: 537255

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 533889

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits													
									75	125												
Radium 228	9.14	8.324		1.04	1.00	0.483	pCi/L	91	75	125												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCS %Yield</th> <th>LCS Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba</td> <td>81.0</td> <td></td> <td>40 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>90.1</td> <td></td> <td>40 - 110</td> </tr> </tbody> </table>											Carrier	LCS %Yield	LCS Qualifier	Limits	Ba	81.0		40 - 110	Y Carrier	90.1		40 - 110
Carrier	LCS %Yield	LCS Qualifier	Limits																			
Ba	81.0		40 - 110																			
Y Carrier	90.1		40 - 110																			

Lab Sample ID: LCSD 160-533889/2-A
Matrix: Water
Analysis Batch: 537255

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 533889

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit												
									75	125	0.23	1												
Radium 228	9.14	8.814		1.07	1.00	0.423	pCi/L	96	75	125	0.23	1												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCSD %Yield</th> <th>LCSD Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba</td> <td>82.3</td> <td></td> <td>40 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>90.8</td> <td></td> <td>40 - 110</td> </tr> </tbody> </table>													Carrier	LCSD %Yield	LCSD Qualifier	Limits	Ba	82.3		40 - 110	Y Carrier	90.8		40 - 110
Carrier	LCSD %Yield	LCSD Qualifier	Limits																					
Ba	82.3		40 - 110																					
Y Carrier	90.8		40 - 110																					

QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Rad

Prep Batch: 533887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	PrecSep-21	
310-217794-2	MW-302	Total/NA	Water	PrecSep-21	
310-217794-3	MW-303	Total/NA	Water	PrecSep-21	
310-217794-4	MW-304	Total/NA	Water	PrecSep-21	
310-217794-5	MW-304A	Total/NA	Water	PrecSep-21	
310-217794-6	MW-305	Total/NA	Water	PrecSep-21	
310-217794-7	MW-306	Total/NA	Water	PrecSep-21	
310-217794-8	MW-307	Total/NA	Water	PrecSep-21	
310-217794-9	MW-308	Total/NA	Water	PrecSep-21	
310-217794-10	MW-309	Total/NA	Water	PrecSep-21	
310-217794-11	MW-310	Total/NA	Water	PrecSep-21	
310-217794-12	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-533887/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-533887/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-533887/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 533889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	PrecSep_0	
310-217794-2	MW-302	Total/NA	Water	PrecSep_0	
310-217794-3	MW-303	Total/NA	Water	PrecSep_0	
310-217794-4	MW-304	Total/NA	Water	PrecSep_0	
310-217794-5	MW-304A	Total/NA	Water	PrecSep_0	
310-217794-6	MW-305	Total/NA	Water	PrecSep_0	
310-217794-7	MW-306	Total/NA	Water	PrecSep_0	
310-217794-8	MW-307	Total/NA	Water	PrecSep_0	
310-217794-9	MW-308	Total/NA	Water	PrecSep_0	
310-217794-10	MW-309	Total/NA	Water	PrecSep_0	
310-217794-11	MW-310	Total/NA	Water	PrecSep_0	
310-217794-12	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-533889/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-533889/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-533889/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-301
Date Collected: 10/19/21 11:05
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537292	11/18/21 09:40	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 14:59	BMP	TAL SL
Total/NA	Analysis	904.0		1	537255	11/17/21 16:44	JLP	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-302
Date Collected: 10/19/21 09:25
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537292	11/18/21 09:40	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 14:59	BMP	TAL SL
Total/NA	Analysis	904.0		1	537255	11/17/21 16:44	JLP	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-303
Date Collected: 10/18/21 17:20
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537292	11/18/21 09:41	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 14:59	BMP	TAL SL
Total/NA	Analysis	904.0		1	537255	11/17/21 16:44	JLP	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-304
Date Collected: 10/18/21 15:15
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537292	11/18/21 09:41	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 14:59	BMP	TAL SL
Total/NA	Analysis	904.0		1	537255	11/17/21 16:44	JLP	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-304A
Date Collected: 10/18/21 16:30
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537292	11/18/21 09:41	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 14:59	BMP	TAL SL
Total/NA	Analysis	904.0		1	537255	11/17/21 16:44	JLP	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-305
Date Collected: 10/18/21 13:35
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537292	11/18/21 09:41	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 14:59	BMP	TAL SL
Total/NA	Analysis	904.0		1	537255	11/17/21 16:44	JLP	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-306
Date Collected: 10/18/21 11:45
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537292	11/18/21 09:41	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 14:59	BMP	TAL SL
Total/NA	Analysis	904.0		1	537255	11/17/21 16:44	JLP	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-307
Date Collected: 10/19/21 13:45
Date Received: 10/20/21 12:20

Lab Sample ID: 310-217794-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537290	11/18/21 09:42	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 15:00	BMP	TAL SL
Total/NA	Analysis	904.0		1	537057	11/17/21 16:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Date Collected: 10/19/21 16:20

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537290	11/18/21 09:43	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 15:00	BMP	TAL SL
Total/NA	Analysis	904.0		1	537057	11/17/21 16:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-309

Lab Sample ID: 310-217794-10

Date Collected: 10/19/21 15:05

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537291	11/18/21 09:45	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 15:00	BMP	TAL SL
Total/NA	Analysis	904.0		1	537057	11/17/21 16:56	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Date Collected: 10/19/21 17:46

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537291	11/18/21 09:46	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 15:00	BMP	TAL SL
Total/NA	Analysis	904.0		1	537057	11/17/21 16:57	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

Date Collected: 10/19/21 09:45

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			533887	10/27/21 14:28	BMP	TAL SL
Total/NA	Analysis	903.0		1	537291	11/18/21 09:46	FLC	TAL SL
Total/NA	Prep	PrecSep_0			533889	10/27/21 15:00	BMP	TAL SL
Total/NA	Analysis	904.0		1	537057	11/17/21 16:53	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	537488	11/18/21 18:50	MLK	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566





Environment Testing
TestAmerica



310-217794 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>CA</u>	STATE: <u>IA</u>	Project:	
Receipt Information			
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>		
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp. Blank Temperature → If no temp. blank, or temp. blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
• Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250 ml plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>5.3</u>		
Corrected Temp (°C):	<u>5.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			





Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Chillicothe</u>	STATE: <u>IA</u>	Project:	
Receipt Information			
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>		
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>4.3</u>		
Corrected Temp (°C):	<u>4.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>CA</u>	STATE: <u>IA</u>	Project:
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <u>250 ml Plastic</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):	<u>3.6</u>	
Corrected Temp (°C):	<u>3.6</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		





Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>Chive</u> STATE <u>IA</u>	Project:	
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	CONTAINER 1 <u>750 ml plastic</u>	CONTAINER 2
Uncorrected Temp (°C):	<u>5.3</u>	
Corrected Temp (°C):	<u>5.3</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



Chain of Custody Record

Eurofins TestAmerica, Cedar Falls
 2019 Venture Way
 Cedar Falls, IA 50613
 Phone 319-277-2401 Fax 319-277-2425

Client Information
 Client Contact: Rosa Cruz
 Address: 8450 Hickman Road, Suite 27
 City: IA, 50325
 Phone: 52221077
 Email: rcruz@sccsengineers.com
 Project Name: ML Kapp 25221077
 Site: 350W#

Sample Information
 Sampler: Rosa Cruz
 Lab PM: Fredrick, Sandle
 Phone: 608-504-8245
 E-Mail: sandra.fredrick@eurofinset.com
 PWSID:

Due Date Requested:
 TAT Requested (days):
 Compliance Project: Yes No
 PC #: 25221077
 WC #:
 Project #:
 31011020
 350W#

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Other)	Preservation Code	Perform MS/MSD (Yes or No)			Field Filtered Sample (Yes or No)			Special Instructions/Note
						D	D	N	D	D	N	
MW-301	10-14-21	11:05	G	Water		X	X	X	X	X	X	Not field filtered
MW-302	10-14-21	9:25	G	Water		X	X	X	X	X	X	
MW-303	10-18-21	17:20	G	Water		X	X	X	X	X	X	
MW-304	10-18-21	15:15	G	Water		X	X	X	X	X	X	
MW-304A	10-18-21	16:30	G	Water		X	X	X	X	X	X	
MW-305	10-18-21	13:35	G	Water		X	X	X	X	X	X	
MW-306	10-18-21	11:45	G	Water		X	X	X	X	X	X	
MW-307	10-19-21	13:45	G	Water		X	X	X	X	X	X	
MW-308	10-19-21	16:20	G	Water		X	X	X	X	X	X	
MW-309	10-19-21	15:05	G	Water		X	X	X	X	X	X	
MW-310	10-19-21	17:46	G	Water		X	X	X	X	X	X	

Analysis Requested
 2540C Catch, 9056A, ORGM, 28D, SM450, H+
 6020A - Metals (14/Hg)
 903, 904 O

Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - H2SO4
 F - NaOH
 G - Anion
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:
 M - Hexane
 N - None
 O - AsH2O2
 P - Na2OAS
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Decedicalydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Z - other (specify)

Special Instructions/Note:
 Total Number of Containers: X

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: Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Empty Kit Relinquished by: Rosa Cruz
 Date/Time: 10-20-21 17:00
 Company: SCS
 Relinquished by: Rosa Cruz
 Date/Time: 10-20-21 17:00
 Company: SCS
 Relinquished by: Rosa Cruz
 Date/Time: 10-20-21 17:00
 Company: SCS

Custody Seals Intact: Yes No
 Custody Seal No.:



Client Information Client Contact: Rosa Cruz Phone: 608-509-8245 Company: SCS Engineers Address: 8450 Hickman Road Suite 27 City: Clive State, Zip: IA, 50325 Phone: 25221077 Email: rcruz@scsengineers.com Project Name: ML Kapp 25221077 Site: S50W#		Lab PW: Fredrick, Sandie E-Mail: sandra.fredrick@eurofinsnet.com Carrier Tracking Note: 310-94663 17093 2 State of Origin: Page 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: Yes No PO #: 25221077 WO #: 31011020 Project #: 31011020 Site: S50W#		Analysis Requested Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> D Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> D 903.0.904.0 6020A - Metals (14/Hg) 2540C, Calc'd, 9056A, ORGFM, 28D, SM4500, H+	
Sample Identification FIELDBLANK		Total Number of Containers: <input checked="" type="checkbox"/>	
Sample Date: 10-19-21 9:45 Sample Time: 9:45 Sample Type (C=comp, G=grab): G Preservation Code: 6 Matrix (w/water, solid, or waste): Water Matrix (B1-B10, A-A1): Water		Special Instructions/Note: Special Instructions/Note:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify):			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For: Months			
Special Instructions/QC Requirements:			
Relinquished by: Rosa Cruz Date: 10-20-21 12:00 Company: SCS		Received by: M Date/Time: 10/20/21 1220 Company:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: Yes No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
 Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	Field Blank	TOTAL	
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (total/unfiltered)	Boron	X	X	X	X	X	X	X	X	X	X	X	X	12
		Calcium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Chloride	X	X	X	X	X	X	X	X	X	X	X	X	12
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	12
		pH	X	X	X	X	X	X	X	X	X	X	X	X	12
		Sulfate	X	X	X	X	X	X	X	X	X	X	X	X	12
	Appendix IV Parameters (total/unfiltered)	TDS	X	X	X	X	X	X	X	X	X	X	X	X	12
		Antimony	X	X	X	X	X	X	X	X	X	X	X	X	12
		Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	12
		Barium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Beryllium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Cadmium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Chromium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Cobalt	X	X	X	X	X	X	X	X	X	X	X	X	12
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	12
		Lead	X	X	X	X	X	X	X	X	X	X	X	X	12
		Lithium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Mercury	X	X	X	X	X	X	X	X	X	X	X	X	12
		Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	12
	Selenium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Thallium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Radium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	X	X	X		11
		pH (field)	X	X	X	X	X	X	X	X	X	X	X		11
		Well Depth	X	X	X	X	X	X	X	X	X	X	X		11
		Specific Conductance	X	X	X	X	X	X	X	X	X	X	X		11
		Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X		11
		ORP	X	X	X	X	X	X	X	X	X	X	X		11
		Temperature	X	X	X	X	X	X	X	X	X	X	X		11
		Turbidity	X	X	X	X	X	X	X	X	X	X	X		11
		Color	X	X	X	X	X	X	X	X	X	X	X		11
	Odor	X	X	X	X	X	X	X	X	X	X	X		11	
	COC #3 - Additional Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X	X	X	X		11
Iron			X	X	X	X	X	X	X	X	X	X	X		11
Magnesium			X	X	X	X	X	X	X	X	X	X	X		11
Manganese			X	X	X	X	X	X	X	X	X	X	X		11
Potassium			X	X	X	X	X	X	X	X	X	X	X		11
Dissolved (Filtered)		Sodium	X	X	X	X	X	X	X	X	X	X	X		11
		Arsenic			X	X									2
		Iron	X	X	X	X	X	X	X	X	X	X	X		11
		Lithium			X				X						2
Field Parameters		Manganese	X	X	X	X	X	X	X	X	X	X	X		11
		Molybdenum	X	X	X	X		X							5
		Sulfide, Field	X	X	X	X	X	X	X	X	X	X	X		11
Field Parameters	Total Iron, Field	X	X	X	X	X	X	X	X	X	X	X		11	
	Ferrous Iron, Field	X	X	X	X	X	X	X	X	X	X	X		11	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-217794-3

Login Number: 217794

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-217794-3

Login Number: 217794

List Number: 2

Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis

List Creation: 10/21/21 01:24 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077

Job ID: 310-217794-3

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
310-217794-1	MW-301	93.8	
310-217794-2	MW-302	97.3	
310-217794-3	MW-303	79.0	
310-217794-4	MW-304	67.3	
310-217794-5	MW-304A	88.3	
310-217794-6	MW-305	99.3	
310-217794-7	MW-306	97.0	
310-217794-8	MW-307	79.3	
310-217794-9	MW-308	92.8	
310-217794-10	MW-309	90.8	
310-217794-11	MW-310	86.3	
310-217794-12	Field Blank	99.3	
LCS 160-533887/1-A	Lab Control Sample	81.0	
LCSD 160-533887/2-A	Lab Control Sample Dup	82.3	
MB 160-533887/23-A	Method Blank	89.8	

Tracer/Carrier Legend
Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-217794-1	MW-301	93.8	89.7
310-217794-2	MW-302	97.3	89.3
310-217794-3	MW-303	79.0	85.6
310-217794-4	MW-304	67.3	89.0
310-217794-5	MW-304A	88.3	88.2
310-217794-6	MW-305	99.3	83.7
310-217794-7	MW-306	97.0	90.1
310-217794-8	MW-307	79.3	84.5
310-217794-9	MW-308	92.8	86.0
310-217794-10	MW-309	90.8	89.3
310-217794-11	MW-310	86.3	89.0
310-217794-12	Field Blank	99.3	55.0
LCS 160-533889/1-A	Lab Control Sample	81.0	90.1
LCSD 160-533889/2-A	Lab Control Sample Dup	82.3	90.8
MB 160-533889/23-A	Method Blank	89.8	89.3

Tracer/Carrier Legend
Ba = Ba
Y = Y Carrier

ANALYTICAL REPORT

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-217794-2
Client Project/Site: ML Kapp 25221077 MNA
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
11/1/2021 2:46:47 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

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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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Case Narrative

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Job ID: 310-217794-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-217794-2

Comments

No additional comments.

Receipt

The samples were received on 10/20/2021 12:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.6° C, 4.3° C, 5.3° C and 5.3° C.

Metals

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

General Chemistry

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

- 1
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Sample Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-217794-1	MW-301	Water	10/19/21 11:05	10/20/21 12:20
310-217794-2	MW-302	Water	10/19/21 09:25	10/20/21 12:20
310-217794-3	MW-303	Water	10/18/21 17:20	10/20/21 12:20
310-217794-4	MW-304	Water	10/18/21 15:15	10/20/21 12:20
310-217794-5	MW-304A	Water	10/18/21 16:30	10/20/21 12:20
310-217794-6	MW-305	Water	10/18/21 13:35	10/20/21 12:20
310-217794-7	MW-306	Water	10/18/21 11:45	10/20/21 12:20
310-217794-8	MW-307	Water	10/19/21 13:45	10/20/21 12:20
310-217794-9	MW-308	Water	10/19/21 16:20	10/20/21 12:20
310-217794-10	MW-309	Water	10/19/21 15:05	10/20/21 12:20
310-217794-11	MW-310	Water	10/19/21 17:46	10/20/21 12:20
310-217794-12	Field Blank	Water	10/19/21 09:45	10/20/21 12:20



Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-301

Lab Sample ID: 310-217794-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1900		100	36	ug/L	1		6020A	Total/NA
Magnesium	33000		500	100	ug/L	1		6020A	Total/NA
Manganese	840		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3200		500	150	ug/L	1		6020A	Total/NA
Sodium	46000		1000	610	ug/L	1		6020A	Total/NA
Iron	250		100	36	ug/L	1		6020A	Dissolved
Manganese	830		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	430		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	240		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	240		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-217794-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	10000		500	100	ug/L	1		6020A	Total/NA
Manganese	290		10	4.4	ug/L	1		6020A	Total/NA
Potassium	9500		500	150	ug/L	1		6020A	Total/NA
Sodium	50000		1000	610	ug/L	1		6020A	Total/NA
Manganese	260		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	200		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	190		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	190		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-217794-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	40000		100	36	ug/L	1		6020A	Total/NA
Magnesium	1700		500	100	ug/L	1		6020A	Total/NA
Manganese	1600		10	4.4	ug/L	1		6020A	Total/NA
Potassium	14000		500	150	ug/L	1		6020A	Total/NA
Sodium	80000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	11		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	130		100	36	ug/L	1		6020A	Dissolved
Lithium	13		10	2.5	ug/L	1		6020A	Dissolved
Manganese	180		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	200		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	69		10	4.6	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	79		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	150		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-217794-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1100		100	36	ug/L	1		6020A	Total/NA
Magnesium	20000		500	100	ug/L	1		6020A	Total/NA
Manganese	460		10	4.4	ug/L	1		6020A	Total/NA
Potassium	10000		500	150	ug/L	1		6020A	Total/NA
Sodium	62000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	2.3		2.0	0.75	ug/L	1		6020A	Dissolved
Manganese	450		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	1200		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	130		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-304 (Continued)

Lab Sample ID: 310-217794-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Alkalinity as CaCO3	130		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304A

Lab Sample ID: 310-217794-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	350		100	36	ug/L	1		6020A	Total/NA
Magnesium	28000		500	100	ug/L	1		6020A	Total/NA
Manganese	660		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1800		500	150	ug/L	1		6020A	Total/NA
Sodium	18000		1000	610	ug/L	1		6020A	Total/NA
Iron	330		100	36	ug/L	1		6020A	Dissolved
Manganese	670		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	430		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	430		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-217794-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2600		100	36	ug/L	1		6020A	Total/NA
Magnesium	21000		500	100	ug/L	1		6020A	Total/NA
Manganese	1100		10	4.4	ug/L	1		6020A	Total/NA
Potassium	11000		500	150	ug/L	1		6020A	Total/NA
Sodium	97000		1000	610	ug/L	1		6020A	Total/NA
Iron	1200		100	36	ug/L	1		6020A	Dissolved
Manganese	1100		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	800		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	170		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	170		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-217794-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	21000		500	100	ug/L	1		6020A	Total/NA
Manganese	560		10	4.4	ug/L	1		6020A	Total/NA
Potassium	13000		500	150	ug/L	1		6020A	Total/NA
Sodium	150000		1000	610	ug/L	1		6020A	Total/NA
Lithium	84		10	2.5	ug/L	1		6020A	Dissolved
Manganese	500		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	300		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-217794-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	620		100	36	ug/L	1		6020A	Total/NA
Magnesium	80000		500	100	ug/L	1		6020A	Total/NA
Manganese	2200		10	4.4	ug/L	1		6020A	Total/NA
Potassium	630		500	150	ug/L	1		6020A	Total/NA
Sodium	14000		1000	610	ug/L	1		6020A	Total/NA
Iron	620		100	36	ug/L	1		6020A	Dissolved
Manganese	2200		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	800		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	800		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	650		100	36	ug/L	1		6020A	Total/NA
Magnesium	53000		500	100	ug/L	1		6020A	Total/NA
Manganese	1100		10	4.4	ug/L	1		6020A	Total/NA
Potassium	800		500	150	ug/L	1		6020A	Total/NA
Sodium	43000		1000	610	ug/L	1		6020A	Total/NA
Iron	370		100	36	ug/L	1		6020A	Dissolved
Manganese	1100		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	470		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	470		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 310-217794-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	23000		100	36	ug/L	1		6020A	Total/NA
Magnesium	41000		500	100	ug/L	1		6020A	Total/NA
Manganese	3700		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3000		500	150	ug/L	1		6020A	Total/NA
Sodium	17000		1000	610	ug/L	1		6020A	Total/NA
Iron	23000		100	36	ug/L	1		6020A	Dissolved
Manganese	3700		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	570		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	570		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	90	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	46000		500	100	ug/L	1		6020A	Total/NA
Manganese	310		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1600		500	150	ug/L	1		6020A	Total/NA
Sodium	71000		1000	610	ug/L	1		6020A	Total/NA
Manganese	300		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	390		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	390		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-301

Lab Sample ID: 310-217794-1

Date Collected: 10/19/21 11:05

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1900		100	36	ug/L		10/22/21 09:00	10/30/21 17:37	1
Magnesium	33000		500	100	ug/L		10/22/21 09:00	10/30/21 17:37	1
Manganese	840		10	4.4	ug/L		10/22/21 09:00	10/30/21 17:37	1
Potassium	3200		500	150	ug/L		10/22/21 09:00	10/30/21 17:37	1
Sodium	46000		1000	610	ug/L		10/22/21 09:00	10/30/21 17:37	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	250		100	36	ug/L		10/22/21 09:00	10/30/21 19:59	1
Manganese	830		10	4.4	ug/L		10/22/21 09:00	10/30/21 19:59	1
Molybdenum	430		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 19:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	240		10	4.6	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	240		10	4.6	mg/L			10/27/21 08:46	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-302

Lab Sample ID: 310-217794-2

Date Collected: 10/19/21 09:25

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 17:41	1
Magnesium	10000		500	100	ug/L		10/22/21 09:00	10/30/21 17:41	1
Manganese	290		10	4.4	ug/L		10/22/21 09:00	10/30/21 17:41	1
Potassium	9500		500	150	ug/L		10/22/21 09:00	10/30/21 17:41	1
Sodium	50000		1000	610	ug/L		10/22/21 09:00	10/30/21 17:41	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 20:03	1
Manganese	260		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:03	1
Molybdenum	200		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 20:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	190		10	4.6	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	190		10	4.6	mg/L			10/27/21 08:46	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-303

Lab Sample ID: 310-217794-3

Date Collected: 10/18/21 17:20

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	40000		100	36	ug/L		10/22/21 09:00	10/30/21 17:58	1
Magnesium	1700		500	100	ug/L		10/22/21 09:00	10/30/21 17:58	1
Manganese	1600		10	4.4	ug/L		10/22/21 09:00	10/30/21 17:58	1
Potassium	14000		500	150	ug/L		10/22/21 09:00	10/30/21 17:58	1
Sodium	80000		1000	610	ug/L		10/22/21 09:00	10/30/21 17:58	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 20:06	1
Iron	130		100	36	ug/L		10/22/21 09:00	10/30/21 20:06	1
Lithium	13		10	2.5	ug/L		10/22/21 09:00	10/30/21 20:06	1
Manganese	180		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:06	1
Molybdenum	200		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 20:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	69		10	4.6	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	79		10	4.6	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	150		10	4.6	mg/L			10/27/21 08:46	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-304

Lab Sample ID: 310-217794-4

Date Collected: 10/18/21 15:15

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1100		100	36	ug/L		10/22/21 09:00	10/30/21 18:04	1
Magnesium	20000		500	100	ug/L		10/22/21 09:00	10/30/21 18:04	1
Manganese	460		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:04	1
Potassium	10000		500	150	ug/L		10/22/21 09:00	10/30/21 18:04	1
Sodium	62000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:04	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.3		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 20:27	1
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 20:27	1
Manganese	450		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:27	1
Molybdenum	1200		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 20:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	130		10	4.6	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	130		10	4.6	mg/L			10/27/21 08:46	1



Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-304A

Lab Sample ID: 310-217794-5

Date Collected: 10/18/21 16:30

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	350		100	36	ug/L		10/22/21 09:00	10/30/21 18:08	1
Magnesium	28000		500	100	ug/L		10/22/21 09:00	10/30/21 18:08	1
Manganese	660		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:08	1
Potassium	1800		500	150	ug/L		10/22/21 09:00	10/30/21 18:08	1
Sodium	18000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:08	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	330		100	36	ug/L		10/22/21 09:00	10/30/21 20:30	1
Manganese	670		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	430		10	4.6	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	430		10	4.6	mg/L			10/27/21 08:46	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-305

Lab Sample ID: 310-217794-6

Date Collected: 10/18/21 13:35

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2600		100	36	ug/L		10/22/21 09:00	10/30/21 18:11	1
Magnesium	21000		500	100	ug/L		10/22/21 09:00	10/30/21 18:11	1
Manganese	1100		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:11	1
Potassium	11000		500	150	ug/L		10/22/21 09:00	10/30/21 18:11	1
Sodium	97000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:11	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1200		100	36	ug/L		10/22/21 09:00	10/30/21 20:33	1
Manganese	1100		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:33	1
Molybdenum	800		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 20:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	170		10	4.6	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	170		10	4.6	mg/L			10/27/21 08:46	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-306

Lab Sample ID: 310-217794-7

Date Collected: 10/18/21 11:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 18:15	1
Magnesium	21000		500	100	ug/L		10/22/21 09:00	10/30/21 18:15	1
Manganese	560		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:15	1
Potassium	13000		500	150	ug/L		10/22/21 09:00	10/30/21 18:15	1
Sodium	150000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:15	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 20:37	1
Lithium	84		10	2.5	ug/L		10/22/21 09:00	10/30/21 20:37	1
Manganese	500		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		10	4.6	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	300		10	4.6	mg/L			10/27/21 08:46	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-307

Lab Sample ID: 310-217794-8

Date Collected: 10/19/21 13:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	620		100	36	ug/L		10/22/21 09:00	10/30/21 18:18	1
Magnesium	80000		500	100	ug/L		10/22/21 09:00	10/30/21 18:18	1
Manganese	2200		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:18	1
Potassium	630		500	150	ug/L		10/22/21 09:00	10/30/21 18:18	1
Sodium	14000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:18	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	620		100	36	ug/L		10/22/21 09:00	10/30/21 20:40	1
Manganese	2200		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	800		10	4.6	mg/L			10/29/21 08:38	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/29/21 08:38	1
Total Alkalinity as CaCO3	800		10	4.6	mg/L			10/29/21 08:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Date Collected: 10/19/21 16:20

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	650		100	36	ug/L		10/22/21 09:00	10/30/21 18:21	1
Magnesium	53000		500	100	ug/L		10/22/21 09:00	10/30/21 18:21	1
Manganese	1100		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:21	1
Potassium	800		500	150	ug/L		10/22/21 09:00	10/30/21 18:21	1
Sodium	43000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:21	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	370		100	36	ug/L		10/22/21 09:00	10/30/21 20:43	1
Manganese	1100		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	470		10	4.6	mg/L			10/29/21 08:38	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/29/21 08:38	1
Total Alkalinity as CaCO3	470		10	4.6	mg/L			10/29/21 08:38	1

Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-309

Lab Sample ID: 310-217794-10

Date Collected: 10/19/21 15:05

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	23000		100	36	ug/L		10/22/21 09:00	10/30/21 18:25	1
Magnesium	41000		500	100	ug/L		10/22/21 09:00	10/30/21 18:25	1
Manganese	3700		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:25	1
Potassium	3000		500	150	ug/L		10/22/21 09:00	10/30/21 18:25	1
Sodium	17000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:25	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	23000		100	36	ug/L		10/22/21 09:00	10/30/21 20:47	1
Manganese	3700		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	570		10	4.6	mg/L			10/29/21 08:38	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/29/21 08:38	1
Total Alkalinity as CaCO3	570		10	4.6	mg/L			10/29/21 08:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Date Collected: 10/19/21 17:46

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	90	J	100	36	ug/L		10/22/21 09:00	10/30/21 18:28	1
Magnesium	46000		500	100	ug/L		10/22/21 09:00	10/30/21 18:28	1
Manganese	310		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:28	1
Potassium	1600		500	150	ug/L		10/22/21 09:00	10/30/21 18:28	1
Sodium	71000		1000	610	ug/L		10/22/21 09:00	10/30/21 18:28	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 20:50	1
Manganese	300		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	390		10	4.6	mg/L			10/29/21 08:38	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			10/29/21 08:38	1
Total Alkalinity as CaCO3	390		10	4.6	mg/L			10/29/21 08:38	1

Client Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

Date Collected: 10/19/21 09:45

Matrix: Water

Date Received: 10/20/21 12:20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 18:45	1
Magnesium	<100		500	100	ug/L		10/22/21 09:00	10/30/21 18:45	1
Manganese	<4.4		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:45	1
Potassium	<150		500	150	ug/L		10/22/21 09:00	10/30/21 18:45	1
Sodium	<610		1000	610	ug/L		10/22/21 09:00	10/30/21 18:45	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 20:53	1
Manganese	<4.4		10	4.4	ug/L		10/22/21 09:00	10/30/21 20:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-332413/1-A
Matrix: Water
Analysis Batch: 333745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332413

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	<100		500	100	ug/L		10/22/21 09:00	10/30/21 16:40	1
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 16:40	1
Potassium	<150		500	150	ug/L		10/22/21 09:00	10/30/21 16:40	1
Manganese	<4.4		10	4.4	ug/L		10/22/21 09:00	10/30/21 16:40	1
Sodium	<610		1000	610	ug/L		10/22/21 09:00	10/30/21 16:40	1

Lab Sample ID: LCS 310-332413/2-A ^10
Matrix: Water
Analysis Batch: 333745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	20000	19600		ug/L		98	80 - 120
Iron	2000	1940		ug/L		97	80 - 120
Potassium	20000	19500		ug/L		97	80 - 120
Manganese	1000	1000		ug/L		100	80 - 120
Sodium	20000	18400		ug/L		92	80 - 120

Lab Sample ID: 310-217794-3 DU
Matrix: Water
Analysis Batch: 333745

Client Sample ID: MW-303
Prep Type: Total/NA
Prep Batch: 332413

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Magnesium	1700		1720		ug/L		0.5	20
Iron	40000		40600		ug/L		0.8	20
Potassium	14000		14600		ug/L		4	20
Manganese	1600		1680		ug/L		2	20
Sodium	80000		79700		ug/L		0.3	20

Lab Sample ID: MB 310-332415/1-A
Matrix: Water
Analysis Batch: 333745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332415

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		10/22/21 09:00	10/30/21 18:59	1
Iron	<36		100	36	ug/L		10/22/21 09:00	10/30/21 18:59	1
Lithium	<2.5		10	2.5	ug/L		10/22/21 09:00	10/30/21 18:59	1
Manganese	<4.4		10	4.4	ug/L		10/22/21 09:00	10/30/21 18:59	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/22/21 09:00	10/30/21 18:59	1

Lab Sample ID: LCS 310-332415/2-A ^10
Matrix: Water
Analysis Batch: 333745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332415

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2110		ug/L		105	80 - 120
Iron	2000	1940		ug/L		97	80 - 120
Lithium	2000	1890		ug/L		95	80 - 120
Manganese	1000	1010		ug/L		101	80 - 120
Molybdenum	2000	1870		ug/L		93	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

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

Lab Sample ID: 310-217794-3 DU
Matrix: Water
Analysis Batch: 333745

Client Sample ID: MW-303
Prep Type: Dissolved
Prep Batch: 332415

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	11		10.9		ug/L		2	20
Iron	130		133		ug/L		1	20
Lithium	13		12.6		ug/L		4	20
Manganese	180		182		ug/L		0	20
Molybdenum	200		198		ug/L		0.6	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-333138/1
Matrix: Water
Analysis Batch: 333138

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1

Lab Sample ID: LCS 310-333138/2
Matrix: Water
Analysis Batch: 333138

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Total Alkalinity as CaCO3	1000	974		mg/L		97	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-333085/1
Matrix: Water
Analysis Batch: 333085

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 08:46	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 08:46	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 08:46	1

Lab Sample ID: LCS 310-333085/2
Matrix: Water
Analysis Batch: 333085

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Total Alkalinity as CaCO3	1000	1090		mg/L		109	90 - 110

Lab Sample ID: MB 310-333450/1
Matrix: Water
Analysis Batch: 333450

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/29/21 08:38	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/29/21 08:38	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/29/21 08:38	1

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QC Sample Results

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 310-333450/2
Matrix: Water
Analysis Batch: 333450

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	987		mg/L		99	90 - 110

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QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Metals

Prep Batch: 332413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	3005A	
310-217794-2	MW-302	Total/NA	Water	3005A	
310-217794-3	MW-303	Total/NA	Water	3005A	
310-217794-4	MW-304	Total/NA	Water	3005A	
310-217794-5	MW-304A	Total/NA	Water	3005A	
310-217794-6	MW-305	Total/NA	Water	3005A	
310-217794-7	MW-306	Total/NA	Water	3005A	
310-217794-8	MW-307	Total/NA	Water	3005A	
310-217794-9	MW-308	Total/NA	Water	3005A	
310-217794-10	MW-309	Total/NA	Water	3005A	
310-217794-11	MW-310	Total/NA	Water	3005A	
310-217794-12	Field Blank	Total/NA	Water	3005A	
MB 310-332413/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-332413/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	
310-217794-3 DU	MW-303	Total/NA	Water	3005A	

Prep Batch: 332415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Dissolved	Water	3005A	
310-217794-2	MW-302	Dissolved	Water	3005A	
310-217794-3	MW-303	Dissolved	Water	3005A	
310-217794-4	MW-304	Dissolved	Water	3005A	
310-217794-5	MW-304A	Dissolved	Water	3005A	
310-217794-6	MW-305	Dissolved	Water	3005A	
310-217794-7	MW-306	Dissolved	Water	3005A	
310-217794-8	MW-307	Dissolved	Water	3005A	
310-217794-9	MW-308	Dissolved	Water	3005A	
310-217794-10	MW-309	Dissolved	Water	3005A	
310-217794-11	MW-310	Dissolved	Water	3005A	
310-217794-12	Field Blank	Dissolved	Water	3005A	
MB 310-332415/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-332415/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	
310-217794-3 DU	MW-303	Dissolved	Water	3005A	

Analysis Batch: 333745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Dissolved	Water	6020A	332415
310-217794-1	MW-301	Total/NA	Water	6020A	332413
310-217794-2	MW-302	Dissolved	Water	6020A	332415
310-217794-2	MW-302	Total/NA	Water	6020A	332413
310-217794-3	MW-303	Dissolved	Water	6020A	332415
310-217794-3	MW-303	Total/NA	Water	6020A	332413
310-217794-4	MW-304	Dissolved	Water	6020A	332415
310-217794-4	MW-304	Total/NA	Water	6020A	332413
310-217794-5	MW-304A	Dissolved	Water	6020A	332415
310-217794-5	MW-304A	Total/NA	Water	6020A	332413
310-217794-6	MW-305	Dissolved	Water	6020A	332415
310-217794-6	MW-305	Total/NA	Water	6020A	332413
310-217794-7	MW-306	Dissolved	Water	6020A	332415
310-217794-7	MW-306	Total/NA	Water	6020A	332413
310-217794-8	MW-307	Dissolved	Water	6020A	332415

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QC Association Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Metals (Continued)

Analysis Batch: 333745 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-8	MW-307	Total/NA	Water	6020A	332413
310-217794-9	MW-308	Dissolved	Water	6020A	332415
310-217794-9	MW-308	Total/NA	Water	6020A	332413
310-217794-10	MW-309	Dissolved	Water	6020A	332415
310-217794-10	MW-309	Total/NA	Water	6020A	332413
310-217794-11	MW-310	Dissolved	Water	6020A	332415
310-217794-11	MW-310	Total/NA	Water	6020A	332413
310-217794-12	Field Blank	Dissolved	Water	6020A	332415
310-217794-12	Field Blank	Total/NA	Water	6020A	332413
MB 310-332413/1-A	Method Blank	Total/NA	Water	6020A	332413
MB 310-332415/1-A	Method Blank	Total/NA	Water	6020A	332415
LCS 310-332413/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	332413
LCS 310-332415/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	332415
310-217794-3 DU	MW-303	Dissolved	Water	6020A	332415
310-217794-3 DU	MW-303	Total/NA	Water	6020A	332413

General Chemistry

Analysis Batch: 333085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-1	MW-301	Total/NA	Water	SM 2320B	
310-217794-2	MW-302	Total/NA	Water	SM 2320B	
310-217794-3	MW-303	Total/NA	Water	SM 2320B	
310-217794-4	MW-304	Total/NA	Water	SM 2320B	
310-217794-5	MW-304A	Total/NA	Water	SM 2320B	
310-217794-6	MW-305	Total/NA	Water	SM 2320B	
310-217794-7	MW-306	Total/NA	Water	SM 2320B	
MB 310-333085/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-333085/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 333138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-12	Field Blank	Total/NA	Water	2320B	
MB 310-333138/1	Method Blank	Total/NA	Water	2320B	
LCS 310-333138/2	Lab Control Sample	Total/NA	Water	2320B	

Analysis Batch: 333450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-217794-8	MW-307	Total/NA	Water	SM 2320B	
310-217794-9	MW-308	Total/NA	Water	SM 2320B	
310-217794-10	MW-309	Total/NA	Water	SM 2320B	
310-217794-11	MW-310	Total/NA	Water	SM 2320B	
MB 310-333450/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-333450/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-301

Lab Sample ID: 310-217794-1

Date Collected: 10/19/21 11:05

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 19:59	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 17:37	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333085	10/27/21 08:46	LBB	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-217794-2

Date Collected: 10/19/21 09:25

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:03	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 17:41	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333085	10/27/21 08:46	LBB	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-217794-3

Date Collected: 10/18/21 17:20

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:06	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 17:58	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333085	10/27/21 08:46	LBB	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-217794-4

Date Collected: 10/18/21 15:15

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:27	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:04	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333085	10/27/21 08:46	LBB	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-304A

Lab Sample ID: 310-217794-5

Date Collected: 10/18/21 16:30

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:30	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:08	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333085	10/27/21 08:46	LBB	TAL CF

Client Sample ID: MW-305

Lab Sample ID: 310-217794-6

Date Collected: 10/18/21 13:35

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:33	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:11	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333085	10/27/21 08:46	LBB	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-217794-7

Date Collected: 10/18/21 11:45

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:37	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:15	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333085	10/27/21 08:46	LBB	TAL CF

Client Sample ID: MW-307

Lab Sample ID: 310-217794-8

Date Collected: 10/19/21 13:45

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:40	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:18	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333450	10/29/21 08:38	WJF	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Client Sample ID: MW-308

Lab Sample ID: 310-217794-9

Date Collected: 10/19/21 16:20

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:43	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:21	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333450	10/29/21 08:38	WJF	TAL CF

Client Sample ID: MW-309

Lab Sample ID: 310-217794-10

Date Collected: 10/19/21 15:05

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:47	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:25	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333450	10/29/21 08:38	WJF	TAL CF

Client Sample ID: MW-310

Lab Sample ID: 310-217794-11

Date Collected: 10/19/21 17:46

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:50	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:28	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333450	10/29/21 08:38	WJF	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-217794-12

Date Collected: 10/19/21 09:45

Matrix: Water

Date Received: 10/20/21 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			332415	10/22/21 09:00	CJT	TAL CF
Dissolved	Analysis	6020A		1	333745	10/30/21 20:53	SAP	TAL CF
Total/NA	Prep	3005A			332413	10/22/21 09:00	CJT	TAL CF
Total/NA	Analysis	6020A		1	333745	10/30/21 18:45	SAP	TAL CF
Total/NA	Analysis	2320B		1	333138	10/27/21 11:44	LBB	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Laboratory: Eurofins TestAmerica, Cedar Falls

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-21

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: SCS Engineers
Project/Site: ML Kapp 25221077 MNA

Job ID: 310-217794-2

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401





Environment Testing
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310-217794 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>Clive</u> STATE <u>IA</u>	Project:	
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp. Blank Temperature → If no temp. blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	CONTAINER 1 <u>250 ml plastic</u>	CONTAINER 2
Uncorrected Temp (°C):	<u>5.3</u>	
Corrected Temp (°C):	<u>5.3</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		





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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Chillicothe</u>	STATE: <u>IA</u>	Project:	
Receipt Information			
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>		
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>4.3</u>		
Corrected Temp (°C):	<u>4.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>CA</u>	STATE: <u>IA</u>	Project:
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <u>250 ml Plastic</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):	<u>3.6</u>	
Corrected Temp (°C):	<u>3.6</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>Chive</u> STATE <u>IA</u>	Project:	
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	CONTAINER 1 <u>750 ml plastic</u>	CONTAINER 2
Uncorrected Temp (°C):	<u>5.3</u>	
Corrected Temp (°C):	<u>5.3</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



Chain of Custody Record

Client Information
 Client Contact: Rosa Cruz
 Phone: 608-504-8245
 E-Mail: sarora.fredrick@eurofinset.com
 Address: 8450 Hickman Road, Suite 27, Cedar Falls, IA 50625
 Project Name: ML Kapp 25221077
 Site: 350W#

Sample Information
 Sample ID: MW-301 to MW-310
 Sample Date: 10-14-21 to 10-19-21
 Sample Time: 11:05 to 17:46
 Sample Type: G (grab)
 Matrix: Water
 Preservation Code: 6

Analysis Requested
 Perform MS/MSD (Yes or No): Yes
 Field Filtered Sample (Yes or No): Yes
 903 0, 904 0
 6020A - Metals (14/Hg)
 2540C Catch, 9056A, ORGFM, 28D, SM4560, H+

Preservation Codes:
 A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - H2SO4, F - NaOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, Other

Special Instructions/Note:
 Not field filtered

Deliverable Requested: Non-Hazard, Flammable, Skin Irritant, Poison B, Unknown, Radiological

Empty Kit Relinquished by: Rosa Cruz
 Date/Time: 10-20-21 17:00
 Company: SCS

Received by: [Signature]
 Date/Time: 10/20/21 1220
 Company: [Blank]

Special Instructions/QC Requirements:
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client, Disposal By Lab, Archive For _____ Months



Client Information Client Contact: <u>Rosa Cruz</u> Phone: <u>608-509-8245</u> Company: <u>SCS Engineers</u>		Lab PW: <u>Frederick, Sandie</u> E-Mail: <u>sandora.frederick@eurofinsnet.com</u>		Carrier Tracking Note: State of Origin:		COC No: <u>310-54563-17093-2</u> Page: <u>Page 2 of 2</u> Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: <u>25221077</u> WC #: <u>31011020</u> Project #: <u>550W#</u>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 903.0.904.0 <u>D</u> <u>X</u> 6020A - Metals (14/Hg) <u>D</u> <u>X</u> 2540C, Calc'd, 9056A, ORGFM, 28D, SM4500, H+		Analysis Requested		Preservation Codes: A - HCL B - NaOH N - Nitric O - AsNaO2 P - Na2S2AS Q - NaHSO4 R - Na2S2O2 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify) Other:	
Sample Identification FIELDBLANK		Sample Date: <u>10-19-21</u> Sample Time: <u>9:45</u> Sample Type (C=comp, G=grab): <u>G</u> Matrix (w/water, solid, or waste): <u>Water</u> Preservation Code: <u>6</u>		Total Number of containers: <u>X</u> Special Instructions/Note:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify):		Special Instructions/QC Requirements:		Method of Shipment:	
Relinquished by: <u>Rosa Cruz</u> Relinquished by: <u>Rosa Cruz</u> Relinquished by:		Date: <u>10-20-21 12:00</u> Company: <u>SCS</u>		Received by: <u>M</u> Received by: <u>10/20/21 1220</u> Received by:		Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Company:	





Environment Testing
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310-217794 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Clive</u>	STATE: <u>IA</u>	Project:	
Receipt Information			
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>		
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp. Blank Temperature → If no temp. blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
• Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250 ml plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>5.3</u>		
Corrected Temp (°C):	<u>5.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Chillicothe</u>	STATE: <u>IA</u>	Project:	
Receipt Information			
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>		
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>4.3</u>		
Corrected Temp (°C):	<u>4.3</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>CA</u>	STATE: <u>IA</u>	Project:
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <u>250 ml Plastic</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):	<u>3.6</u>	
Corrected Temp (°C):	<u>3.6</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		





Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>Chive</u> STATE <u>IA</u>	Project:	
Receipt Information		
Date/Time Received: DATE <u>10/20/2021</u> TIME <u>1220</u>	Received By: <u>TB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>4</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>R</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	CONTAINER 1 <u>750 ml plastic</u>	CONTAINER 2
Uncorrected Temp (°C):	<u>5.3</u>	
Corrected Temp (°C):	<u>5.3</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		

Client Information		Lab PM		Carrier Tracking Info:																																																																																																																																																													
Client Contact	Phone	Frederick, Sandie	Lab No	310-64654-19916	Page																																																																																																																																																												
Company	Address	Frederick, Sandie	State of Origin	Page 1 of 2	Job #																																																																																																																																																												
SCS Engineers	8450 Hickman Road Suite 27	Frederick, Sandie																																																																																																																																																															
City	City	Frederick, Sandie																																																																																																																																																															
State, Zip	State, Zip	Frederick, Sandie																																																																																																																																																															
IA, 50325	IA, 50325	Frederick, Sandie																																																																																																																																																															
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Site	Site	Frederick, Sandie																																																																																																																																																															
ML Kapp 25221077 MINA	ML Kapp 25221077 MINA	Frederick, Sandie																																																																																																																																																															
<p>Analysis Requested</p> <p>Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> N <input type="checkbox"/> D</p> <p>Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> X <input type="checkbox"/> D</p> <p>5020A - Total Metals (5) <input checked="" type="checkbox"/> X <input type="checkbox"/> D</p> <p>5020A - Dissolved Metals (25) <input checked="" type="checkbox"/> X <input type="checkbox"/> D</p> <p>2320B - Alkalinity - Carb/Dicarb <input checked="" type="checkbox"/> X <input type="checkbox"/> D</p> <p>Preservation Codes:</p> <p>A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - H2SO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:</p> <p>M - Heparin N - None O - AshNaO2 P - Na2S4S5 Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - Other (specify)</p>																																																																																																																																																																	
<p>Sample Identification</p> <table border="1"> <thead> <tr> <th>Sample ID</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Preservation Code</th> <th>Matrix (W=water, S=solid, O=soil, D=dust, G=grab, B=biological, T=tissue, A=air)</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>5020A - Total Metals (5)</th> <th>5020A - Dissolved Metals (25)</th> <th>2320B - Alkalinity - Carb/Dicarb</th> <th>Total Number of Containers</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td>MW-301</td> <td>10-19-21</td> <td>11:05</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>MW-302</td> <td>10-19-21</td> <td>9:25</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td>Dissolved Metals</td> </tr> <tr> <td>MW-303</td> <td>10-19-21</td> <td>17:26</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td>are field filtered</td> </tr> <tr> <td>MW-304</td> <td>10-19-21</td> <td>15:15</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>MW-304A</td> <td>10-18-21</td> <td>16:50</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>MW-305</td> <td>10-18-21</td> <td>13:36</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>MW-306</td> <td>10-19-21</td> <td>11:45</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>MW-307</td> <td>10-19-21</td> <td>13:45</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>MW-308</td> <td>10-19-21</td> <td>16:20</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>MW-310</td> <td>10-19-21</td> <td>17:46</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>Field Blank</td> <td>10-19-21</td> <td>9:45</td> <td>G</td> <td></td> <td>Water</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> </tbody> </table>						Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code	Matrix (W=water, S=solid, O=soil, D=dust, G=grab, B=biological, T=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5020A - Total Metals (5)	5020A - Dissolved Metals (25)	2320B - Alkalinity - Carb/Dicarb	Total Number of Containers	Special Instructions/Note:	MW-301	10-19-21	11:05	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			MW-302	10-19-21	9:25	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Dissolved Metals	MW-303	10-19-21	17:26	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		are field filtered	MW-304	10-19-21	15:15	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			MW-304A	10-18-21	16:50	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			MW-305	10-18-21	13:36	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			MW-306	10-19-21	11:45	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			MW-307	10-19-21	13:45	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			MW-308	10-19-21	16:20	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			MW-310	10-19-21	17:46	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Field Blank	10-19-21	9:45	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code	Matrix (W=water, S=solid, O=soil, D=dust, G=grab, B=biological, T=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5020A - Total Metals (5)	5020A - Dissolved Metals (25)	2320B - Alkalinity - Carb/Dicarb	Total Number of Containers	Special Instructions/Note:																																																																																																																																																					
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MW-302	10-19-21	9:25	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Dissolved Metals																																																																																																																																																					
MW-303	10-19-21	17:26	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		are field filtered																																																																																																																																																					
MW-304	10-19-21	15:15	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
MW-304A	10-18-21	16:50	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
MW-305	10-18-21	13:36	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
MW-306	10-19-21	11:45	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
MW-307	10-19-21	13:45	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
MW-308	10-19-21	16:20	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
MW-310	10-19-21	17:46	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
Field Blank	10-19-21	9:45	G		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																																																																																							
<p>Possible Hazard Identification</p> <p><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological</p> <p>Deliverable Requested: I, II, III, IV, Other (specify)</p> <p>Empty Kit Relinquished by</p> <p>Relinquished by <i>Rosa Cruz</i> Date 10-20-21 12:00</p> <p>Relinquished by Company SES</p> <p>Relinquished by Company</p> <p>Relinquished by Company</p> <p>Custody Seal's Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Custody Seal No. <i>1020/21 1200</i></p> <p>Relinquished by <i>M</i> Cooler Temperature: °C and Other Remarks</p>																																																																																																																																																																	
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</p> <p><input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months</p> <p>Special Instructions/QC Requirements</p> <p>Method of Shipment</p> <p>Received by <i>SES</i> Date/Time 10-20-21 12:00</p> <p>Received by <i>Company</i> Date/Time</p> <p>Received by <i>Company</i> Date/Time</p> <p>Received by <i>Company</i> Date/Time</p>																																																																																																																																																																	

Chain of Custody Record



Client Information
 Client Contact: Rosa Cruz
 Company: SCS Engineers
 Address: 8450 Hickman Road Suite 27
 City: Iowa
 State Zip: IA, 50325
 Phone: 2522-1077
 Email: rcruz@scsengineers.com
 Project Name: ML Kapp 2522-1077 MNA
 Site: MW-309

Sampler
 Lab ID: Fredrick_Samilo
 Phone: 20594102
 Email: samilo.fredrick@eurofins.com
 PWSID: 608-509-8245

Due Date Requested:
 IAT Requested (days):
 Compliance Project: Yes No
 PC #: 2522-1077
 WC #:
 Project #: 31011020
 SSOW#:

Sample Identification
 MW-309
 Sample Date: 10-19-21 15:05
 Sample Time: 15:05
 Sample Type (C=Comp, G=grab):
 Preservation Code: Water

Analysis Requested

Perform MS/MSD (Yes or No)	Field Filtered Sample (Yes or No)	2320B - Alkalinity - Carb/Carb	6020A - Total Metals (5)	6020A - Dissolved Metals (2.5)	N	D	D	Special Instructions/Note:
X	X	XX	XX	X				

Preservation Codes
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - HCl-SO4
 F - NaOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDTA
 Other:
 M - Hexam
 N - None
 O - As/AsO2
 P - Na2S4S
 Q - Na2SO3
 R - Na2CO3
 S - H2SO4
 T - TSP Dodecylhydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Z - other (specify)

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify):

Empty Kit Relinquished by:
 Relinquished by: [Signature]
 Relinquished by: [Signature]
 Relinquished by: [Signature]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Method of Shipment:
 Received by: [Signature]
 Date/Time: 10/20/21 17:00
 Company: [Signature]
 Received by: [Signature]
 Date/Time: [Signature]
 Company: [Signature]
 Received by: [Signature]
 Date/Time: [Signature]
 Company: [Signature]

Custody Seal No.:
 Yes No
 Custody Seal Intact: [Signature]
 Cooler Temperature(s) °C and Other Remarks:



Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
 Groundwater Monitoring - M.L. Kapp Ash Pond/ SCS Engineers Project #25220077.00

	Parameter	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	Field Blank	TOTAL	
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (total/unfiltered)	Boron	X	X	X	X	X	X	X	X	X	X	X	X	12
		Calcium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Chloride	X	X	X	X	X	X	X	X	X	X	X	X	12
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	12
		pH	X	X	X	X	X	X	X	X	X	X	X	X	12
		Sulfate	X	X	X	X	X	X	X	X	X	X	X	X	12
	Appendix IV Parameters (total/unfiltered)	TDS	X	X	X	X	X	X	X	X	X	X	X	X	12
		Antimony	X	X	X	X	X	X	X	X	X	X	X	X	12
		Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	12
		Barium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Beryllium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Cadmium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Chromium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Cobalt	X	X	X	X	X	X	X	X	X	X	X	X	12
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	12
		Lead	X	X	X	X	X	X	X	X	X	X	X	X	12
		Lithium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Mercury	X	X	X	X	X	X	X	X	X	X	X	X	12
		Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	12
	Selenium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Thallium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Radium	X	X	X	X	X	X	X	X	X	X	X	X	12	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	X	X	X		11
		pH (field)	X	X	X	X	X	X	X	X	X	X	X		11
		Well Depth	X	X	X	X	X	X	X	X	X	X	X		11
		Specific Conductance	X	X	X	X	X	X	X	X	X	X	X		11
		Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X		11
		ORP	X	X	X	X	X	X	X	X	X	X	X		11
		Temperature	X	X	X	X	X	X	X	X	X	X	X		11
		Turbidity	X	X	X	X	X	X	X	X	X	X	X		11
		Color	X	X	X	X	X	X	X	X	X	X	X		11
	Odor	X	X	X	X	X	X	X	X	X	X	X		11	
	COC #3 - Additional Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X	X	X	X		11
Iron			X	X	X	X	X	X	X	X	X	X	X		11
Magnesium			X	X	X	X	X	X	X	X	X	X	X		11
Manganese			X	X	X	X	X	X	X	X	X	X	X		11
Potassium			X	X	X	X	X	X	X	X	X	X	X		11
Dissolved (Filtered)		Sodium	X	X	X	X	X	X	X	X	X	X	X		11
		Arsenic			X	X									2
		Iron	X	X	X	X	X	X	X	X	X	X	X		11
		Lithium			X				X						2
Field Parameters		Manganese	X	X	X	X	X	X	X	X	X	X	X		11
		Molybdenum	X	X	X	X		X							5
		Sulfide, Field	X	X	X	X	X	X	X	X	X	X	X		11
Field Parameters		Total Iron, Field	X	X	X	X	X	X	X	X	X	X	X		11
	Ferrous Iron, Field	X	X	X	X	X	X	X	X	X	X	X		11	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-217794-2


Login Number: 217794

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Appendix E
Historical Monitoring Results

Single Location

Name: IPL - M.L. Kapp Generating Station

Location ID: MW-301		Number of Sampling Dates: 16															
Parameter Name	Units	3/28/2018	5/22/2018	6/25/2018	7/25/2018	10/5/2018	11/29/2018	1/10/2019	2/13/2019	4/9/2019	10/7/2019	12/10/2019	2/4/2020	4/29/2020	10/22/2020	4/5/2021	10/19/2021
Boron	ug/L	15700	12500	2280	2040	3620	10900	13000	13800	15000	13000	12000	13000	10000	13000	14000	13000
Calcium	mg/L	131	123	105	118	114	121	140	137	150	140	140	110	130	130	130	130
Chloride	mg/L	21.7	24.3	67.1	75.5	63.5	32.1	23	25.6	21	28	37	37	48	50	51	53
Field pH	Std. Units	6.83	6.94	7.25	8.39	7.05	6.79	6.95	6.52	6.66	6.28	6.38	6.54	7.08	6.7	6.52	6.69
Fluoride	mg/L	0.32	0.25	0.23	0.22	0.3	0.25	0.22	0.23	<0.23	0.32	<0.23	--	0.35	<0.23	0.39	<0.28
Sulfate	mg/L	475	456	61	54.3	130	306	418	450	360	350	320	360	250	310	250	310
Total Dissolved Solids	mg/L	776	833	567	611	608	762	892	826	820	840	760	790	720	820	690	630
Antimony	ug/L	0.092	<0.15	<0.15	0.21	0.1	<0.078	0.17	0.086	--	--	<2.1	--	<0.58	--	<1.1	<1.1
Arsenic	ug/L	0.66	0.82	0.67	1	0.99	1.2	0.94	0.76	--	--	<0.75	<0.88	0.95	<3.5	<0.75	1.7
Barium	ug/L	72.9	116	167	193	165	208	149	119	--	--	120	72	140	76	79	77
Beryllium	ug/L	<0.012	<0.12	<0.12	0.13	<0.089	<0.089	<0.089	<0.089	--	--	<0.27	--	<0.27	--	<0.27	<0.27
Cadmium	ug/L	0.14	0.13	<0.07	0.16	0.05	0.044	0.11	0.15	--	--	0.1	0.11	0.095	0.28	0.44	0.22
Chromium	ug/L	0.24	0.32	0.25	0.3	0.13	0.58	0.35	0.14	--	--	<0.98	--	<1.1	--	<1.1	<1.1
Cobalt	ug/L	3.3	1.7	0.17	0.29	0.22	2	3.6	4.7	--	--	5.2	4.5	3.5	4.4	4.6	5.1
Lead	ug/L	0.059	0.12	<0.12	0.28	<0.13	<0.13	<0.13	<0.13	--	--	<0.27	<0.27	<0.27	<0.44	<0.21	0.48
Lithium	ug/L	9.7	<4.6	6.5	6.1	5.8	10.1	4.9	8.7	--	--	<11	4.4	7.4	<10	6.9	5.8
Mercury	ug/L	<0.09	<0.09	<0.09	<0.09	0.15	<0.09	<0.09	<0.037	--	--	<0.1	--	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	345	251	33.1	31.1	42.8	237	294	242	--	--	310	300	250	510	430	430
Selenium	ug/L	<0.086	<0.16	<0.16	0.23	0.086	<0.085	0.12	<0.085	--	--	<1	<1	<1	--	<0.96	1.4
Thallium	ug/L	<0.036	<0.14	<0.14	0.19	<0.099	<0.099	<0.099	<0.099	--	--	<0.27	--	<0.26	--	<0.26	0.29
Total Radium	pCi/L	1.19	0.872	0.813	1.18	1.31	1.67	1.99	0.966	--	--	0.321	0.413	0.538	0.388	0.414	0.861
Radium-226	pCi/L	0.676	0.573	0.481	0.589	0.281	0.973	1.01	0.39	--	--	0.0849	0.187	0.156	0.0134	0.192	<0.368
Radium-228	pCi/L	0.514	0.299	0.332	0.587	1.03	0.701	0.978	0.576	--	--	0.236	0.226	0.382	0.374	0.222	0.732
Field Specific Conductance	umhos/cm	930	1060	902	953	780	690	725	938	1139	1058	1026	1054	1069	979	991	1012
Field Temperature	deg C	11.1	11.3	13	13.3	13.8	13.57	12.65	11.5	11.2	13.96	11.7	10.92	10.5	14.6	12.7	15.4
Groundwater Elevation	feet	577.65	579.2	578.57	577.83	580.04	577.55	577.36	577.23	585.25	580.97	577.39	578.07	578.76	577.42	577.3	576.35
Turbidity	NTU	0.73	3.16	4.13	9.4	3.94	0.91	1.75	6.68	20	2.97	5.02	3.15	9.87	3.84	4.5	57
Collected By		--	0	0	0	--	--	--	0	--	--	--	--	--	--	--	--
Collected Date		--	--	--	7	--	--	--	2	--	--	--	--	--	--	--	--
Collected Time		--	--	--	14	--	--	--	12	--	--	--	--	--	--	--	--
Field Oxidation Potential	millivolts	-8.8	-106	-153	-180	-110	-89.7	0	-33.2 mV	-19.4	-39.5	-42.3	-4.2	-44.1	-19.6	49.4	107.4
Oxygen, Dissolved	mg/L	0.2	0.27	0.47	0.09	0.18	0.22	0.2	0.09	0.09	0.37	0.48	0.56	0.13	0.1	0.2	0.42
pH at 25 Degrees C	Std. Units	7.1	6.8	7	7	7	7	6.6	6.8	6.8	6.8	6.9	7	7.2	7.5	--	6.7
pH	Std. Units	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	220	240
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<2.3	<4.6
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	670	250
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1000	1900
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33000	33000
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	750	830
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	750	840
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	430	430
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3300	3200
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46000	46000
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	220	240

Single Location

Name: IPL - M.L. Kapp Generating Station

Location ID: MW-304A				
Number of Sampling Dates: 3				
Parameter Name	Units	2/22/2021	4/5/2021	10/18/2021
Boron	ug/L	380	490	470
Calcium	mg/L	87	89	85
Chloride	mg/L	9.7	11	11
Field pH	Std. Units	7.08	6.99	7.09
Fluoride	mg/L	<0.28	<0.28	<0.28
Sulfate	mg/L	65	64	72
Total Dissolved Solids	mg/L	390	390	350
Antimony	ug/L	<1.1	<1.1	<1.1
Arsenic	ug/L	2.7	1.8	1.7
Barium	ug/L	150	140	110
Beryllium	ug/L	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.051	<0.051	<0.051
Chromium	ug/L	3.1	<1.1	<1.1
Cobalt	ug/L	1.3	0.54	0.35
Lead	ug/L	1.1	0.24	<0.21
Lithium	ug/L	3.9	2.5	<2.5
Mercury	ug/L	<0.15	<0.15	<0.15
Molybdenum	ug/L	3.1	17	6
Selenium	ug/L	<0.96	<0.96	<0.96
Thallium	ug/L	<0.26	<0.26	<0.26
Total Radium	pCi/L	1.02	0.747	0.773
Radium-226	pCi/L	0.291	0.175	<0.402
Radium-228	pCi/L	0.727	0.572	0.636
Field Specific Conductance	umhos/cm	628.1	650	654
Field Temperature	deg C	12.1	12.6	13.2
Groundwater Elevation	feet	573.91	577.35	573.41
Turbidity	NTU	33.1	2.31	9.6
Field Oxidation Potential	millivolts	-153.5	-11.2	10.2
Oxygen, Dissolved	mg/L	0.23	0.45	0.15
pH at 25 Degrees C	Std. Units	7.4	--	7.3
pH	Std. Units	--	7.4	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	300	430
Carbonate Alkalinity as CaCO3	mg/L	--	<4.6	<4.6
Iron, dissolved	ug/L	--	330	330
Iron, total	ug/L	--	530	350
Magnesium, total	ug/L	--	30000	28000
Manganese, dissolved	ug/L	--	680	670
Manganese, total	ug/L	--	680	660
Potassium, total	ug/L	--	2300	1800
Sodium, total	ug/L	--	13000	18000
Total Alkalinity as CaCO3	mg/L	--	300	430

Single Location

Name: IPL - M.L. Kapp Generating Station

Location ID: MW-307		Number of Sampling Dates: 8								
Parameter Name	Units	7/7/2020	8/7/2020	10/22/2020	2/22/2021	4/5/2021	6/17/2021	7/22/2021	10/19/2021	
Boron	ug/L	280	<80	130	<58	<230	<58	<58	<58	
Calcium	mg/L	260	260	230	230	230	210	240	200	
Chloride	mg/L	53	55	52	53	63	77	82	71	
Field pH	Std. Units	6.57	7.45	6.63	6.58	6.64	6.66	7.71	6.63	
Fluoride	mg/L	<0.23	<0.23	<0.23	<0.28	<0.28	<0.28	<0.28	<0.28	
Sulfate	mg/L	15	17	21	19	19	19	18	22	
Total Dissolved Solids	mg/L	1100	980	940	860	930	750	710	770	
Antimony	ug/L	<0.51	<0.51	--	<1.1	<1.1	<1.1	<1.1	<1.1	
Arsenic	ug/L	1.7	1.1	0.92	<0.75	0.96	<0.75	0.98	0.99	
Barium	ug/L	320	330	330	310	310	310	290	330	
Beryllium	ug/L	<0.27	<0.27	--	<0.27	<0.27	<0.27	<0.27	<0.27	
Cadmium	ug/L	0.098	0.13	0.13	0.21	<0.2	0.11	0.083	0.085	
Chromium	ug/L	<1.1	<1.1	--	<1.1	<1.1	<1.1	<1.1	<1.1	
Cobalt	ug/L	6.3	1.9	2.4	3	3.4	3.1	1.6	4.8	
Lead	ug/L	0.12	<0.11	<0.11	<0.21	<0.21	<0.21	<0.21	<0.21	
Lithium	ug/L	<2.5	<2.5	3	3.3	2.5	<2.5	<2.5	4.8	
Mercury	ug/L	<0.1	<0.1	--	<0.15	<0.15	<0.15	<0.15	<0.15	
Molybdenum	ug/L	2.5	<1.1	<1.1	<1.3	3.4	<1.3	<1.3	<1.3	
Selenium	ug/L	<1	<1	--	<0.96	<0.96	<0.96	<0.96	<0.96	
Thallium	ug/L	<0.26	<0.26	--	<0.26	<0.26	<0.26	<0.26	<0.26	
Total Radium	pCi/L	0.841	0.666	0.623	3.46	0.54	0.629	0.238	1.46	
Radium-226	pCi/L	0.381	0.21	0.177	3.28	0.227	0.331	0.111	1.2	
Radium-228	pCi/L	0.461	0.455	0.447	0.18	0.313	0.298	0.127	<0.912	
Field Specific Conductance	umhos/cm	1911	1759	1590	1563	1627	1565	1712	1501	
Field Temperature	deg C	14.2	15.6	15.7	12.46	10.3	--	--	15.3	
Groundwater Elevation	feet	593.85	593.06	592.77	592.12	594.32	593.33	592.65	590.84	
Turbidity	NTU	3.5	6.61	2.68	0	0.77	0.71	0	13.1	
Field Oxidation Potential	millivolts	-0.4	31.8	22.4	55.4	62.7	90	69.5	50.4	
Oxygen, Dissolved	mg/L	0.39	0.13	0.09	0.2	0.17	0.2	0.74	1.15	
pH at 25 Degrees C	Std. Units	6.7	6.9	7.4	7.7	--	--	--	6.7	
pH	Std. Units	--	--	--	--	6.9	7	6.7	--	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	930	--	860	800	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	<4.6	--	<4.2	<4.6	
Iron, dissolved	ug/L	--	--	--	--	460	--	85	620	
Iron, total	ug/L	--	--	--	--	460	--	65	620	
Magnesium, total	ug/L	--	--	--	--	97000	--	92000	80000	
Manganese, dissolved	ug/L	--	--	--	--	3000	--	1000	2200	
Manganese, total	ug/L	--	--	--	--	3000	--	1100	2200	
Potassium, total	ug/L	--	--	--	--	430	--	320	630	
Sodium, total	ug/L	--	--	--	--	16000	--	17000	14000	
Total Alkalinity as CaCO3	mg/L	--	--	--	--	930	--	860	800	
Temperature	deg C	--	--	--	--	--	12.4	16	--	

Single Location

Name: IPL - M.L. Kapp Generating Station

Location ID: MW-308			
Number of Sampling Dates: 2			
Parameter Name	Units	6/17/2021	10/19/2021
Boron	ug/L	400	460
Calcium	mg/L	84	92
Chloride	mg/L	33	36
Field pH	Std. Units	6.51	6.52
Fluoride	mg/L	<0.28	<0.28
Sulfate	mg/L	74	86
Total Dissolved Solids	mg/L	530	470
Antimony	ug/L	<1.1	<1.1
Arsenic	ug/L	<0.75	<0.75
Barium	ug/L	92	77
Beryllium	ug/L	<0.27	<0.27
Cadmium	ug/L	0.14	0.052
Chromium	ug/L	<1.1	<1.1
Cobalt	ug/L	1.3	1.2
Lead	ug/L	0.46	<0.21
Lithium	ug/L	<2.5	<2.5
Mercury	ug/L	<0.15	<0.15
Molybdenum	ug/L	<1.3	<1.3
Selenium	ug/L	<0.96	<0.96
Thallium	ug/L	<0.26	<0.26
Total Radium	pCi/L	0.893	1.1
Radium-226	pCi/L	0.245	0.858
Radium-228	pCi/L	0.648	<0.463
Field Specific Conductance	umhos/cm	863	959
Field Temperature	deg C	--	16.2
Groundwater Elevation	feet	576.05	573.43
Turbidity	NTU	48.2	22.7
Field Oxidation Potential	millivolts	101	61.8
Oxygen, Dissolved	mg/L	0.3	1.06
pH at 25 Degrees C	Std. Units	--	6.7
pH	Std. Units	6.7	--
Bicarbonate Alkalinity as CaCO3	mg/L	420	470
Carbonate Alkalinity as CaCO3	mg/L	<4.6	<4.6
Iron, dissolved	ug/L	340	370
Iron, total	ug/L	940	650
Magnesium, total	ug/L	52000	53000
Manganese, dissolved	ug/L	970	1100
Manganese, total	ug/L	990	1100
Molybdenum, dissolved	ug/L	<1.3	--
Potassium, total	ug/L	1100	800
Sodium, total	ug/L	42000	43000
Total Alkalinity as CaCO3	mg/L	420	470
Temperature	deg C	12.1	--
Lithium, dissolved	ug/L	<2.5	--


Single Location

Name: IPL - M.L. Kapp Generating Station

Location ID: MW-309			
Number of Sampling Dates: 2			
Parameter Name	Units	6/17/2021	10/19/2021
Boron	ug/L	480	550
Calcium	mg/L	140	170
Chloride	mg/L	39	47
Field pH	Std. Units	6.79	6.87
Fluoride	mg/L	0.34	<0.28
Sulfate	mg/L	<2.5	<2.5
Total Dissolved Solids	mg/L	460	580
Antimony	ug/L	<1.1	<1.1
Arsenic	ug/L	0.84	1.4
Barium	ug/L	210	180
Beryllium	ug/L	<0.27	<0.27
Cadmium	ug/L	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1
Cobalt	ug/L	0.91	0.6
Lead	ug/L	0.34	<0.21
Lithium	ug/L	<2.5	<2.5
Mercury	ug/L	<0.15	<0.15
Molybdenum	ug/L	<1.3	<1.3
Selenium	ug/L	<0.96	<0.96
Thallium	ug/L	<0.26	<0.26
Total Radium	pCi/L	1.64	2.17
Radium-226	pCi/L	0.578	1.02
Radium-228	pCi/L	1.07	1.15
Field Specific Conductance	umhos/cm	961	1192
Field Temperature	deg C	--	19
Groundwater Elevation	feet	571.84	571.64
Turbidity	NTU	47.2	27.3
Field Oxidation Potential	millivolts	-91	124
Oxygen, Dissolved	mg/L	0.3	0.16
pH at 25 Degrees C	Std. Units	--	6.9
pH	Std. Units	6.9	--
Bicarbonate Alkalinity as CaCO3	mg/L	520	570
Carbonate Alkalinity as CaCO3	mg/L	<4.6	<4.6
Iron, dissolved	ug/L	16000	23000
Iron, total	ug/L	16000	23000
Magnesium, total	ug/L	37000	41000
Manganese, dissolved	ug/L	3100	3700
Manganese, total	ug/L	3100	3700
Molybdenum, dissolved	ug/L	<1.3	--
Potassium, total	ug/L	3200	3000
Sodium, total	ug/L	10000	17000
Total Alkalinity as CaCO3	mg/L	520	570
Temperature	deg C	18	--
Lithium, dissolved	ug/L	<2.5	--

Single Location**Name: IPL - M.L. Kapp Generating Station**

Location ID: MW-310			
Number of Sampling Dates: 2			
Parameter Name	Units	10/5/2021	10/19/2021
Boron	ug/L	1000	1100
Calcium	mg/L	100	110
Chloride	mg/L	81	83
Field pH	Std. Units	7.2	7.17
Fluoride	mg/L	<0.28	<0.28
Sulfate	mg/L	120	120
Total Dissolved Solids	mg/L	640	610
Antimony	ug/L	<1.1	<1.1
Arsenic	ug/L	<0.75	<0.75
Barium	ug/L	110	96
Beryllium	ug/L	<0.27	<0.27
Cadmium	ug/L	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1
Cobalt	ug/L	0.67	0.68
Lead	ug/L	<0.21	<0.21
Lithium	ug/L	4	3
Mercury	ug/L	<0.15	<0.15
Molybdenum	ug/L	2	<1.3
Selenium	ug/L	<0.96	<0.96
Thallium	ug/L	<0.26	<0.26
Total Radium	pCi/L	1.08	0.783
Radium-226	pCi/L	<0.445	0.471
Radium-228	pCi/L	0.878	<0.458
Field Specific Conductance	umhos/cm	1141	1150
Field Temperature	deg C	14.3	13.9
Groundwater Elevation	feet	--	0
Turbidity	NTU	2.74	20.8
Field Oxidation Potential	millivolts	53.7	83.5
Oxygen, Dissolved	mg/L	1.52	0.28
pH at 25 Degrees C	Std. Units	7.3	7.3
Bicarbonate Alkalinity as CaCO3	mg/L	--	390
Carbonate Alkalinity as CaCO3	mg/L	--	<4.6
Iron, dissolved	ug/L	--	<36
Iron, total	ug/L	--	90
Magnesium, total	ug/L	--	46000
Manganese, dissolved	ug/L	--	300
Manganese, total	ug/L	--	310
Potassium, total	ug/L	--	1600
Sodium, total	ug/L	--	71000
Total Alkalinity as CaCO3	mg/L	--	390



Appendix F
Statistical Evaluation

F1 April 2021 Monitoring Event Evaluation

August 5, 2021
File No. 25221077.00

TECHNICAL MEMORANDUM

SUBJECT: Statistical Evaluation of Groundwater Monitoring Results – UPL Calculation for Background Well MW-307
M. L. Kapp Generating Station

PREPARED BY: Nicole Kron and Ryan Matzuk

CHECKED BY: Sherren Clark

STATISTICAL METHODS

Groundwater monitoring data for the multiunit system at the M.L. Kapp Generating Station (KAP), is evaluated in accordance with 40 CFR 257.93(f)(3) for detection monitoring parameters, using a prediction interval procedure, in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper prediction limit.

For assessment monitoring parameters, groundwater monitoring data is evaluated by comparing the lower confidence limit (LCL) for the arithmetic mean of the monitoring results to the Groundwater Protection Standard (GPS) established in accordance with 40 CFR 257.95(h).

Statistical evaluation is performed using commercially available software (*Sanitas for Groundwater*® or similar) in general accordance with the USEPA's *Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities* dated March 2009 (Unified Guidance) (USEPA, 2009) and generally accepted procedures.

As of April 2021, the KAP monitoring system included background monitoring well MW-307, six compliance monitoring wells installed at the waste boundary (MW-301, MW-302, MW-303, MW-304, MW-305, and MW-306), and one downgradient delineation well (MW-304A). The statistical analysis includes an interwell evaluation for the Appendix III and IV parameters. Because the site is already in assessment monitoring and in the process of selecting a remedy, the purposes of the UPL analysis are to provide a basis for comparison of downgradient water quality to background and to establish a GPS for any parameter where background water quality exceeds the GPS values in 40 CFR 257.95(h)(1) and (2).

BACKGROUND UPDATE

Additional upgradient monitoring well MW-307 was installed in April 2020 because the analytical results to date for the on-site upgradient well (MW-306) suggested that this well may not represent natural background groundwater conditions at the site. As part of the evaluation of the April 2021 monitoring results, the background data set for the UPL calculations is being updated to include data



from new background well MW-307 collected through April 2021 (minimum of 4 rounds for each parameter). The UPLs will be updated again following completion of 8 rounds of background monitoring at MW-307. This memo addresses updated UPLs for Appendix III and IV parameters. UPLs were previously calculated based on on-site background well MW-306, but this well will be evaluated as a compliance well going forward.

TIME SERIES PLOTS

Time series plots are prepared for the required monitoring parameters to show the concentration variations over time. Time series graphs are included in **Attachment 1**.

OUTLIER ANALYSIS - INTERWELL

For interwell analysis, an outlier evaluation is performed for background monitoring results at the upgradient wells. A statistical outlier is a value that is extremely different from the other values in the data set. The Sanitas outlier tests identify data points that do not appear to fit the distribution of the rest of the data set and determine if they differ significantly from the rest of the data. The outlier analysis performed in Sanitas includes the following steps:

- 1) Run normality test (Shapiro Wilk/Francia).
- 2) If normally distributed, run USEPA's 1989 Outlier Test to identify suspected outliers.
 - a) If number of background samples is less than or equal to 25, run Dixon's test for suspected outliers.
 - b) If number of background samples is more than 25, run Rosner's test for suspected outliers.
- 3) If not normally distributed, run Tukey's test for outliers.
- 4) Review data flagged as possible outliers to evaluate whether they should be removed from the background data set. Also review time series plots for possible outliers that were not picked up in the statistical evaluation (e.g., outlier test may not identify outliers when two values are similar to each other, but very different from all other data).

Results identified as statistical outliers are checked for possible lab instrument failure, field collection problems, or data entry errors; however, outliers may exist naturally in the data if there is an extremely wide inherent or temporal variability in the data. The Unified Guidance states that unless a likely error can be identified, the outlier should not be removed.

For the interwell evaluation of the April 2021 sampling event, the following background values were identified as potential outliers and handled as described:

- **Chloride (MW-307)**. One high result from the April 2021 event was flagged as a statistical outlier. This result was not removed from the dataset because there was no known explanation for the higher result, it was only slightly higher than the other background results (63 mg/L vs. 52-55 mg/L) and it appeared to be within the range of potential natural variation .
- **Field pH (MW-307)**. One high result from the August 2020 event was flagged as a statistical outlier. This result was not removed from the dataset because there was no known

explanation for the higher result and it appeared to be within the range of potential natural variation relative to other observed Field pH measurements.

- **Total Radium (MW-307).** One high result from the February 2021 event was flagged as a statistical outlier. This result was not removed from the dataset because there was no known explanation for the higher result and similar variability has been observed in total radium results for other wells in the sampling program in other sampling events.

Outlier analysis results are included in **Attachment 2**. The potential outliers will be reevaluated when the statistical analysis is updated following completion of 8 rounds of background monitoring at MW-307.

INTERWELL PREDICTION LIMITS

Interwell prediction limits were calculated using background data from the upgradient monitoring well (MW-307) for each monitored constituent, with outliers evaluated for removal as noted above. Groundwater results from July 2020 through April 2021 were included to calculate the interwell prediction limits. The prediction limit analysis performed in Sanitas includes the following steps:

- 1) If 100% of the background values are non-detect, the Double Quantification rule applies and no prediction limit is calculated.
- 2) If more than 50% of results are non-detect, then a non-parametric prediction limit is calculated.
- 3) If 50% or fewer of the results are non-detect, run normality test (Shapiro Wilk/Francia) to assess whether the data fit a normal distribution or can be transformed to fit a normal distribution (e.g., lognormal).
- 4) If normal or transformed normal, calculate parametric prediction limit.
- 5) If not normal or transformed normal, calculate non-parametric prediction limit.

Consistent with the Unified Guidance, parametric prediction limits are calculated based on a 1-of-2 retesting protocol and a 10 percent site-wide false positive rate. Sanitas establishes the per-test significance level based on user inputs of the number of events per year, number of constituents being evaluated, and number of compliance wells. For the April 2021 event, the following values were used:

Parameter	Value	Comments
Evaluations per year	2	Spring and Fall events
Constituents analyzed	14	Total of 21 constituents analyzed, but antimony, beryllium, chromium, fluoride, mercury, selenium, and thallium were not counted because all background results were non-detect. Double Quantification Rule will apply for these parameters.
Compliance wells	6	

TECHNICAL MEMORANDUM

August 5, 2021

Page 4

Non-parametric prediction limits are also based on a 1-of-2 retesting protocol. The non-parametric limit is the highest value in the background dataset. Due to the small sample size, the false positive rate for the non-parametric tests is higher than for the parametric tests, but will go down as more background data are obtained.

For results with 100 percent non-detects in the background data (listed in table above), evaluation under the Double Quantification Rule means that a statistically significant increase (SSI) has not occurred for a compliance well unless two sample results from the well exceed the laboratory's reporting limit or quantification limit.

For evaluation of parameters with less than 100 percent non-detects in the background sampling, the non-detects were adjusted using the Kaplan-Meier technique, unless the non-detects represent less than 15 percent of the total samples, in which case one-half of the detection limit was used.

Interwell prediction limit analysis results are included in **Attachment 3**.

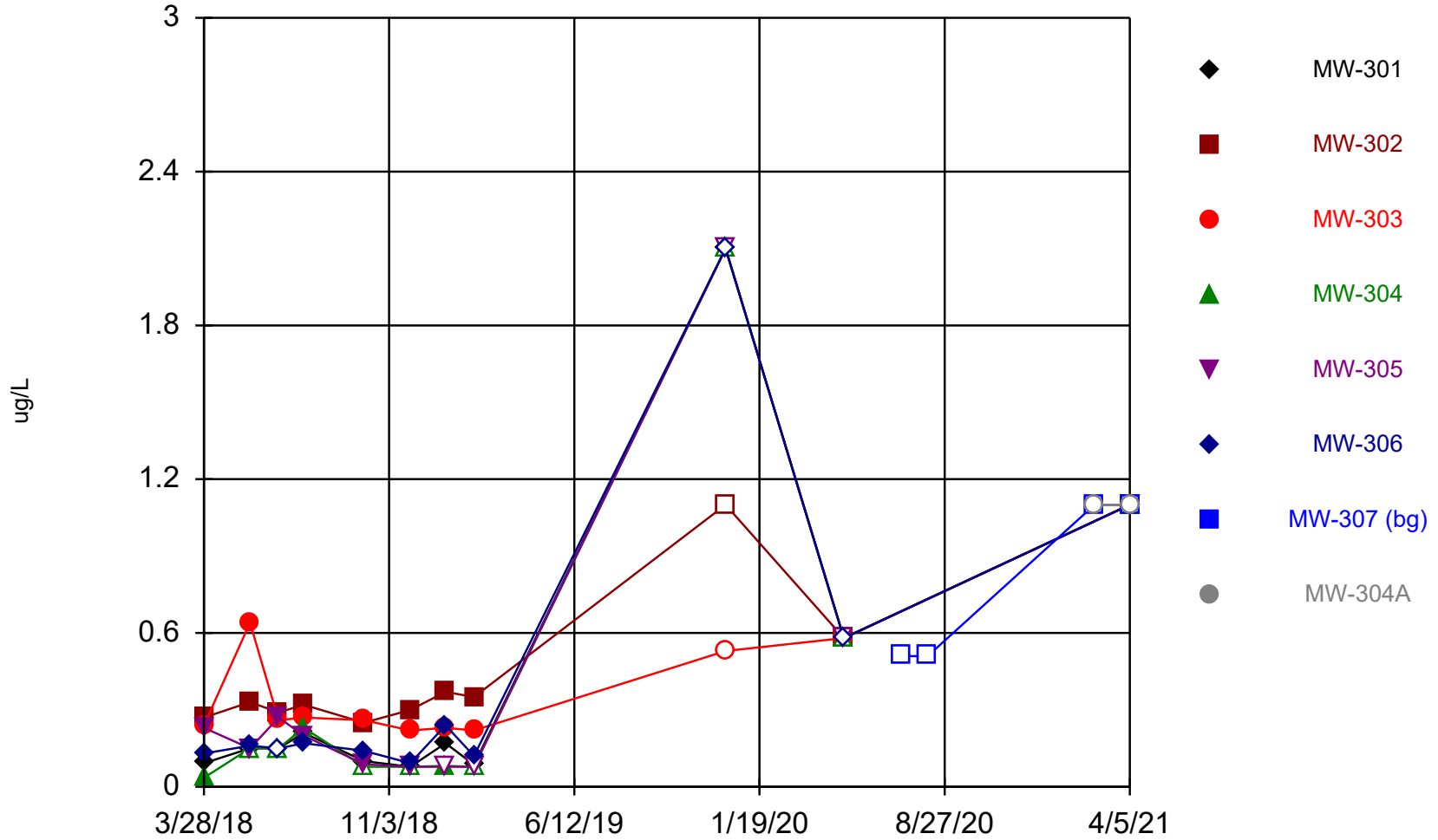
NDK/RM/SCC

I:\25221077.00\Data and Calculations\Sanitas\KAP - CCR Stats Memo.docx

Attachment 1

Times Series Graphs

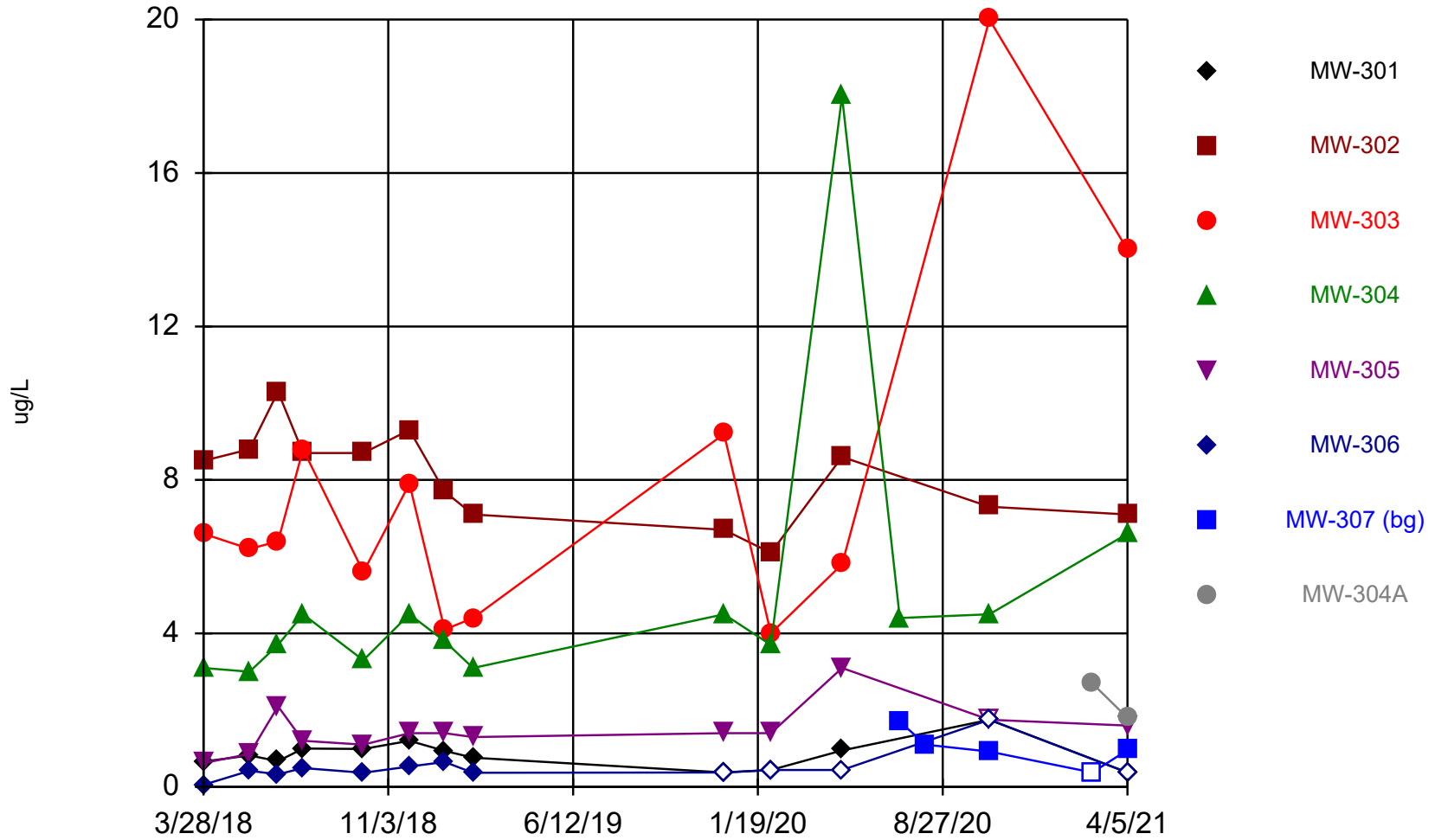
Antimony



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Arsenic



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Time Series

Constituent: Arsenic (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	0.66 (J)	8.5	6.6	3.1	0.62 (J)	0.054 (J)		
5/22/2018	0.82 (J)	8.8	6.2	3	0.86 (J)	0.42 (J)		
6/25/2018	0.67 (J)	10.3	6.4	3.7	2.1	0.33 (J)		
7/25/2018	1 (J)	8.7	8.8	4.5	1.2	0.49 (J)		
10/5/2018	0.99 (J)	8.7	5.6	3.3	1.1	0.37 (J)		
11/29/2018	1.2	9.3	7.9	4.5	1.4	0.53 (J)		
1/10/2019	0.94 (J)	7.7	4.1	3.8	1.4	0.65 (J)		
2/13/2019	0.76 (J)	7.1	4.4	3.1	1.3	0.37 (J)		
12/10/2019	<0.75 (U)	6.7	9.2	4.5	1.4 (J)	<0.75 (U)		
2/4/2020	<0.88 (U)	6.1	4	3.7	1.4 (J)	<0.88 (U)		
4/29/2020	0.95 (J)	8.6	5.8	18	3.1	<0.88 (U)		
7/7/2020				4.4			1.7 (J)	
8/7/2020							1.1 (J)	
10/22/2020	<3.5 (U)	7.3	20	4.5 (J)	<3.5 (U)	<3.5 (U)	0.92 (J)	
2/22/2021							<0.75 (U)	2.7
4/5/2021	<0.75 (U)	7.1	14	6.6	1.6 (J)	<0.75 (U)	0.96 (J)	1.8 (J)

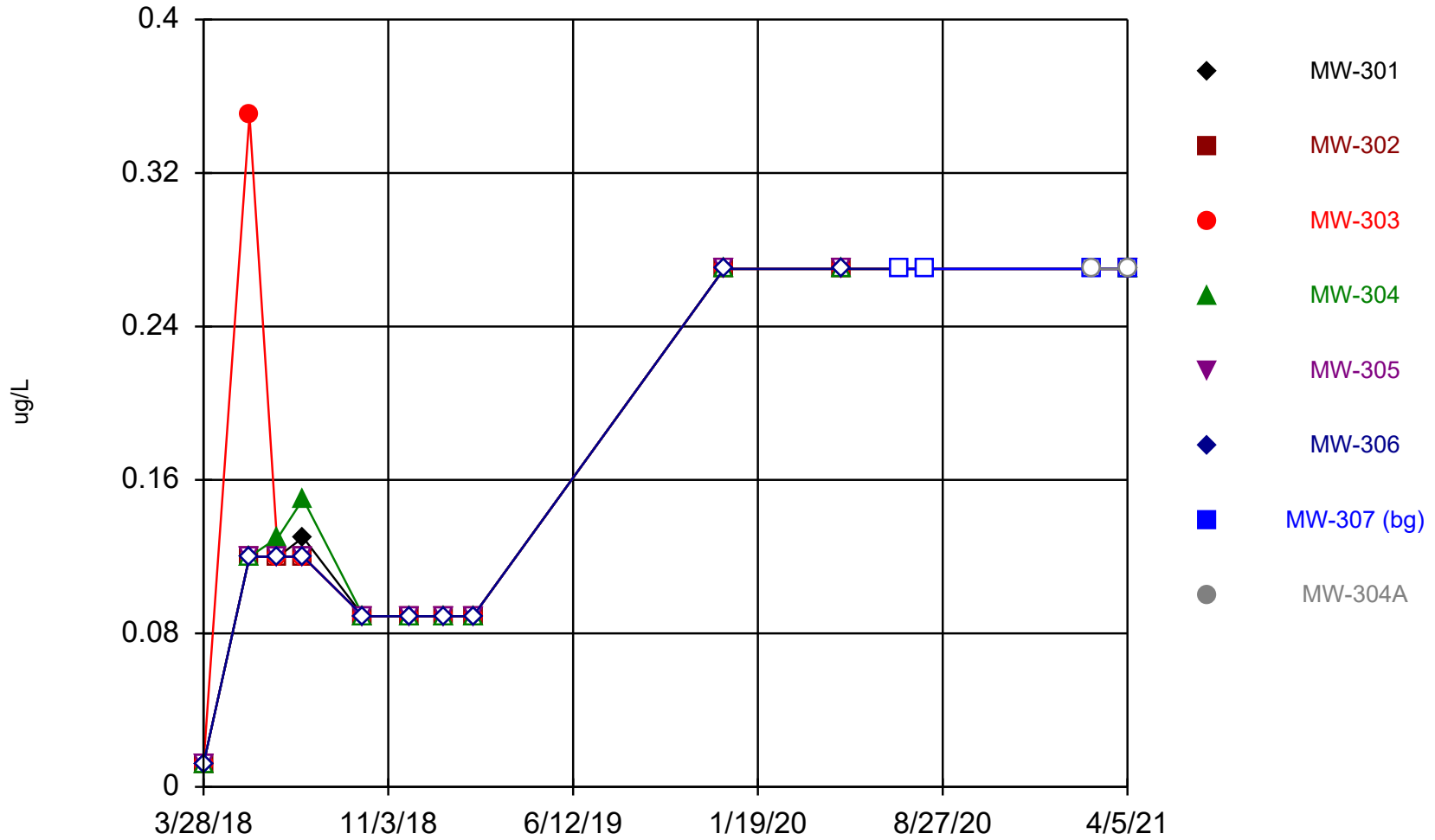
Time Series

Constituent: Barium (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	72.9	41.6	28.5	59.4	83.9	53.6		
5/22/2018	116	60.4	25.7	39.1	81.7	56.8		
6/25/2018	167	43.4	35.8	55.7	89.5	55.5		
7/25/2018	193	50.1	21.7	60.2	61	53.8		
10/5/2018	165	42.3	39	47.7	78.6	51.1		
11/29/2018	208	47.1	44.2	73.3	95.9	54.7		
1/10/2019	149	55.7	64	78.1	97.8	57.9		
2/13/2019	119	63.1	53.8	64.6	92.6	55.9		
12/10/2019	120	80	47	86	92	49		
2/4/2020	72	58	48	78	90	53		
4/29/2020	140	66	96	420	120	59		
7/7/2020							320	
8/7/2020							330	
10/22/2020	76	63	52	95	100	71	330	
2/22/2021							310	150
4/5/2021	79	92	81	180	100	84	310	140

Beryllium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

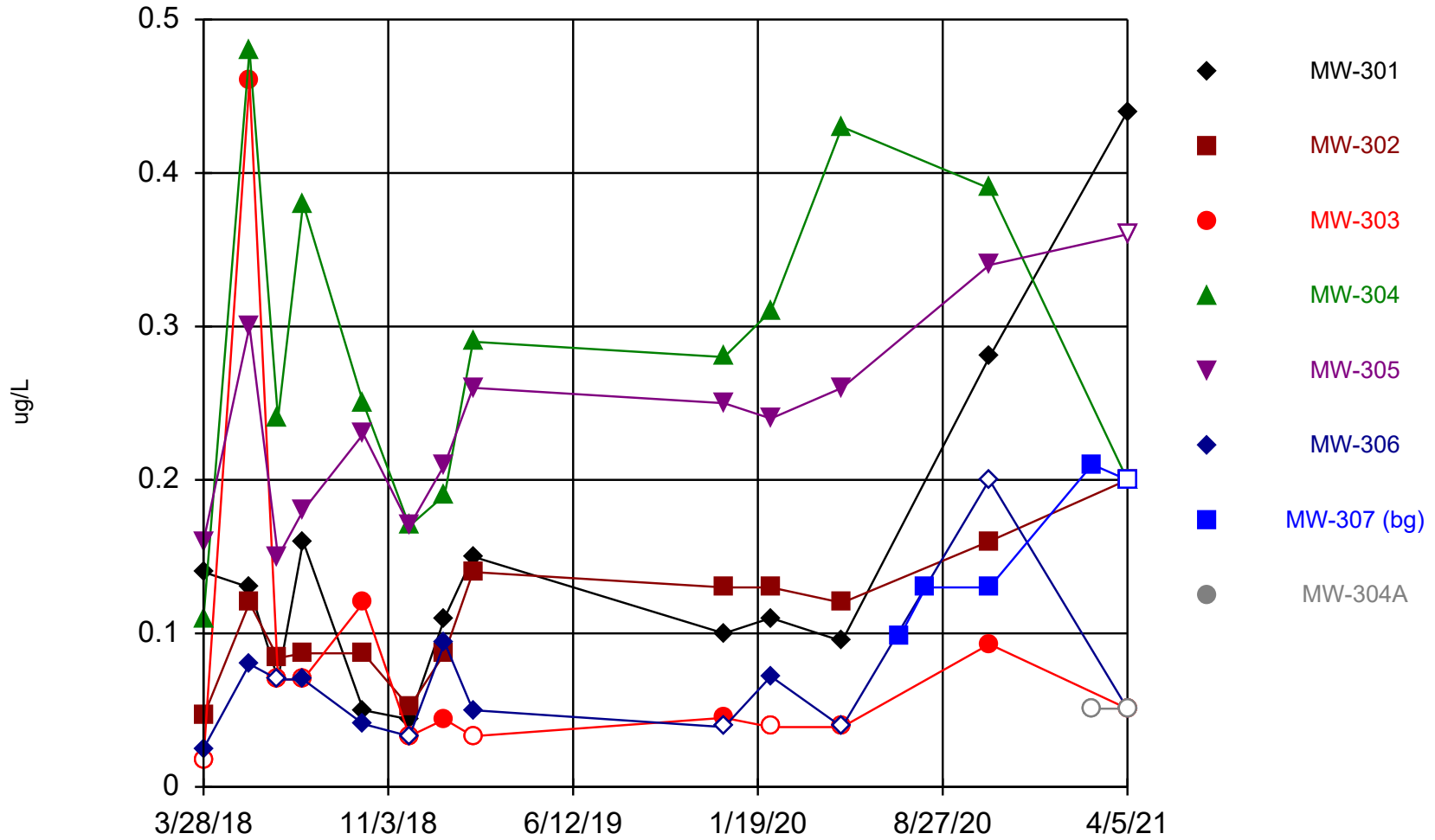
Time Series

Constituent: Boron (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	15700	5620	2510	10900	16800	17600		
5/22/2018	12500	4720	3080	6880	14000	18600		
6/25/2018	2280	4100	3500	8530	16400	15600		
7/25/2018	2040	4950	1910	8330	11900	17900		
10/5/2018	3620	5190	3980	8820	16500	17000		
11/29/2018	10900	6300	3080	9140	18500	17600		
1/10/2019	13000	5940	3720	8920	18800	17300		
2/13/2019	13800	6420	3780	9920	18700	18900		
4/9/2019	15000	4700	2600	10000	1600	14000		
9/6/2019					17000			
10/7/2019	13000	4600	2900	10000	20000	12000		
12/10/2019	12000	6100	3200	10000	15000	15000		
2/4/2020	13000	5900	4000	10000	15000	20000		
4/29/2020	10000	4700	4200	8900	16000	22000		
7/7/2020							280	
8/7/2020							<80 (U)	
10/22/2020	13000	5700	3800	9400	16000	14000	130	
2/22/2021							<58 (U)	380
4/5/2021	14000	5500	5200	11000	16000	15000	<230 (U)	490

Cadmium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

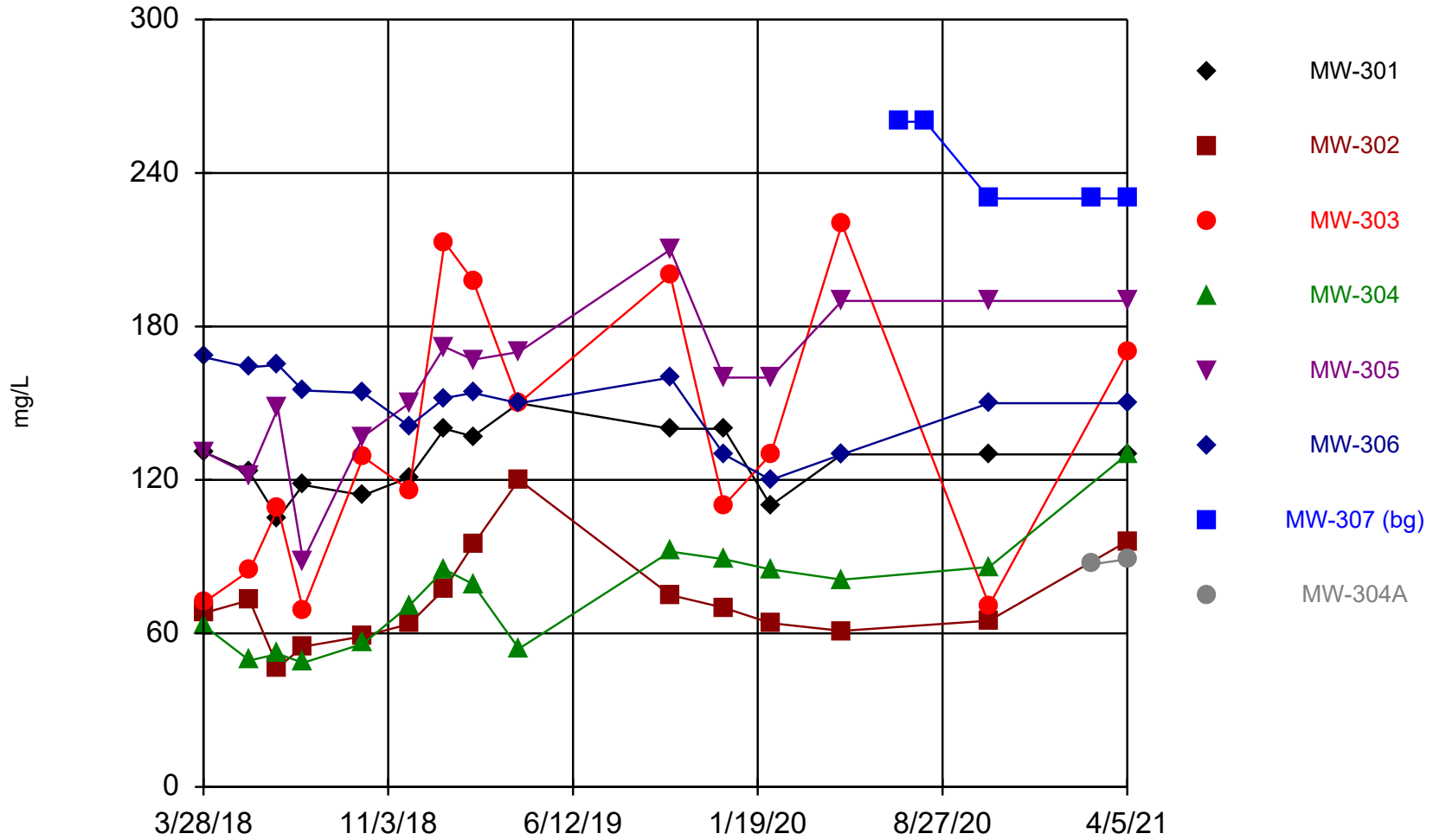
Time Series

Constituent: Cadmium (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	0.14 (J)	0.046 (J)	<0.018 (U)	0.11 (J)	0.16 (J)	0.025 (J)		
5/22/2018	0.13 (J)	0.12 (J)	0.46 (J)	0.48 (J)	0.3 (J)	0.08 (J)		
6/25/2018	<0.07 (U)	0.084 (J)	<0.07 (U)	0.24 (J)	0.15 (J)	<0.07 (U)		
7/25/2018	0.16 (J)	0.087 (J)	<0.07 (U)	0.38 (J)	0.18 (J)	0.07 (J)		
10/5/2018	0.05 (J)	0.087 (J)	0.12 (J)	0.25 (J)	0.23 (J)	0.041 (J)		
11/29/2018	0.044 (J)	0.052 (J)	<0.033 (U)	0.17 (J)	0.17 (J)	<0.033 (U)		
1/10/2019	0.11 (J)	0.087 (J)	0.044 (J)	0.19 (J)	0.21 (J)	0.094 (J)		
2/13/2019	0.15 (J)	0.14 (J)	<0.033 (U)	0.29 (J)	0.26 (J)	0.05 (J)		
12/10/2019	0.1	0.13	0.045 (J)	0.28	0.25	<0.039 (U)		
2/4/2020	0.11	0.13	<0.039 (U)	0.31	0.24	0.072 (J)		
4/29/2020	0.095 (J)	0.12	<0.039 (U)	0.43	0.26	<0.039 (U)		
7/7/2020							0.098 (J)	
8/7/2020							0.13	
10/22/2020	0.28 (J)	0.16	0.093 (J)	0.39 (J)	0.34 (J)	<0.2 (U)	0.13	
2/22/2021							0.21	<0.051 (U)
4/5/2021	0.44	<0.2	<0.051 (U)	<0.2 (U)	<0.36 (U)	<0.051 (U)	<0.2 (U)	<0.051 (U)

Calcium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

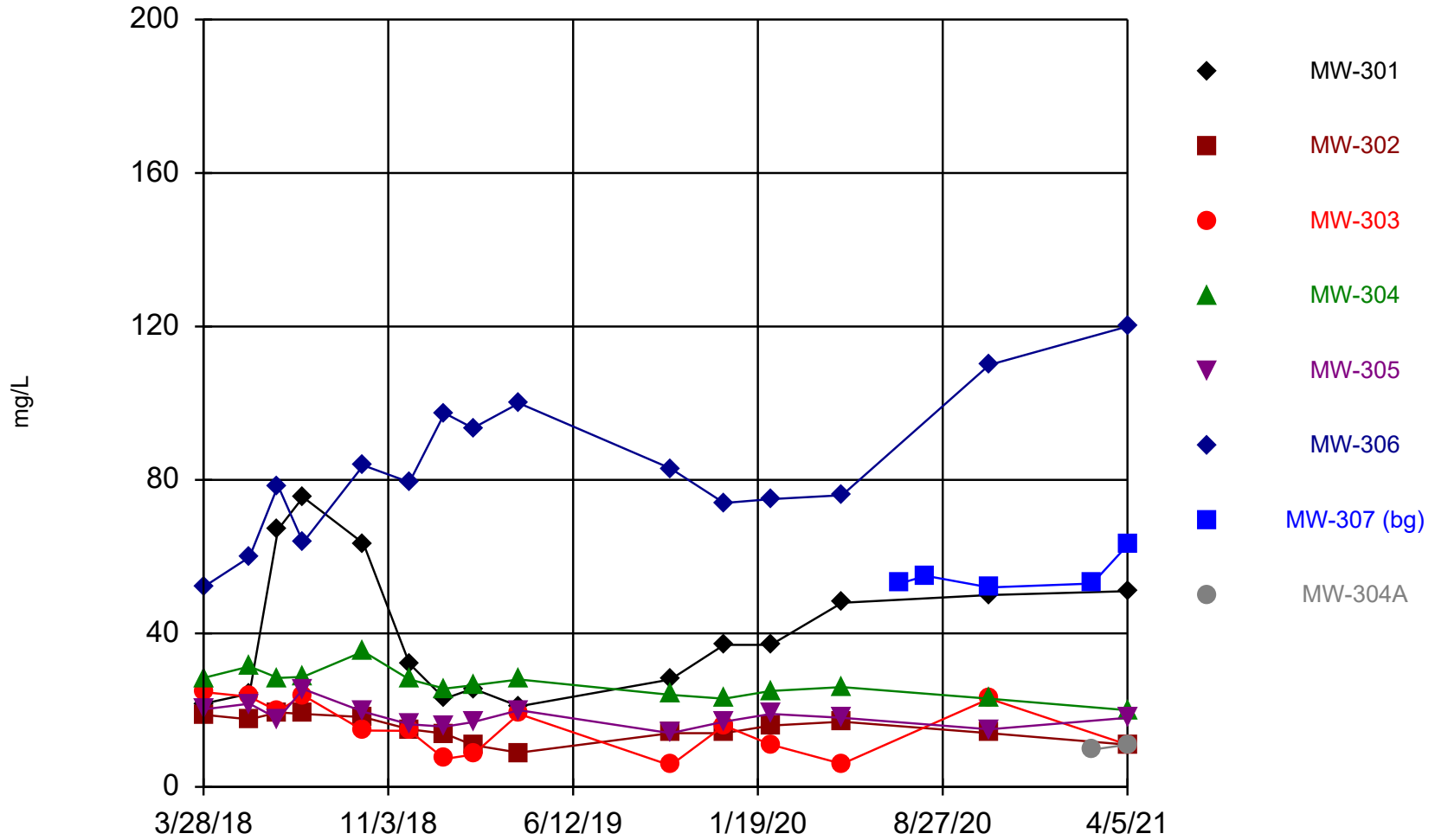
Time Series

Constituent: Calcium (mg/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	131	67.9	72	63.2	131	168		
5/22/2018	123	73	84.5	49.4	122	164		
6/25/2018	105	46.7	109	52	148	165		
7/25/2018	118	54.8	69.3	48.5	88.4	155		
10/5/2018	114	58.9	129	56	137	154		
11/29/2018	121	63.7	116	70.9	150	141		
1/10/2019	140	77.4	213	85	172	152		
2/13/2019	137	94.5	198	79.3	167	154		
4/9/2019	150	120	150	54	170	150		
10/7/2019	140	75	200	92	210	160		
12/10/2019	140	70	110	89	160	130		
2/4/2020	110	64	130	85	160	120		
4/29/2020	130	61	220	81	190	130		
7/7/2020							260	
8/7/2020							260	
10/22/2020	130	65	71	86	190	150	230	
2/22/2021							230	87
4/5/2021	130	96	170	130	190	150	230	89

Chloride



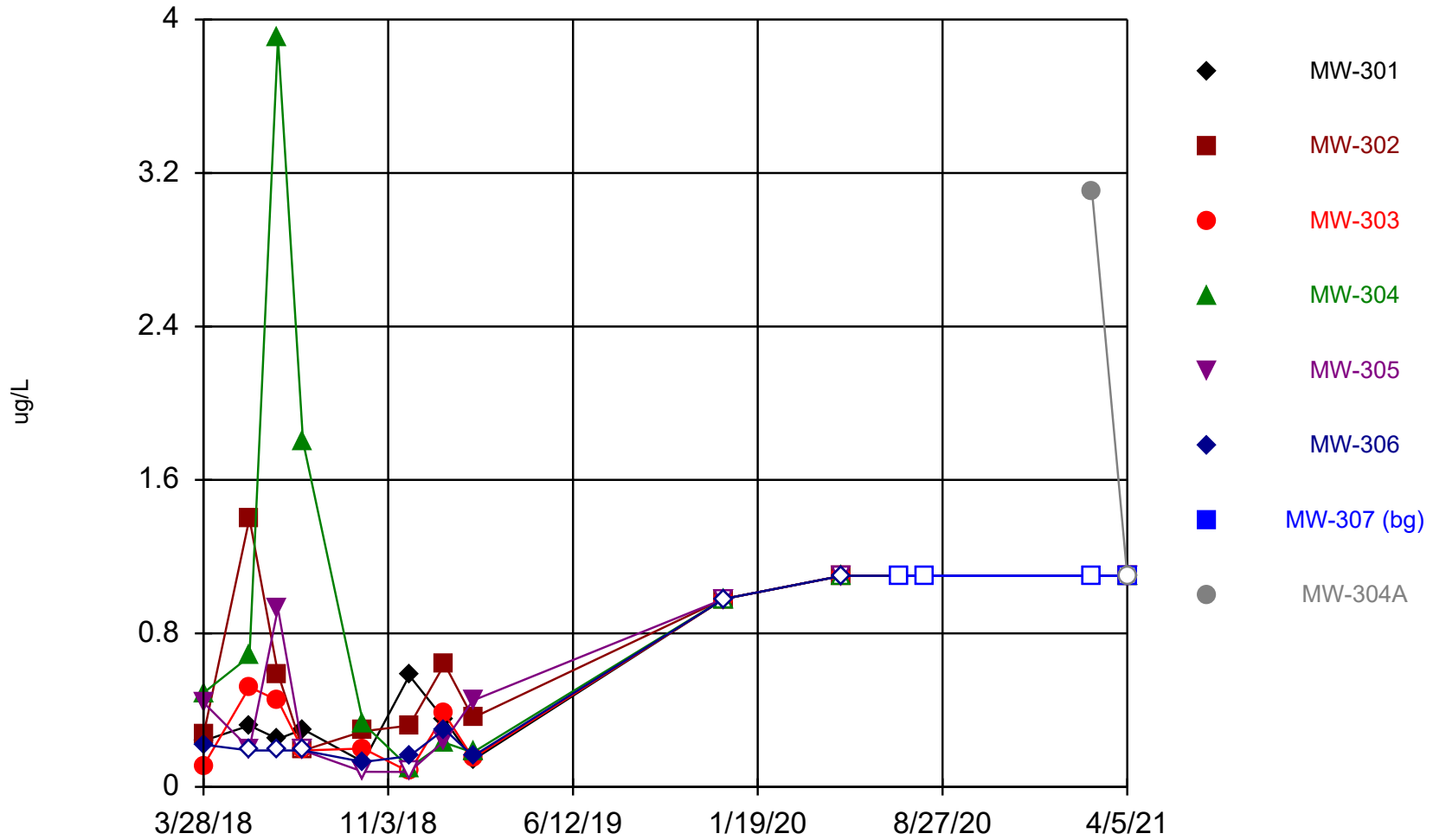
Time Series

Constituent: Chloride (mg/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	21.7	18.8	24.7	28.4	20.2	52.1		
5/22/2018	24.3	17.6	23.5	31.4	21.7	59.9		
6/25/2018	67.1	19.4	19.7	28.4	17.7	78.5		
7/25/2018	75.5	19	23.9	28.7	25.5	63.7		
10/5/2018	63.5	18.2	14.7	35.3	19.6	83.8		
11/29/2018	32.1	15	14.6	28	16.3	79.4		
1/10/2019	23	13.9	7.3	25.6	15.7	97.4		
2/13/2019	25.6	10.9	8.4	26.5	16.9	93.5		
4/9/2019	21	8.9	19	28	20	100		
10/7/2019	28	14	5.6	24	14	83		
12/10/2019	37	14	16	23	17	74		
2/4/2020	37	16	11	25	19	75		
4/29/2020	48	17	6	26	18	76		
7/7/2020							53	
8/7/2020							55	
10/22/2020	50	14	23	23	15	110	52	
2/22/2021							53	9.7
4/5/2021	51	11	11	20	18	120	63	11

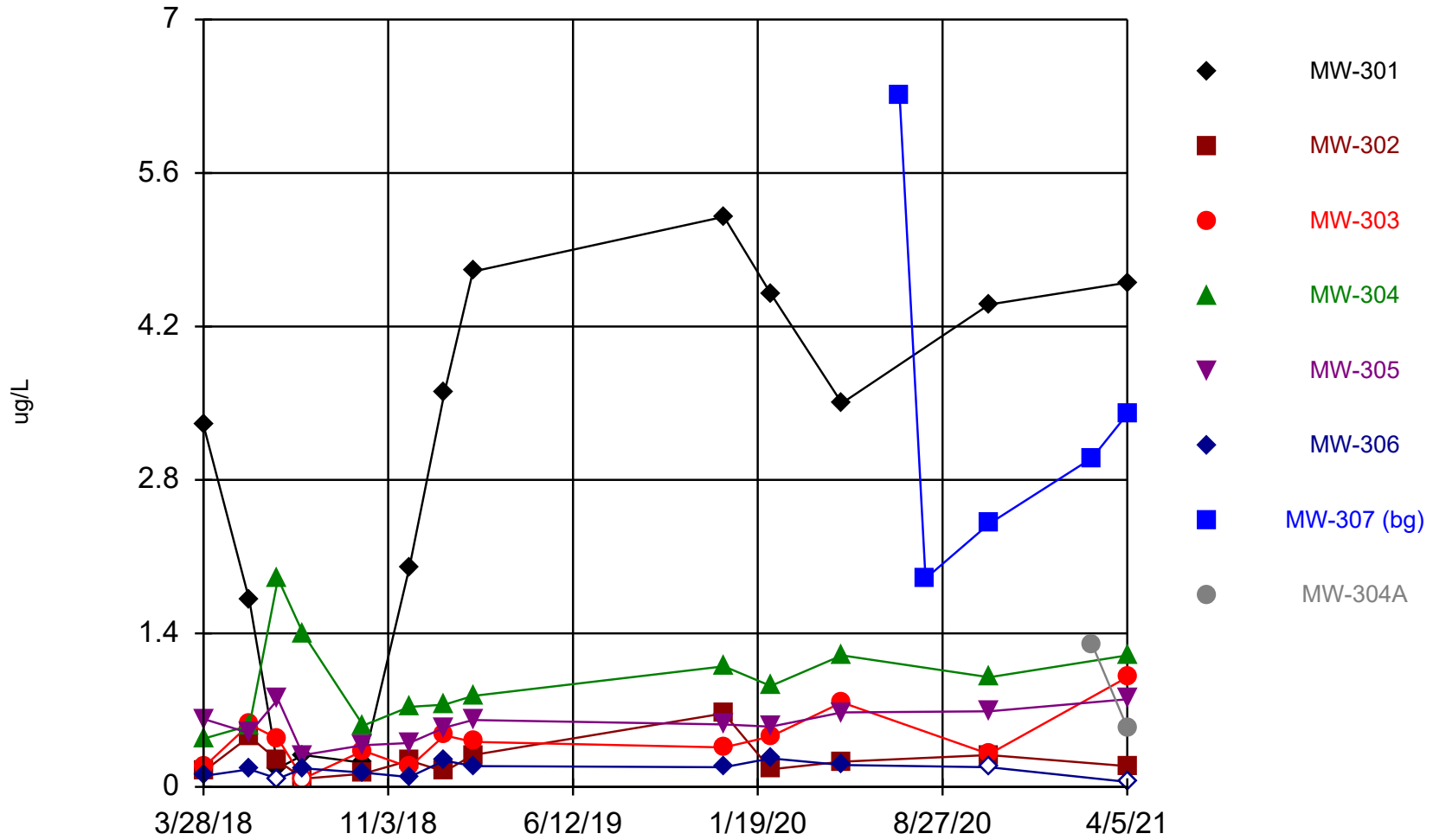
Chromium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Cobalt



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

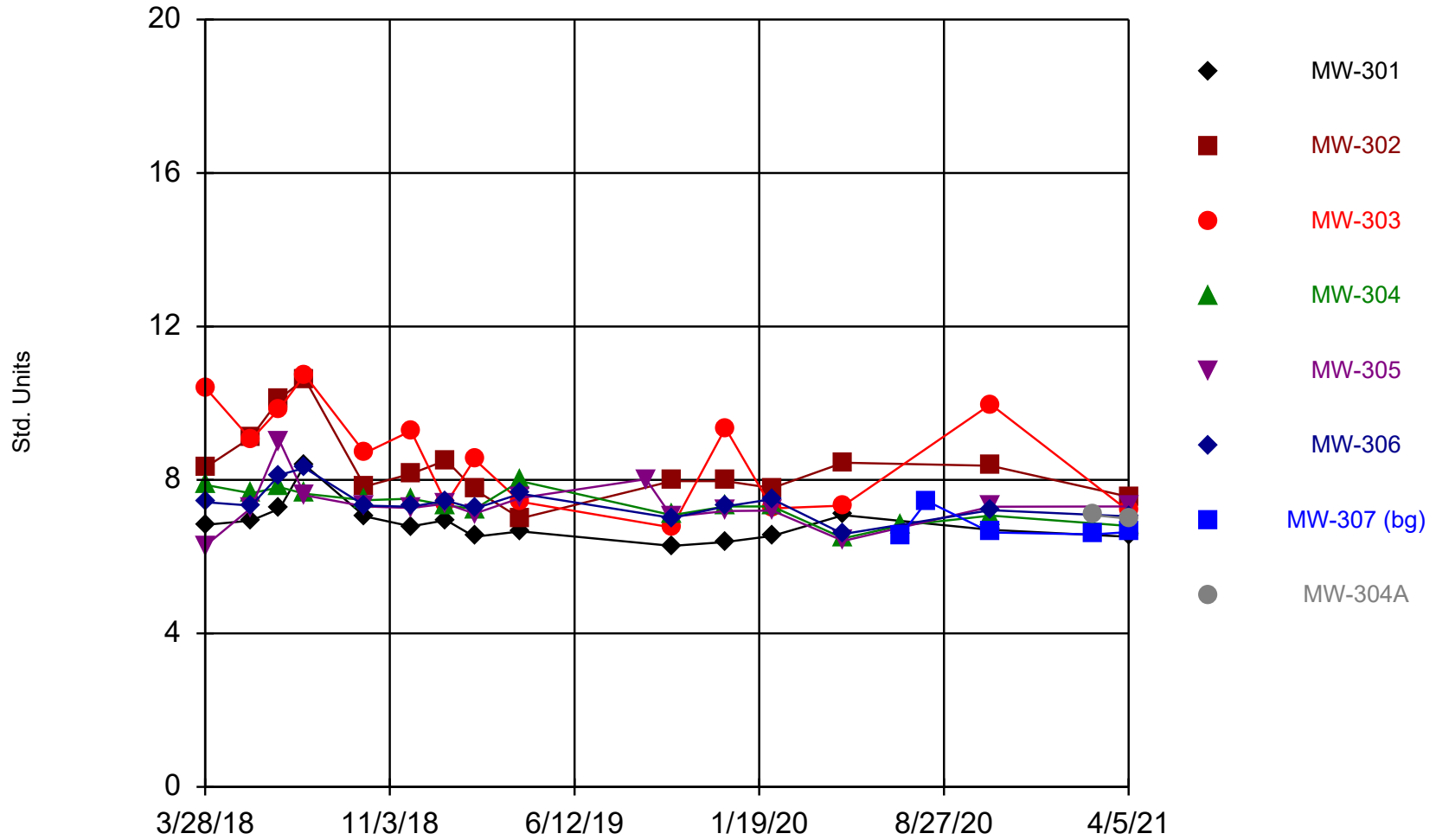
Time Series

Constituent: Cobalt (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	3.3	0.14 (J)	0.18 (J)	0.44 (J)	0.62 (J)	0.1 (J)		
5/22/2018	1.7	0.46 (J)	0.57 (J)	0.56 (J)	0.49 (J)	0.16 (J)		
6/25/2018	0.17 (J)	0.24 (J)	0.44 (J)	1.9	0.8 (J)	<0.15 (U)		
7/25/2018	0.29 (J)	<0.15 (U)	<0.15 (U)	1.4	0.29 (J)	0.17 (J)		
10/5/2018	0.22 (J)	0.12 (J)	0.33 (J)	0.56 (J)	0.38 (J)	0.13 (J)		
11/29/2018	2	0.24 (J)	0.18 (J)	0.73 (J)	0.4 (J)	0.09 (J)		
1/10/2019	3.6	0.14 (J)	0.47 (J)	0.75 (J)	0.54 (J)	0.24 (J)		
2/13/2019	4.7	0.29 (J)	0.41 (J)	0.83 (J)	0.61 (J)	0.19 (J)		
12/10/2019	5.2	0.67	0.36 (J)	1.1	0.57	0.18 (J)		
2/4/2020	4.5	0.16 (J)	0.46 (J)	0.92	0.55	0.26 (J)		
4/29/2020	3.5	0.23 (J)	0.77	1.2	0.68	0.2 (J)		
7/7/2020							6.3	
8/7/2020							1.9	
10/22/2020	4.4	0.29 (J)	0.3 (J)	1 (J)	0.69 (J)	<0.36 (U)	2.4	
2/22/2021							3	1.3
4/5/2021	4.6	0.19 (J)	1	1.2	0.8	<0.091 (U)	3.4	0.54

Field pH



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

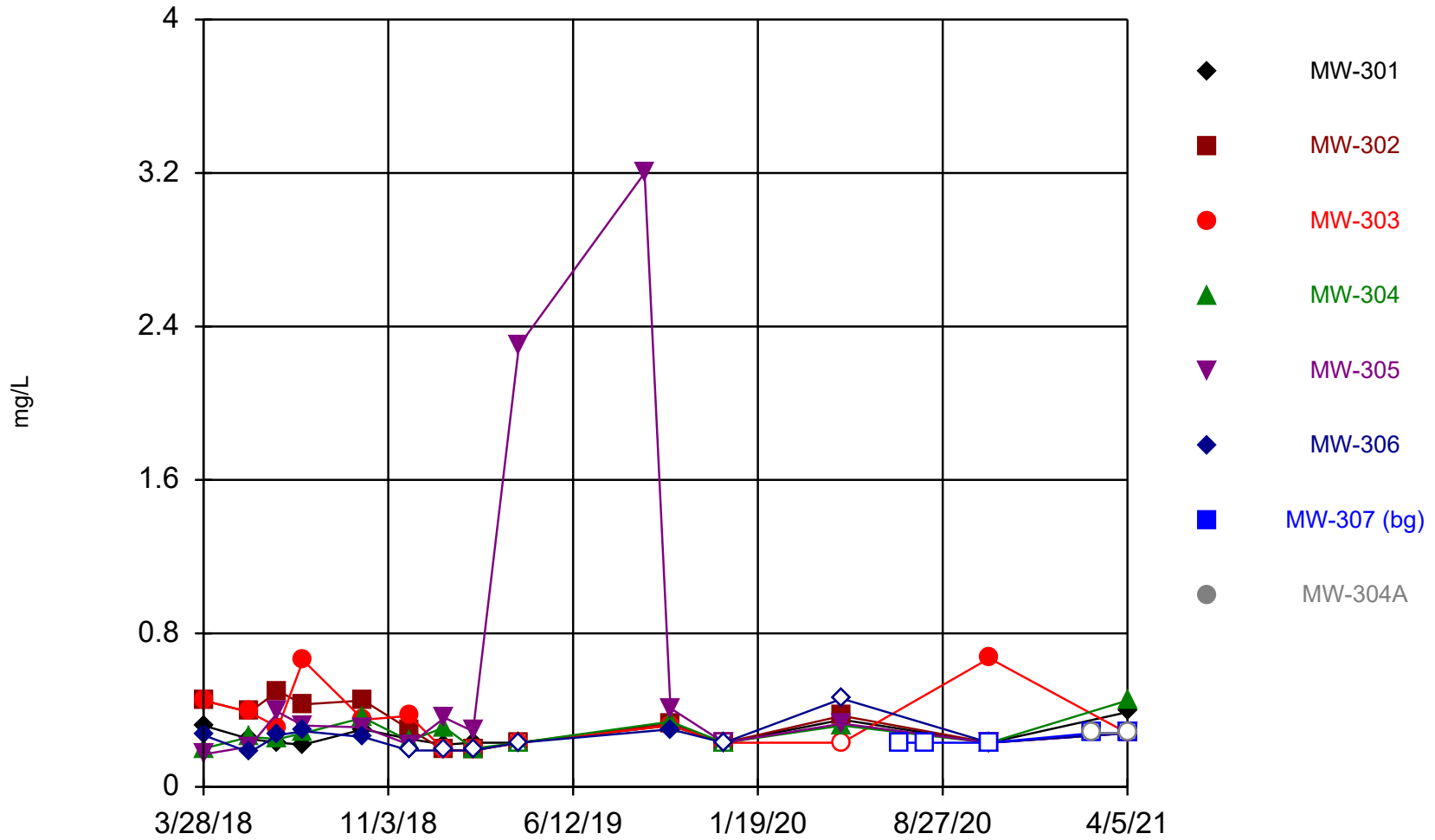
Time Series

Constituent: Field pH (Std. Units) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	6.83	8.32	10.41	7.87	6.28	7.42		
5/22/2018	6.94	9.11	9.05	7.65	7.27	7.33		
6/25/2018	7.25	10.11	9.86	7.81	9.01	8.13		
7/25/2018	8.39	10.64	10.74	7.64	7.6	8.31		
10/5/2018	7.05	7.83	8.7	7.47	7.31	7.33		
11/29/2018	6.79	8.16	9.28	7.51	7.27	7.3		
1/10/2019	6.95	8.51	7.39	7.34	7.38	7.46		
2/13/2019	6.52	7.75	8.54	7.24	7.12	7.25		
4/9/2019	6.66	7	7.43	7.97	7.53	7.64		
9/6/2019					8.02			
10/7/2019	6.28	7.97	6.76	7.08	7.04	7.01		
12/10/2019	6.38	7.97	9.35	7.31	7.19	7.31		
2/4/2020	6.54	7.79	7.26	7.31	7.2	7.5		
4/29/2020	7.08	8.45	7.33	6.48	6.41	6.59		
7/7/2020				6.81			6.57	
8/7/2020							7.45	
10/22/2020	6.7	8.37	9.97	7.07	7.3	7.21	6.63	
2/22/2021							6.58	7.08
4/5/2021	6.52	7.56	7.19	6.8	7.31	7.05	6.64	6.99

Fluoride



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

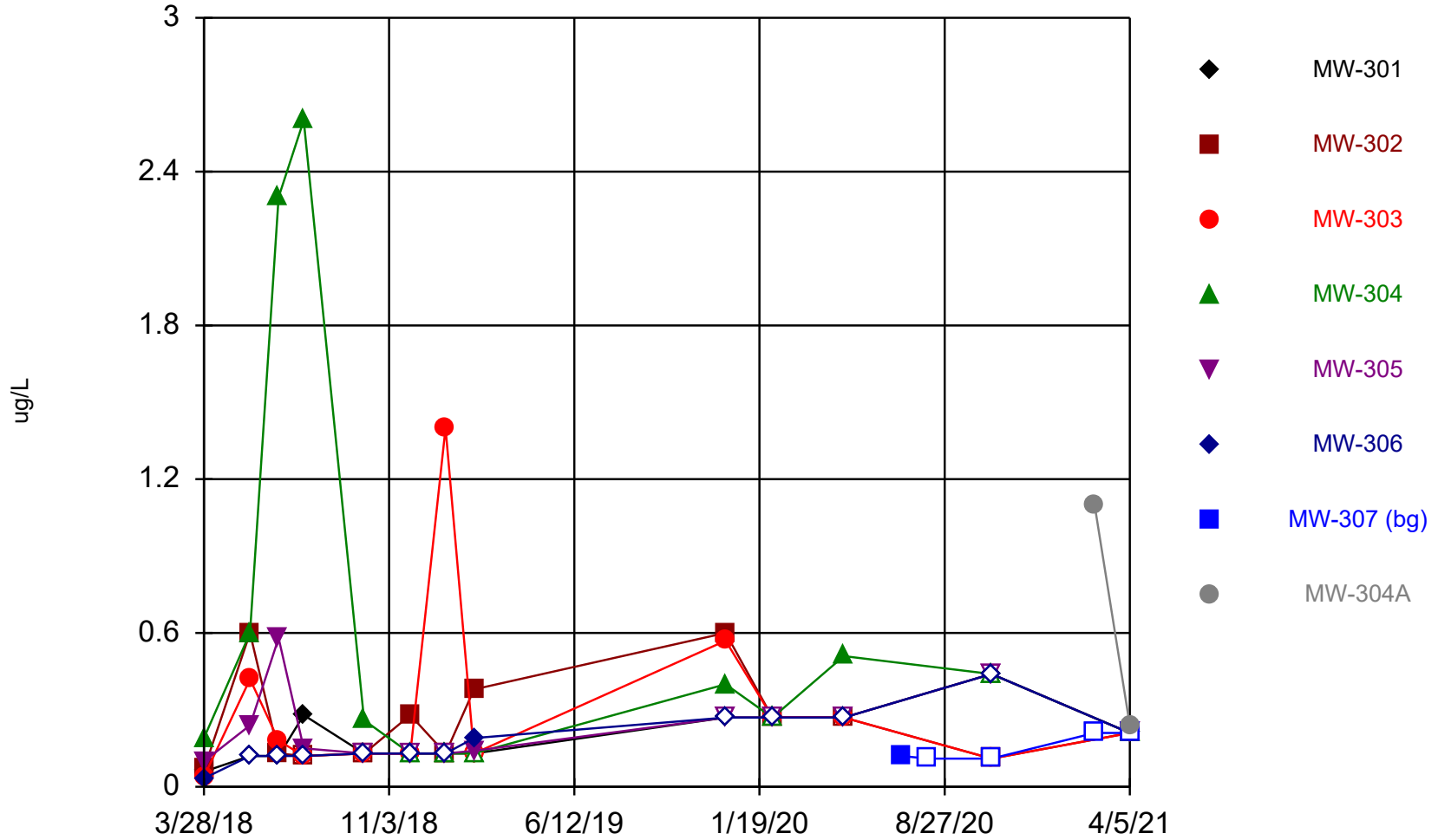
Time Series

Constituent: Fluoride (mg/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	0.32	0.45	0.45	0.2	0.17 (J)	0.27		
5/22/2018	0.25	0.39	0.39	0.26	0.21	0.18 (J)		
6/25/2018	0.23	0.5	0.31	0.25	0.39	0.27		
7/25/2018	0.22	0.43	0.66	0.28	0.32	0.29		
10/5/2018	0.3	0.45	0.35	0.36	0.31	0.26		
11/29/2018	0.25	0.3	0.37	0.24	0.22	<0.19 (U)		
1/10/2019	0.22	0.19 (J)	<0.19 (U)	0.31	0.36	<0.19 (U)		
2/13/2019	0.23	<0.19 (U)	<0.19 (U)	0.2 (J)	0.29	<0.19 (U)		
4/9/2019	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	2.3	<0.23 (U)		
9/6/2019					3.2			
10/7/2019	0.32 (J)	0.33 (J)	0.32 (J)	0.34 (J)	0.41 (J)	0.3 (J)		
12/10/2019	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)		
4/29/2020	0.35 (J)	0.37 (J)	<0.23 (U)	0.32 (J)	0.33 (J)	<0.46 (U)		
7/7/2020							<0.23 (U)	
8/7/2020							<0.23 (U)	
10/22/2020	<0.23 (U)	<0.23 (U)	0.67	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	
2/22/2021							<0.28 (U)	<0.28 (U)
4/5/2021	0.39 (J)	<0.28 (U)	<0.28 (U)	0.45 (J)	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)

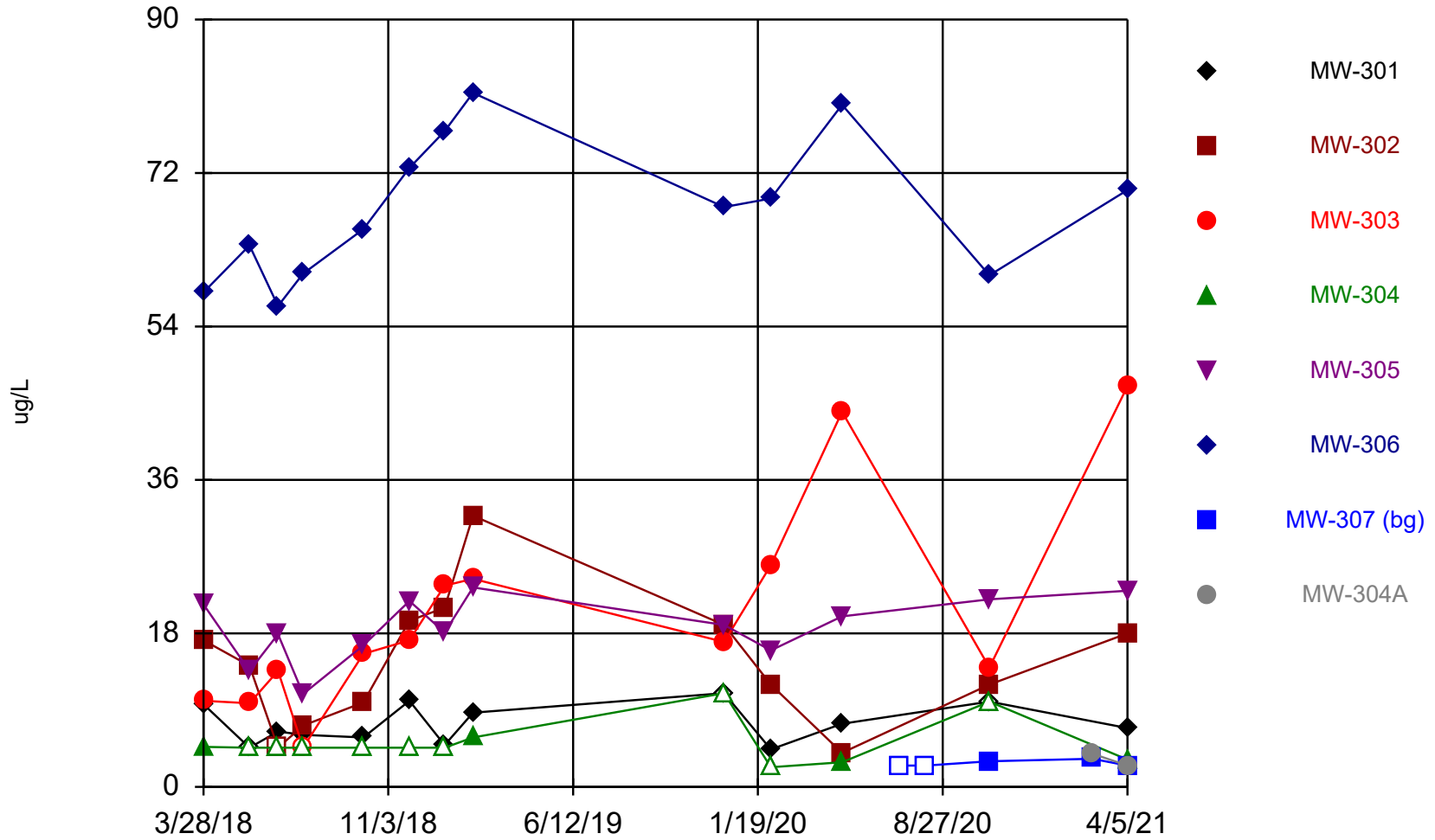
Lead



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Lithium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

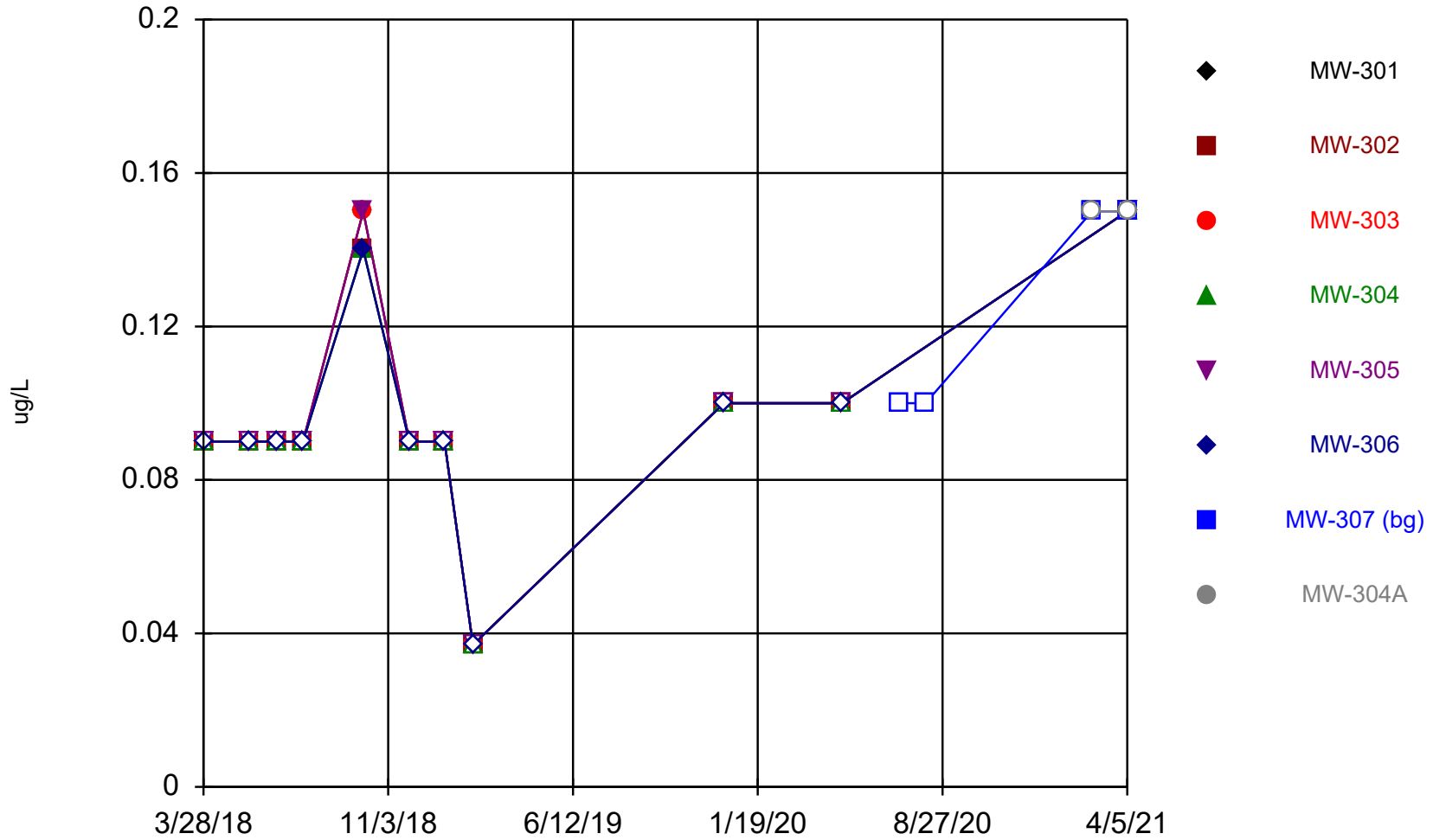
Time Series

Constituent: Lithium (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	9.7 (J)	17.2	10.1	4.7 (J)	21.4	58		
5/22/2018	<4.6 (U)	14.2	9.8 (J)	<4.6 (U)	13.6	63.5		
6/25/2018	6.5 (J)	<4.6 (U)	13.6	<4.6 (U)	17.9	56.4		
7/25/2018	6.1 (J)	7.2 (J)	<4.6 (U)	<4.6 (U)	10.9	60.2		
10/5/2018	5.8 (J)	9.9 (J)	15.6	<4.6 (U)	16.6	65.4		
11/29/2018	10.1	19.5	17.2	<4.6 (U)	21.8	72.6		
1/10/2019	4.9 (J)	21	23.6	<4.6 (U)	18.1	76.9		
2/13/2019	8.7 (J)	31.8	24.4	5.8 (J)	23.4	81.4		
12/10/2019	<11 (U)	19 (J)	17	<11 (U)	19 (J)	68		
2/4/2020	4.4 (J)	12	26	<2.3 (U)	16	69		
4/29/2020	7.4 (J)	4 (J)	44	2.9 (J)	20	80		
7/7/2020							<2.5 (U)	
8/7/2020							<2.5 (U)	
10/22/2020	<10 (U)	12	14	<10 (U)	22 (J)	60	3 (J)	
2/22/2021							3.3 (J)	3.9 (J)
4/5/2021	6.9 (J)	18	47	3.2 (J)	23	70	2.5 (J)	2.5 (J)

Mercury



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

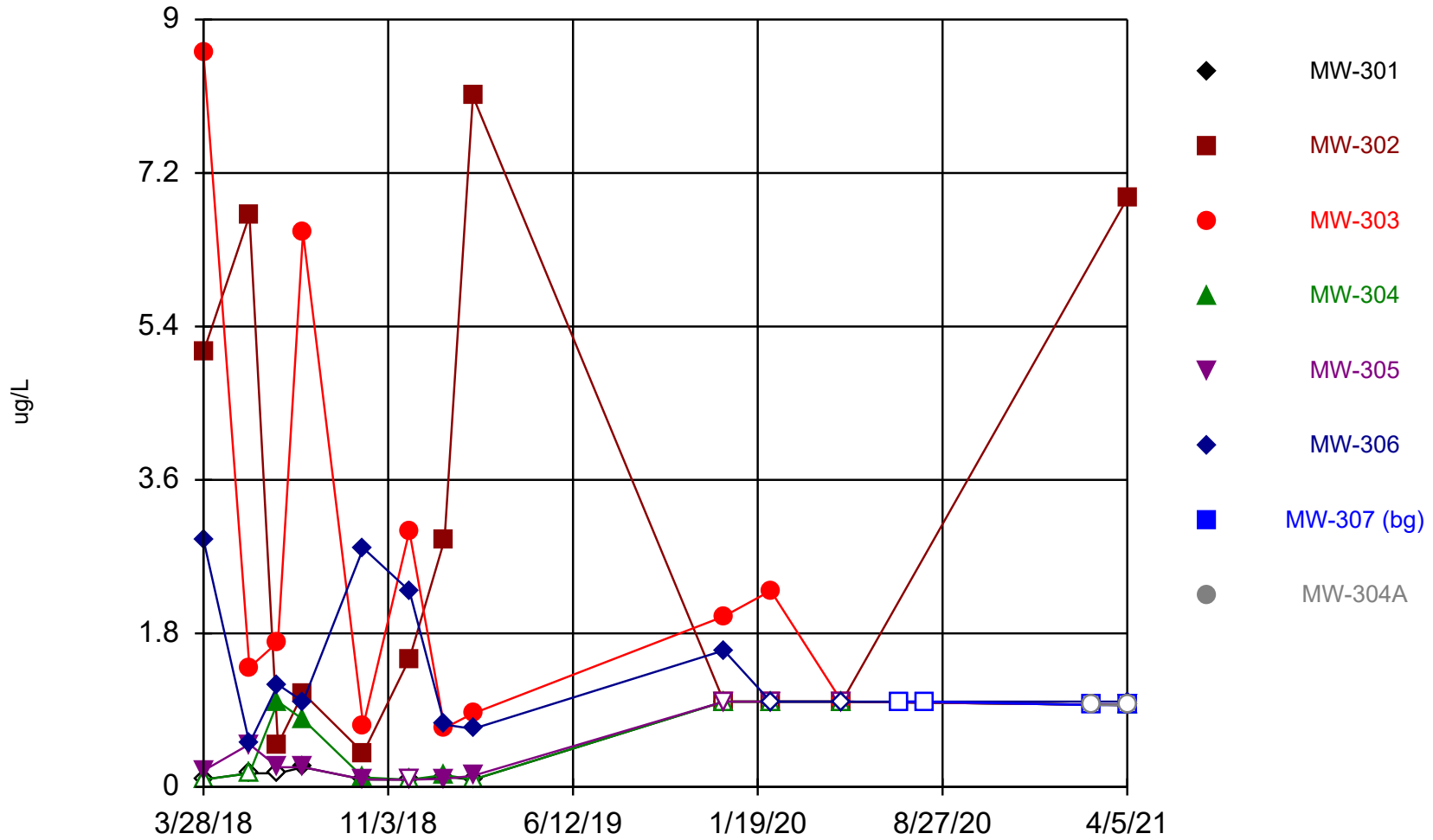
Time Series

Constituent: Molybdenum (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	345	281	135	1530	613	46.4		
5/22/2018	251	235	152	1260	671	75.3		
6/25/2018	33.1	274	122	807	724	53.3		
7/25/2018	31.1	260	145	828	886	92		
10/5/2018	42.8	212	110	788	666	87.6		
11/29/2018	237	185	127	790	670	96.1		
1/10/2019	294	214	55.9	778	663	97.6		
2/13/2019	242	127	67.1	640	468	89.5		
12/10/2019	310	260	140	820	650	88		
2/4/2020	300	280	96	950	680	100		
4/29/2020	250	360	74	1200	720	120		
7/7/2020							2.5	
8/7/2020							<1.1 (U)	
10/22/2020	510	320	180	930	580	49	<1.1 (U)	
2/22/2021							<1.3 (U)	3.1
4/5/2021	430	170	150	650	650	46	3.4	17

Selenium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Time Series

Constituent: Selenium (ug/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	<0.086 (U)	5.1	8.6	<0.086 (U)	0.19 (J)	2.9		
5/22/2018	<0.16 (U)	6.7	1.4	<0.16 (U)	0.5 (J)	0.51 (J)		
6/25/2018	<0.16 (U)	0.5 (J)	1.7	1 (J)	0.23 (J)	1.2		
7/25/2018	0.23 (J)	1.1	6.5	0.79 (J)	0.23 (J)	1		
10/5/2018	0.086 (J)	0.4 (J)	0.72 (J)	0.11 (J)	0.088 (J)	2.8		
11/29/2018	<0.085 (U)	1.5	3	<0.085 (U)	<0.085 (U)	2.3		
1/10/2019	0.12 (J)	2.9	0.69 (J)	0.14 (J)	0.094 (J)	0.73 (J)		
2/13/2019	<0.085 (U)	8.1	0.86 (J)	<0.085 (U)	0.13 (J)	0.68 (J)		
12/10/2019	<1 (U)	<1 (U)	2 (J)	<1 (U)	<1 (U)	1.6 (J)		
2/4/2020	<1 (U)	<1 (U)	2.3 (J)	<1 (U)	<1 (U)	<1 (U)		
4/29/2020	<1 (U)	<1 (U)	<1 (U)	<1 (U)	<1 (U)	<1 (U)		
7/7/2020							<1 (U)	
8/7/2020							<1 (U)	
2/22/2021							<0.96 (U)	<0.96 (U)
4/5/2021	<0.96 (U)	6.9	<0.96 (U)	<0.96 (U)	<0.96 (U)	1 (J)	<0.96 (U)	<0.96 (U)

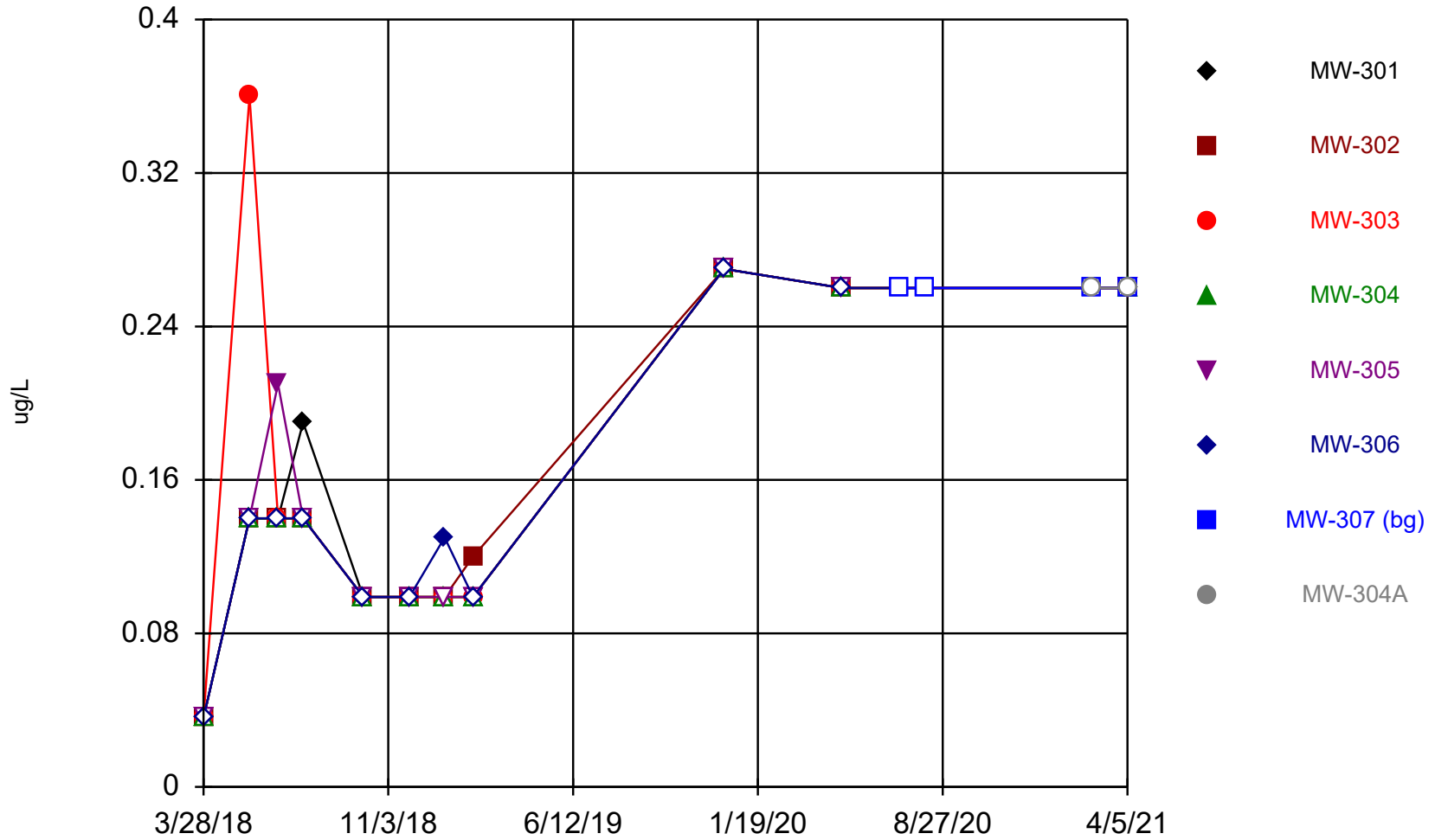
Time Series

Constituent: Sulfate (mg/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	475	221	256	213	623	488		
5/22/2018	456	199	308	188	468	600		
6/25/2018	61	201	379	186	673	396		
7/25/2018	54.3	208	243	177	341	454		
10/5/2018	130	215	459	206	472	419		
11/29/2018	306	203	378	286	<0.24 (U)	416		
1/10/2019	418	214	644	349	689	452		
2/13/2019	450	211	659	319	619	457		
4/9/2019	360	200	440	200	480	340		
10/7/2019	350	180	480	330	690	270		
12/10/2019	320	240	350	330	620	390		
2/4/2020	360	250	380	310	590	500		
4/29/2020	250	230	590	290	690	560		
7/7/2020							15	
8/7/2020							17	
10/22/2020	310	260	260	340	760	340	21	
2/22/2021							19	65
4/5/2021	250	210	470	490	710	270	19	64

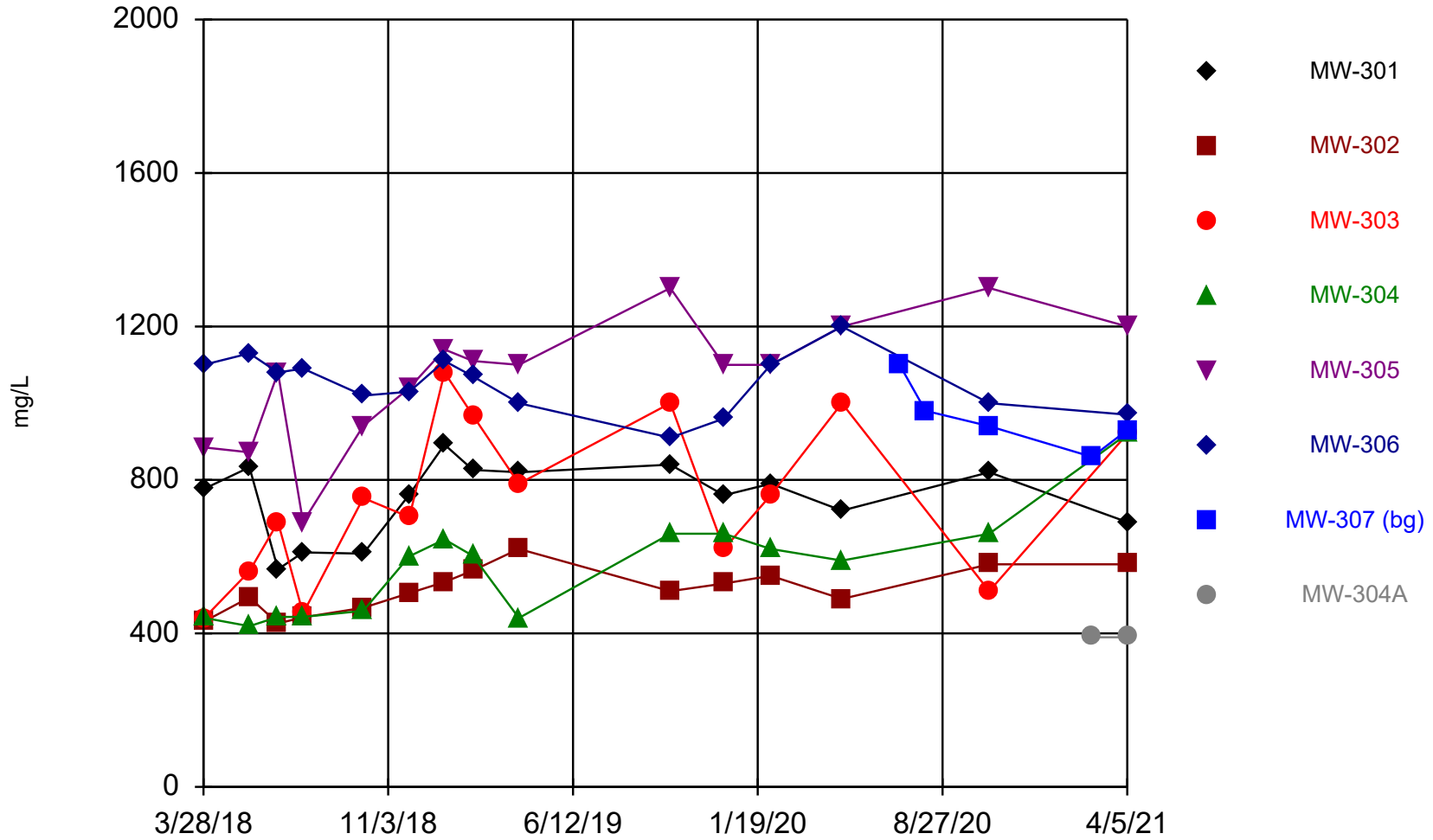
Thallium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Total Dissolved Solids



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

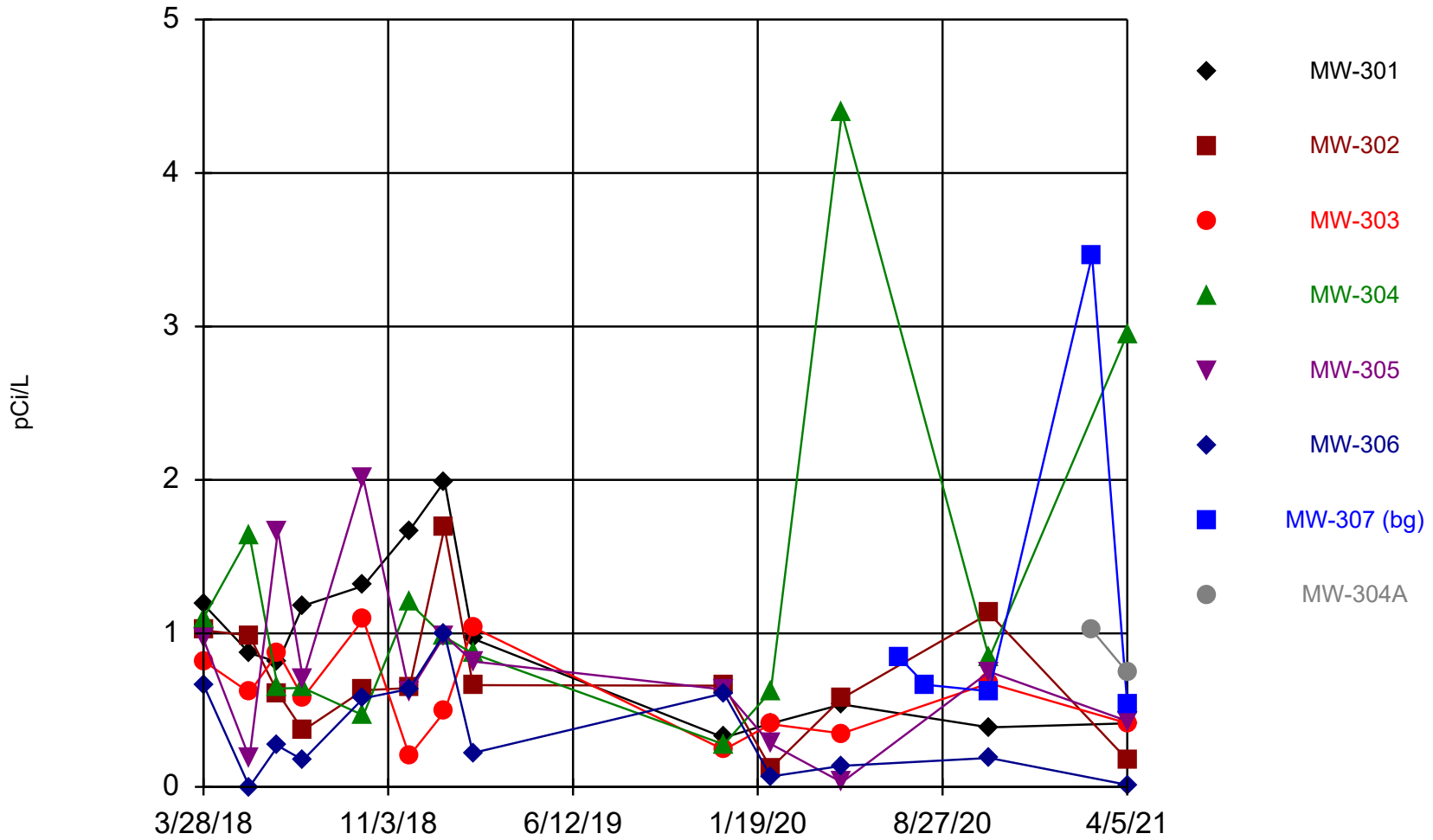
Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	776	430	438	441	885	1100		
5/22/2018	833	494	562	419	872	1130		
6/25/2018	567	426	690	443	1080	1080		
7/25/2018	611	442	452	443	690	1090		
10/5/2018	608	467	753	459	941	1020		
11/29/2018	762	505	703	601	1040	1030		
1/10/2019	892	534	1080	645	1140	1110		
2/13/2019	826	564	968	602	1110	1070		
4/9/2019	820	620	790	440	1100	1000		
10/7/2019	840	510	1000	660	1300	910		
12/10/2019	760	530	620	660	1100	960		
2/4/2020	790	550	760	620	1100	1100		
4/29/2020	720	490	1000	590	1200	1200		
7/7/2020							1100	
8/7/2020							980	
10/22/2020	820	580	510	660	1300	1000	940	
2/22/2021							860	390
4/5/2021	690	580	920	920	1200	970	930	390

Total Radium



Time Series Analysis Run 6/28/2021 8:55 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Time Series

Constituent: Total Radium (pCi/L) Analysis Run 6/28/2021 8:56 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)	MW-304A
3/28/2018	1.19	1.02	0.821	1.1	0.962	0.666		
5/22/2018	0.872	0.987	0.614	1.64	0.189	0		
6/25/2018	0.813	0.611	0.876	0.641	1.67	0.267		
7/25/2018	1.18	0.367	0.581	0.645	0.702	0.175		
10/5/2018	1.31	0.63	1.09	0.466	2.01	0.577		
11/29/2018	1.67	0.644	0.202	1.2	0.616	0.638		
1/10/2019	1.99	1.69	0.49	0.978	0.987	1		
2/13/2019	0.966	0.663	1.04	0.869	0.817	0.221		
12/10/2019	0.321	0.659	0.242	0.277	0.634	0.61		
2/4/2020	0.413	0.122	0.409	0.622	0.28	0.068		
4/29/2020	0.538	0.577	0.348	4.39	0.0301	0.137		
7/7/2020							0.841	
8/7/2020							0.666	
10/22/2020	0.388	1.13	0.676	0.839	0.75	0.189	0.623	
2/22/2021							3.46	1.02
4/5/2021	0.414	0.178	0.415	2.95	0.429	0.0138	0.54	0.747

Attachment 2

Outlier Analysis

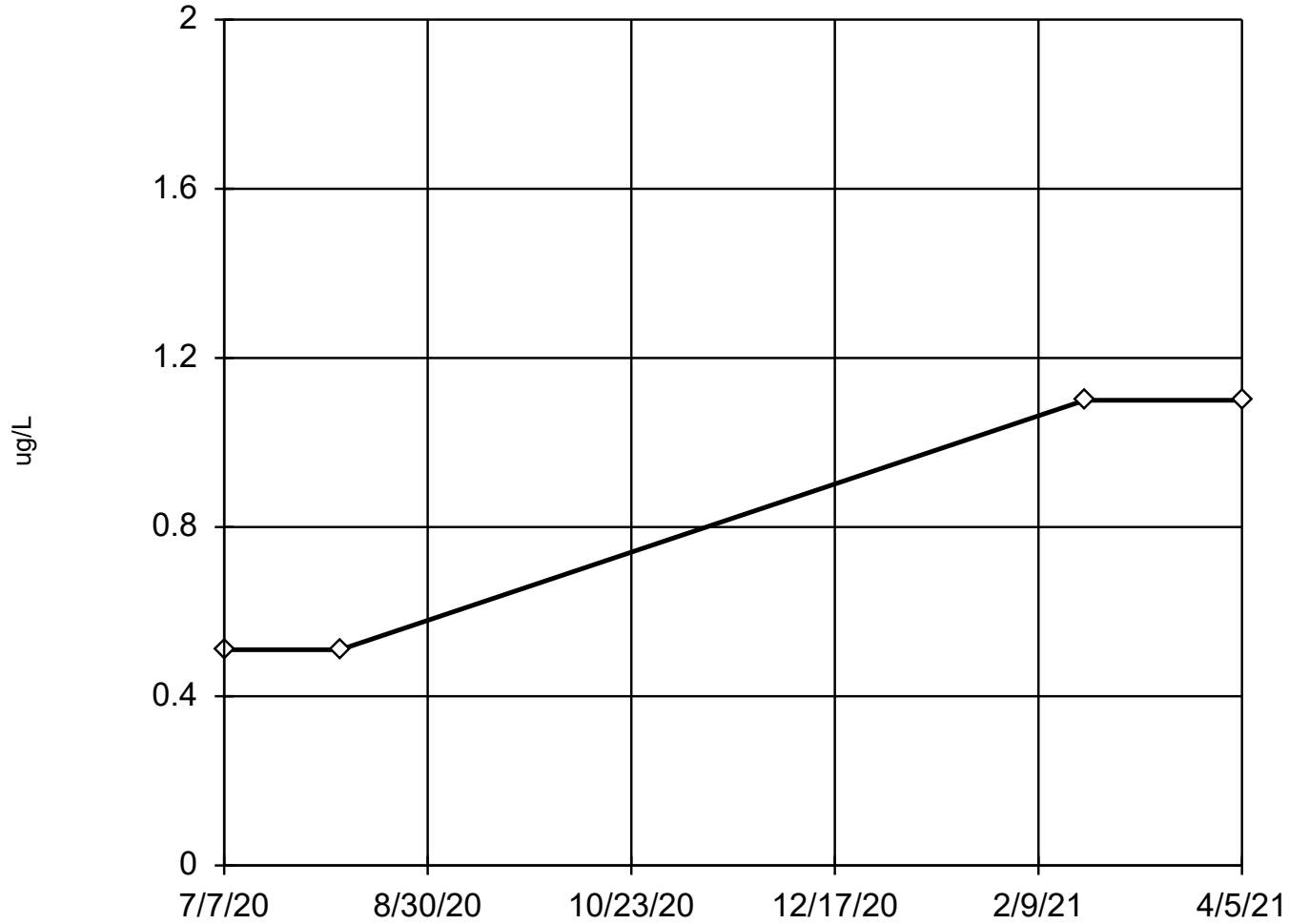
Outlier Analysis

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020 Printed 6/28/2021, 9:09 AM

<u>Constituent</u>	<u>Well</u>	<u>Outlier</u>	<u>Value(s)</u>	<u>Date(s)</u>	<u>Method</u>	<u>Alpha</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Distribution</u>	<u>Normality Test</u>
Antimony (ug/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	4	0.805	0.3406	unknown	ShapiroWilk
Arsenic (ug/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	1.086	0.3652	normal	ShapiroWilk
Barium (ug/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	320	10	normal	ShapiroWilk
Beryllium (ug/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	4	0.27	0	unknown	ShapiroWilk
Boron (ug/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	155.6	96.06	normal	ShapiroWilk
Cadmium (ug/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	0.1536	0.04883	normal	ShapiroWilk
Calcium (mg/L)	MW-307 (bg)	No	n/a	n/a	NP (nrm)	NaN	5	242	16.43	unknown	ShapiroWilk
Chloride (mg/L)	MW-307 (bg)	Yes	63	4/5/2021	Dixon`s	0.05	5	55.2	4.494	normal	ShapiroWilk
Chromium (ug/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	4	1.1	0	unknown	ShapiroWilk
Cobalt (ug/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	3.4	1.719	normal	ShapiroWilk
Field pH (Std. Units)	MW-307 (bg)	Yes	7.45	8/7/2020	Dixon`s	0.05	5	6.774	0.3791	normal	ShapiroWilk
Fluoride (mg/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	5	0.25	0.02739	unknown	ShapiroWilk
Lead (ug/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	5	0.152	0.0531	unknown	ShapiroWilk
Lithium (ug/L)	MW-307 (bg)	No	n/a	n/a	NP (nrm)	NaN	5	2.76	0.3715	unknown	ShapiroWilk
Mercury (ug/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	4	0.125	0.02887	unknown	ShapiroWilk
Molybdenum (ug/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	1.88	1.031	normal	ShapiroWilk
Selenium (ug/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	4	0.98	0.02309	unknown	ShapiroWilk
Sulfate (mg/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	18.2	2.28	normal	ShapiroWilk
Thallium (ug/L)	MW-307 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	4	0.26	0	unknown	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-307 (bg)	No	n/a	n/a	EPA 1989	0.05	5	962	88.43	normal	ShapiroWilk
Total Radium (pCi/L)	MW-307 (bg)	Yes	3.46	2/22/2021	Dixon`s	0.05	5	1.226	1.254	normal	ShapiroWilk

Tukey's Outlier Screening

MW-307 (bg)



n = 4

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were square root transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Antimony Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Antimony (ug/L) Analysis Run 6/28/2021 9:09 AM

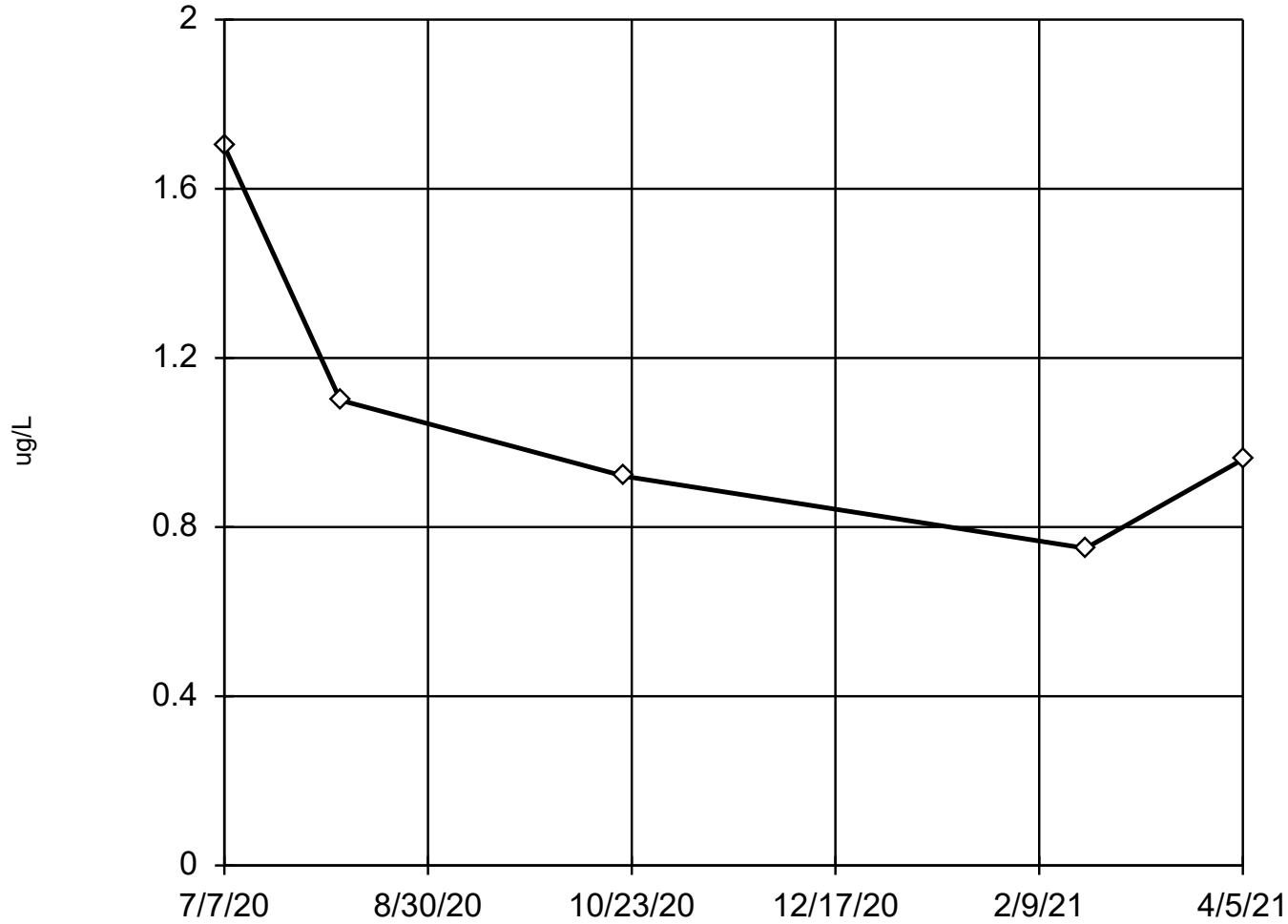
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<0.51 (U)
8/7/2020	<0.51 (U)
2/22/2021	<1.1 (U)
4/5/2021	<1.1 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 1.086, std. dev.
0.3652, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8535
Critical = 0.806
The distribution was found
to be normally distrib-
uted.

Constituent: Arsenic Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Arsenic (ug/L) Analysis Run 6/28/2021 9:09 AM

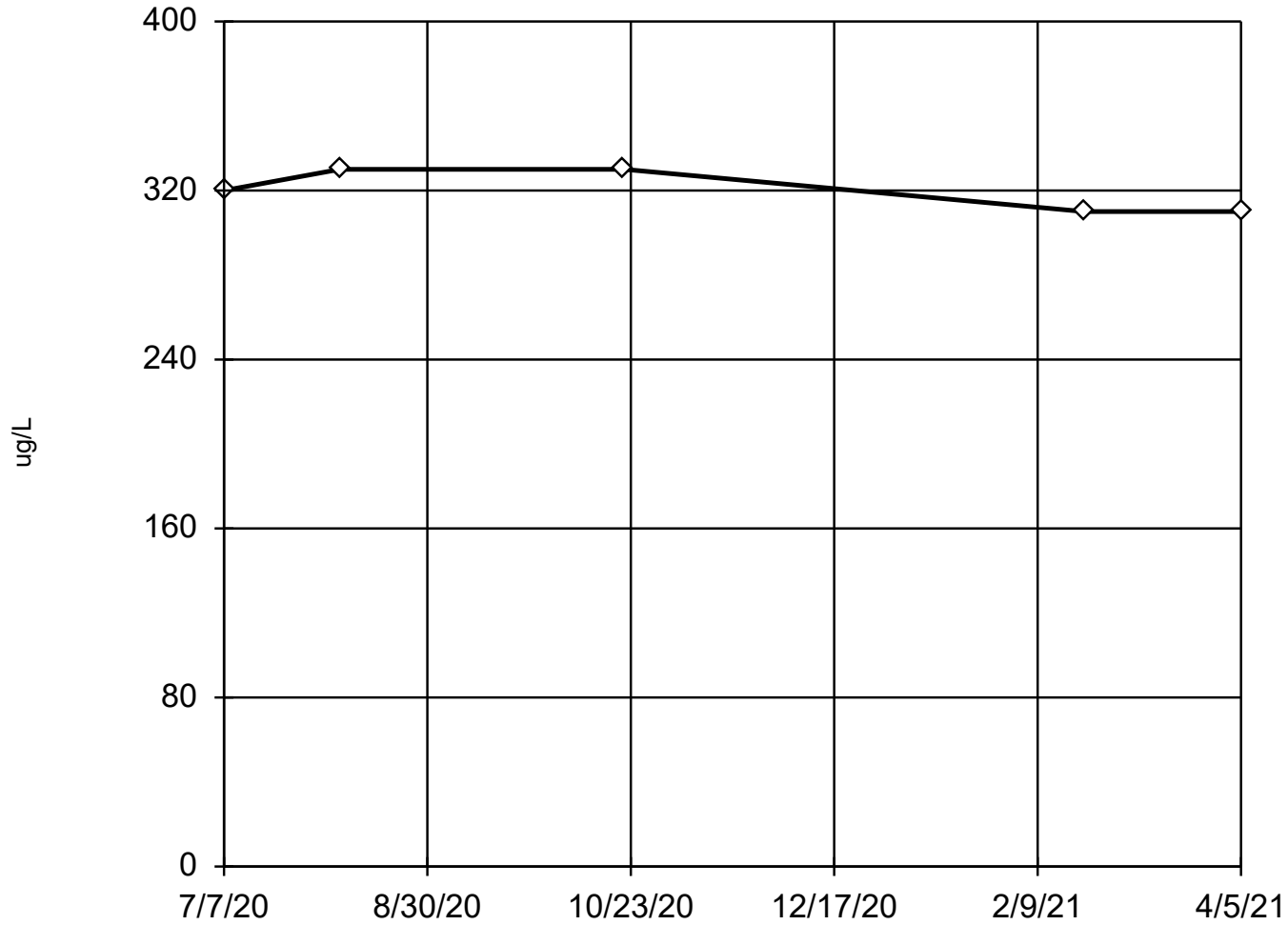
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	1.7 (J)
8/7/2020	1.1 (J)
10/22/2020	0.92 (J)
2/22/2021	<0.75 (U)
4/5/2021	0.96 (J)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 320, std. dev. 10,
critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8207
Critical = 0.806
The distribution was found
to be normally distrib-
uted.

Constituent: Barium Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Barium (ug/L) Analysis Run 6/28/2021 9:09 AM

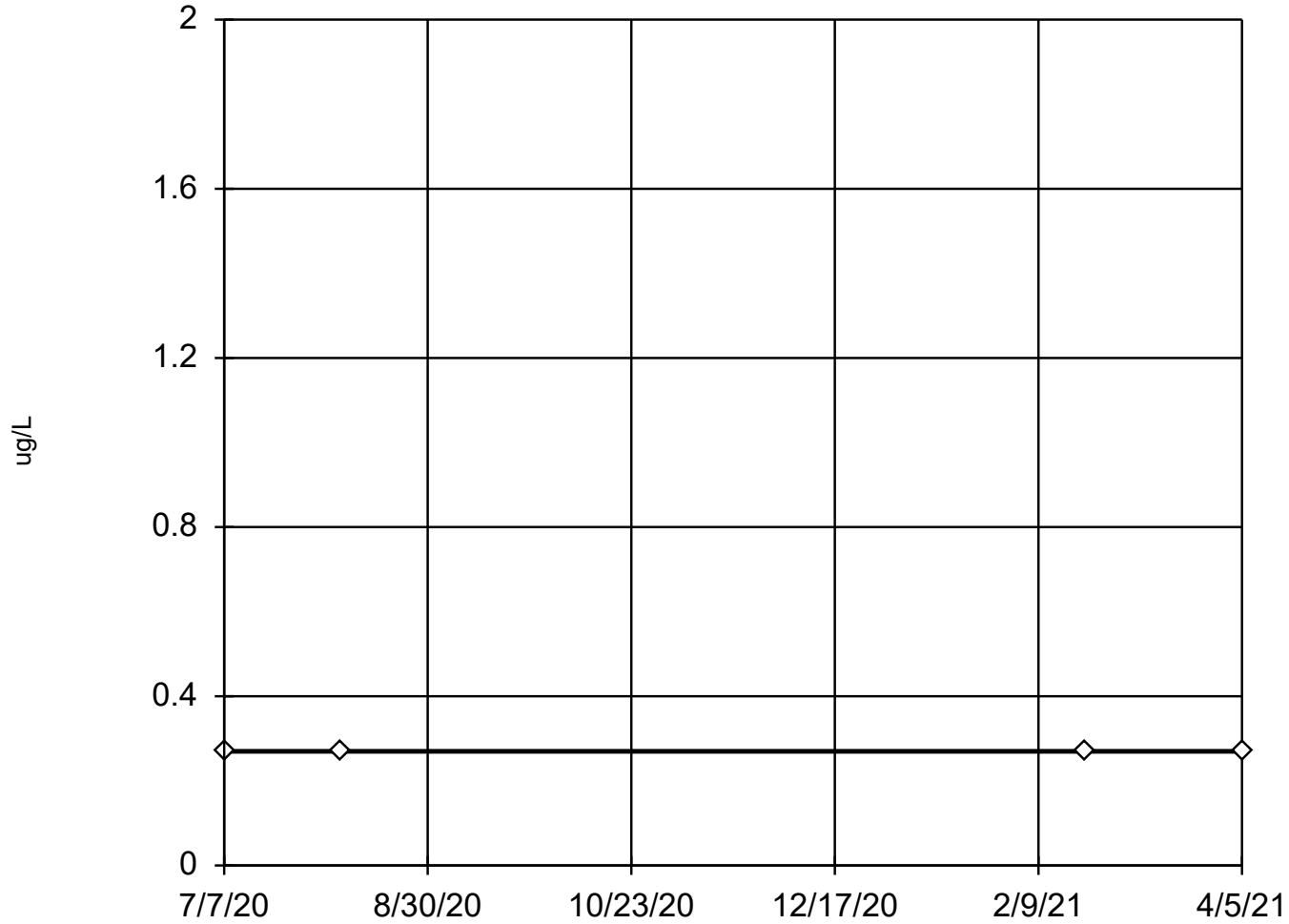
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	320
8/7/2020	330
10/22/2020	330
2/22/2021	310
4/5/2021	310

Tukey's Outlier Screening

MW-307 (bg)



n = 4

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Beryllium Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Beryllium (ug/L) Analysis Run 6/28/2021 9:09 AM

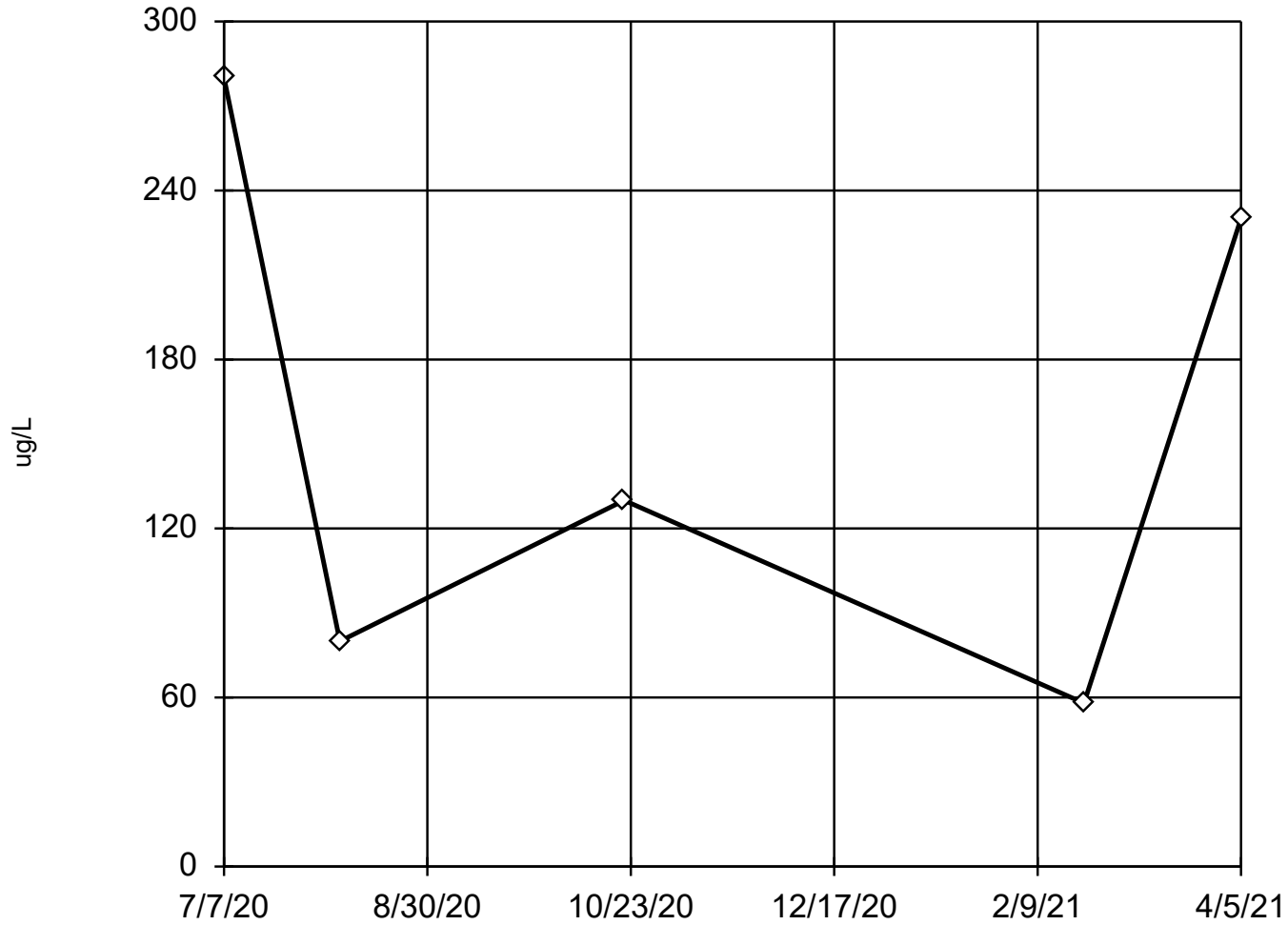
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<0.27 (U)
8/7/2020	<0.27 (U)
2/22/2021	<0.27 (U)
4/5/2021	<0.27 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 155.6, std. dev.
96.06, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9147
Critical = 0.806
The distribution was found
to be normally distrib-
uted.

Constituent: Boron Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Boron (ug/L) Analysis Run 6/28/2021 9:09 AM

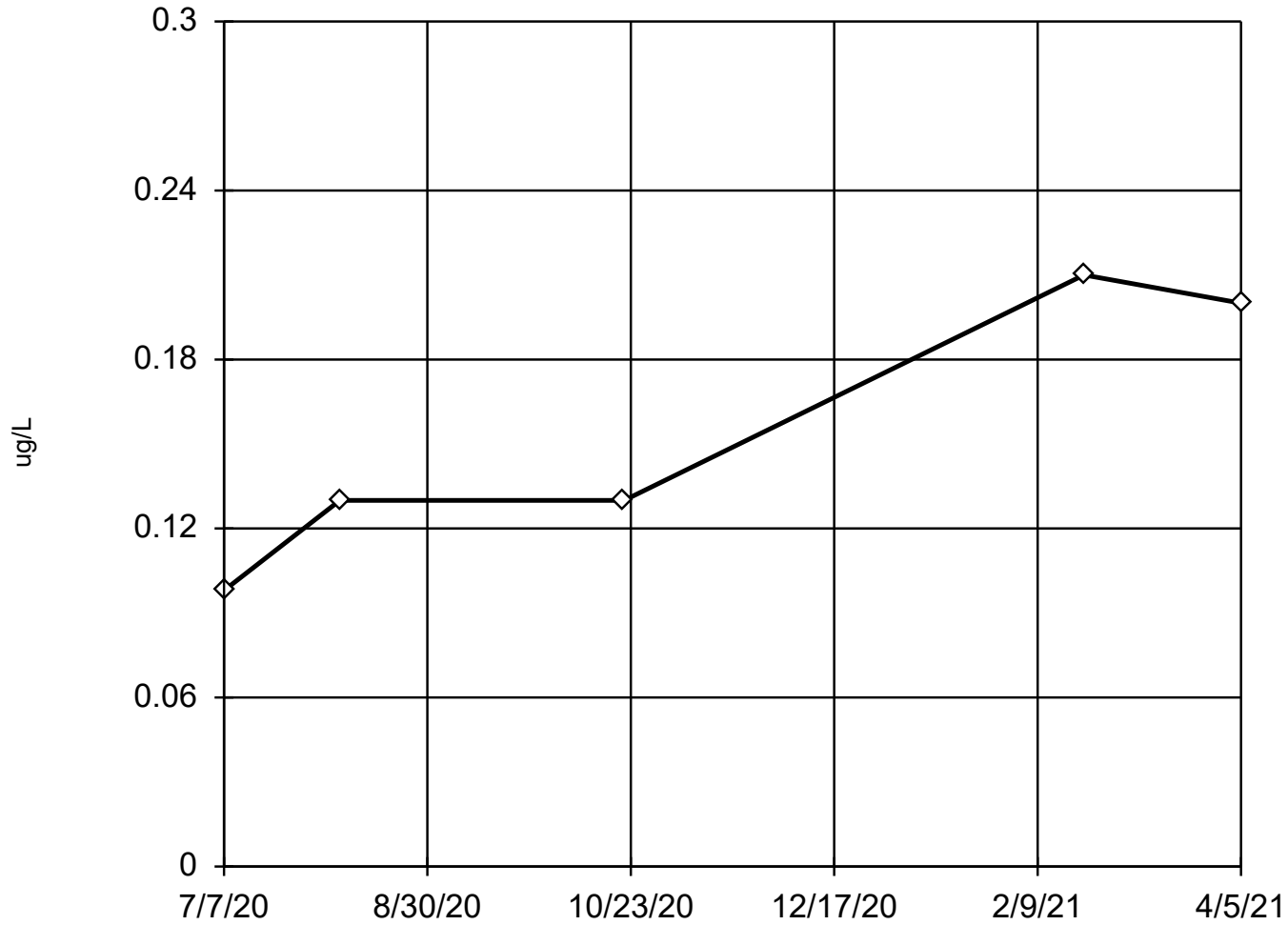
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	280
8/7/2020	<80 (U)
10/22/2020	130
2/22/2021	<58 (U)
4/5/2021	<230 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 0.1536, std. dev.
0.04883, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8743
Critical = 0.806
The distribution was found
to be normally distrib-
uted.

Constituent: Cadmium Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

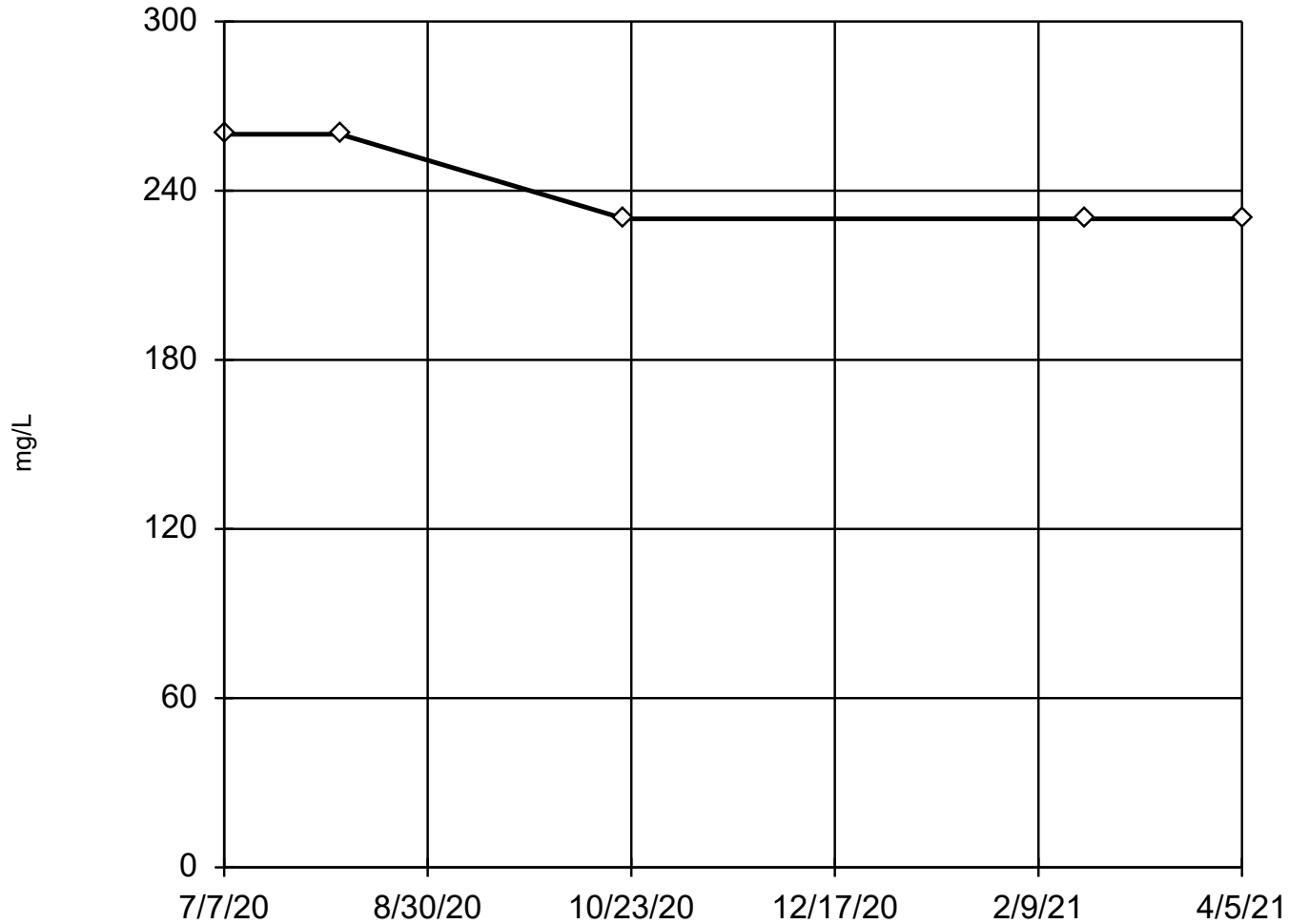
Constituent: Cadmium (ug/L) Analysis Run 6/28/2021 9:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	0.098 (J)
8/7/2020	0.13
10/22/2020	0.13
2/22/2021	0.21
4/5/2021	<0.2 (U)

Tukey's Outlier Screening MW-307 (bg)



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were x^5 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 309.1, low cutoff = -250.7, based on IQR multiplier of 3.

Constituent: Calcium Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Calcium (mg/L) Analysis Run 6/28/2021 9:09 AM

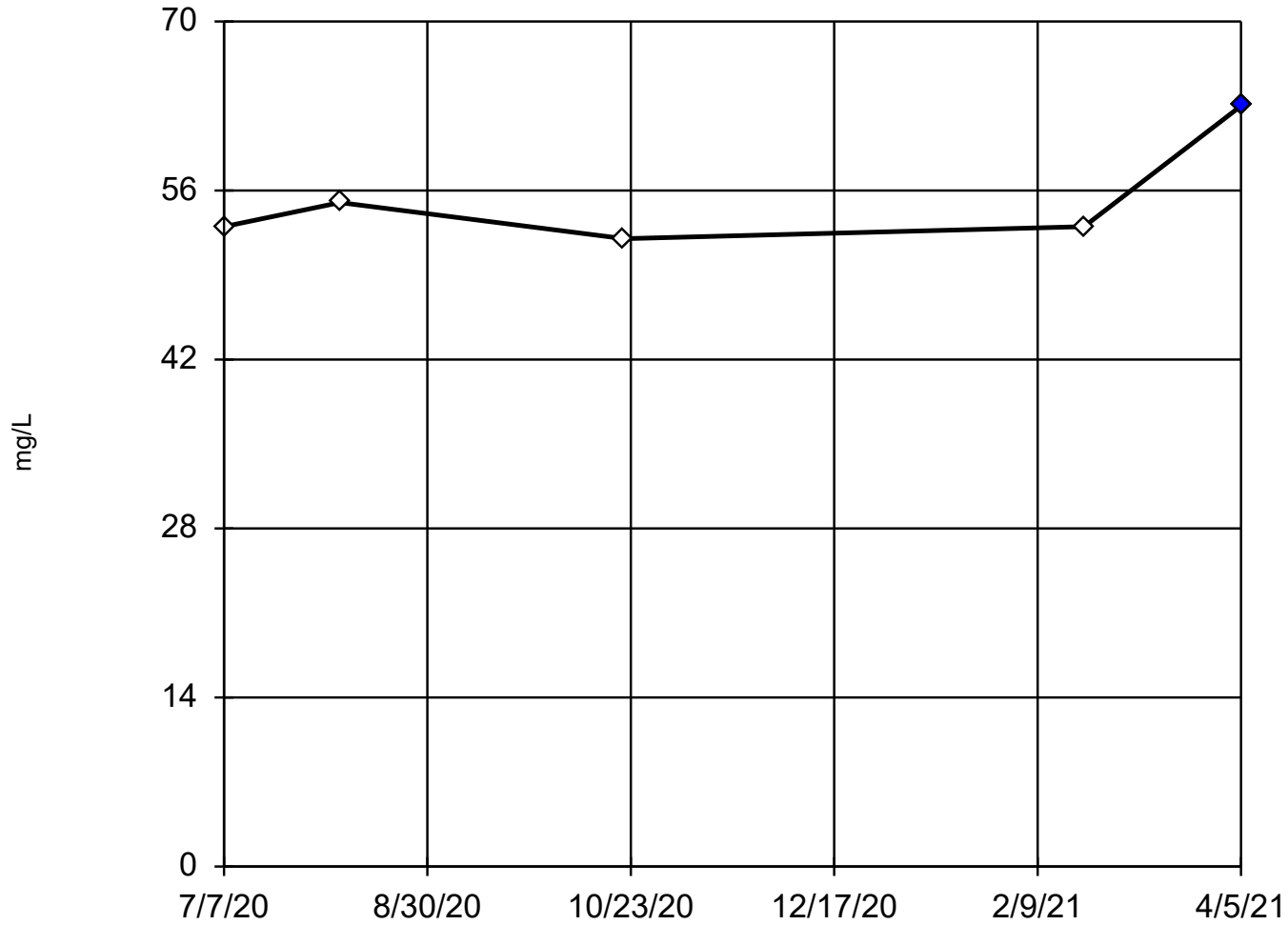
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	260
8/7/2020	260
10/22/2020	230
2/22/2021	230
4/5/2021	230

Dixon's Outlier Test

MW-307 (bg)



n = 5

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 55.2.
Std. Dev. = 4.494.
63: c = 0.7273
tab1 = 0.642.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8948
Critical = 0.792
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Chloride Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Dixon's Outlier Test

Constituent: Chloride (mg/L) Analysis Run 6/28/2021 9:09 AM

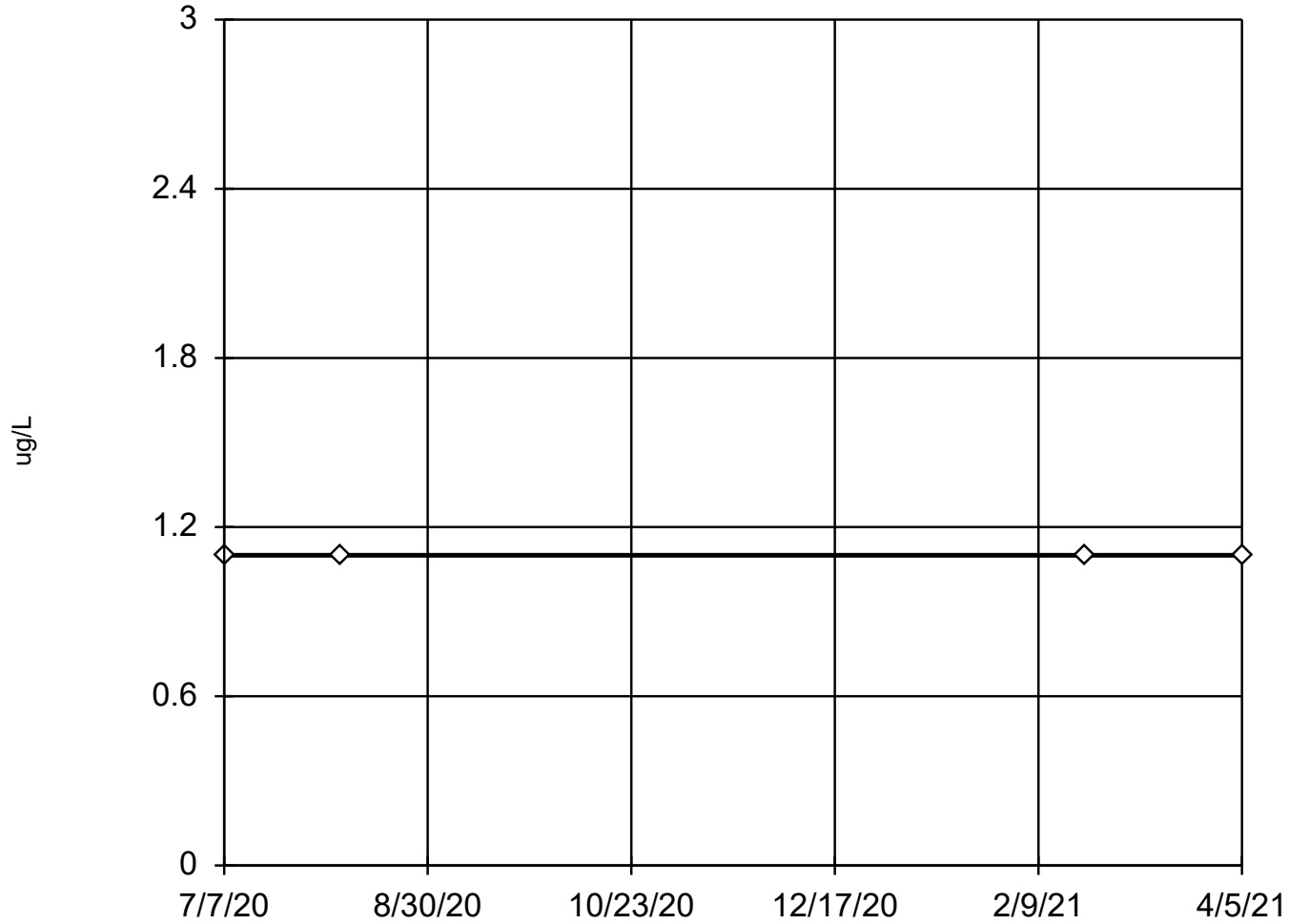
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	53
8/7/2020	55
10/22/2020	52
2/22/2021	53
4/5/2021	63 (O)

Tukey's Outlier Screening

MW-307 (bg)



n = 4

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Chromium Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Chromium (ug/L) Analysis Run 6/28/2021 9:09 AM

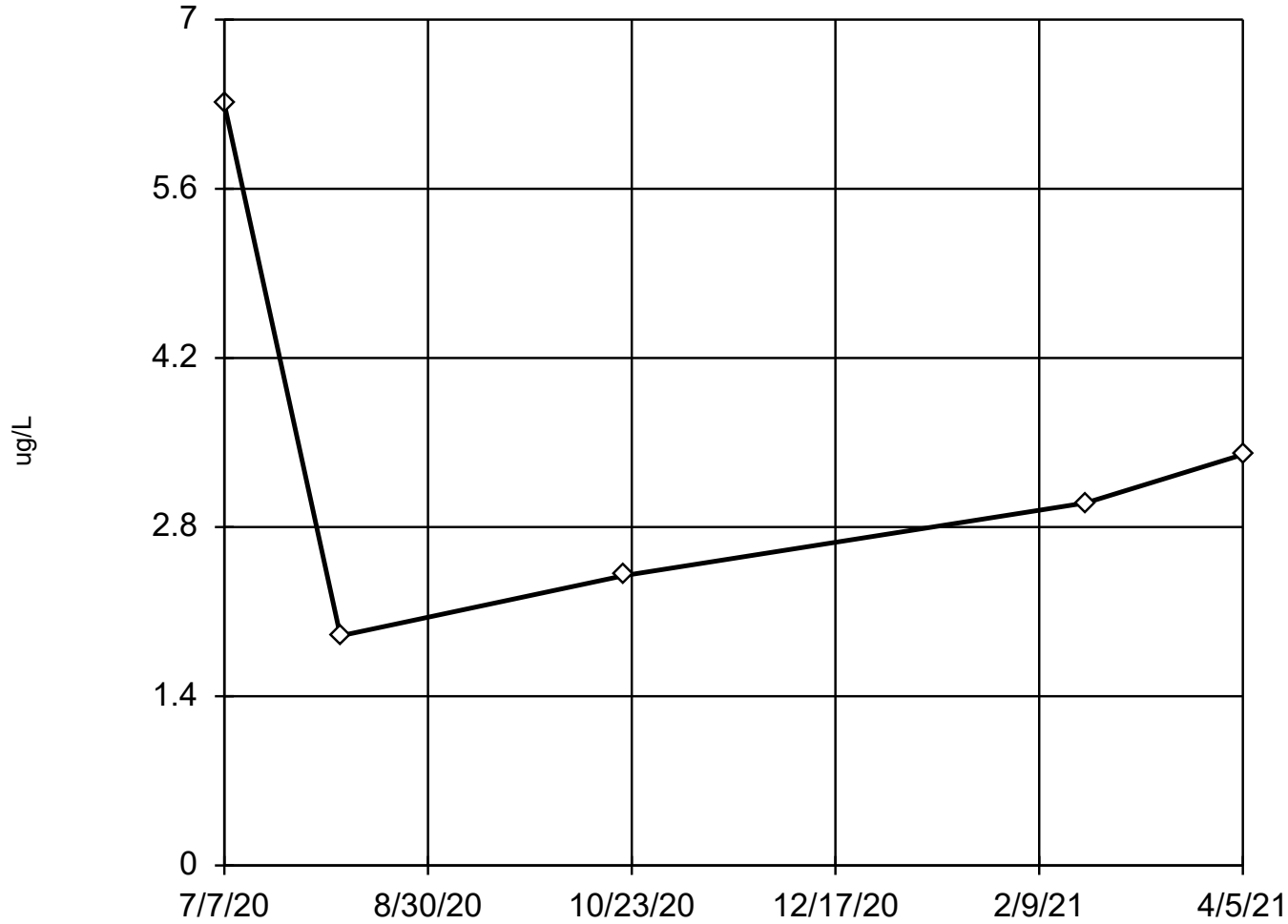
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<1.1 (U)
8/7/2020	<1.1 (U)
2/22/2021	<1.1 (U)
4/5/2021	<1.1 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 3.4, std. dev. 1.719,
critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8478
Critical = 0.806
The distribution was found
to be normally distrib-
uted.

Constituent: Cobalt Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Cobalt (ug/L) Analysis Run 6/28/2021 9:09 AM

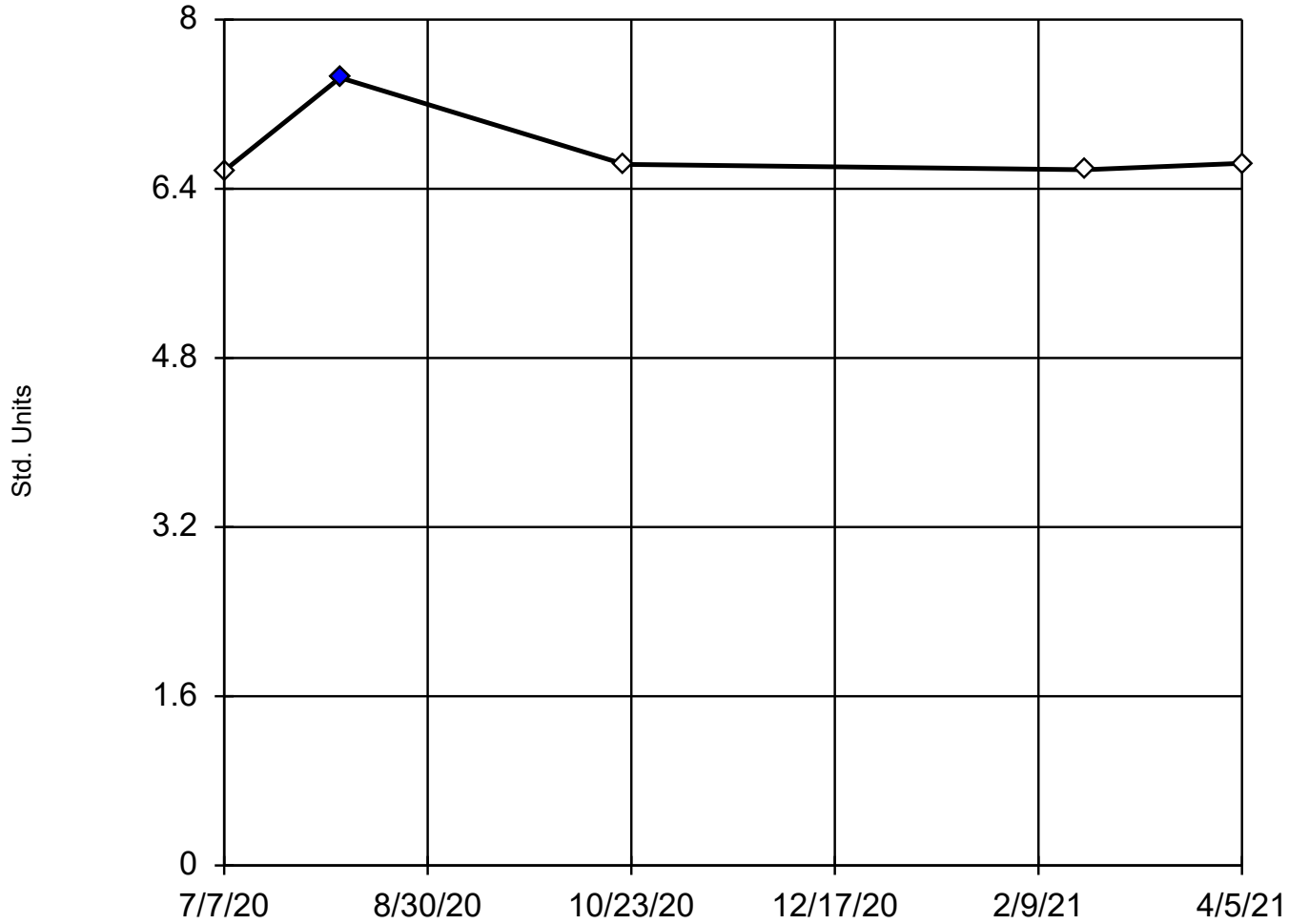
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	6.3
8/7/2020	1.9
10/22/2020	2.4
2/22/2021	3
4/5/2021	3.4

Dixon's Outlier Test

MW-307 (bg)



n = 5

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 6.774.
Std. Dev. = 0.3791.
7.45: c = 0.9205
tab1 = 0.642.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.8624
Critical = 0.792
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Field pH Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Dixon's Outlier Test

Constituent: Field pH (Std. Units) Analysis Run 6/28/2021 9:09 AM

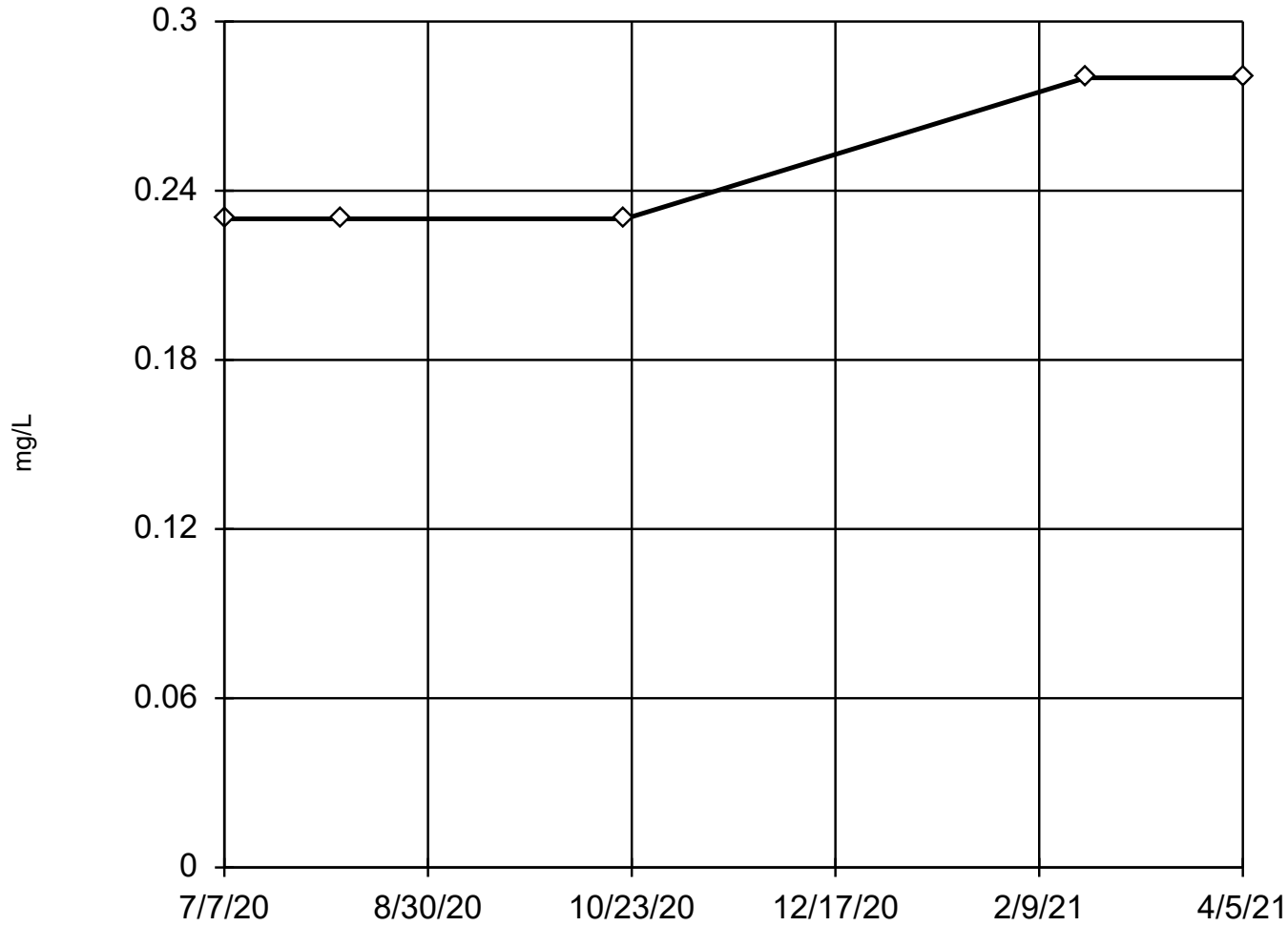
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	6.57
8/7/2020	7.45 (O)
10/22/2020	6.63
2/22/2021	6.58
4/5/2021	6.64

Tukey's Outlier Screening

MW-307 (bg)



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were x⁵ transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Fluoride Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

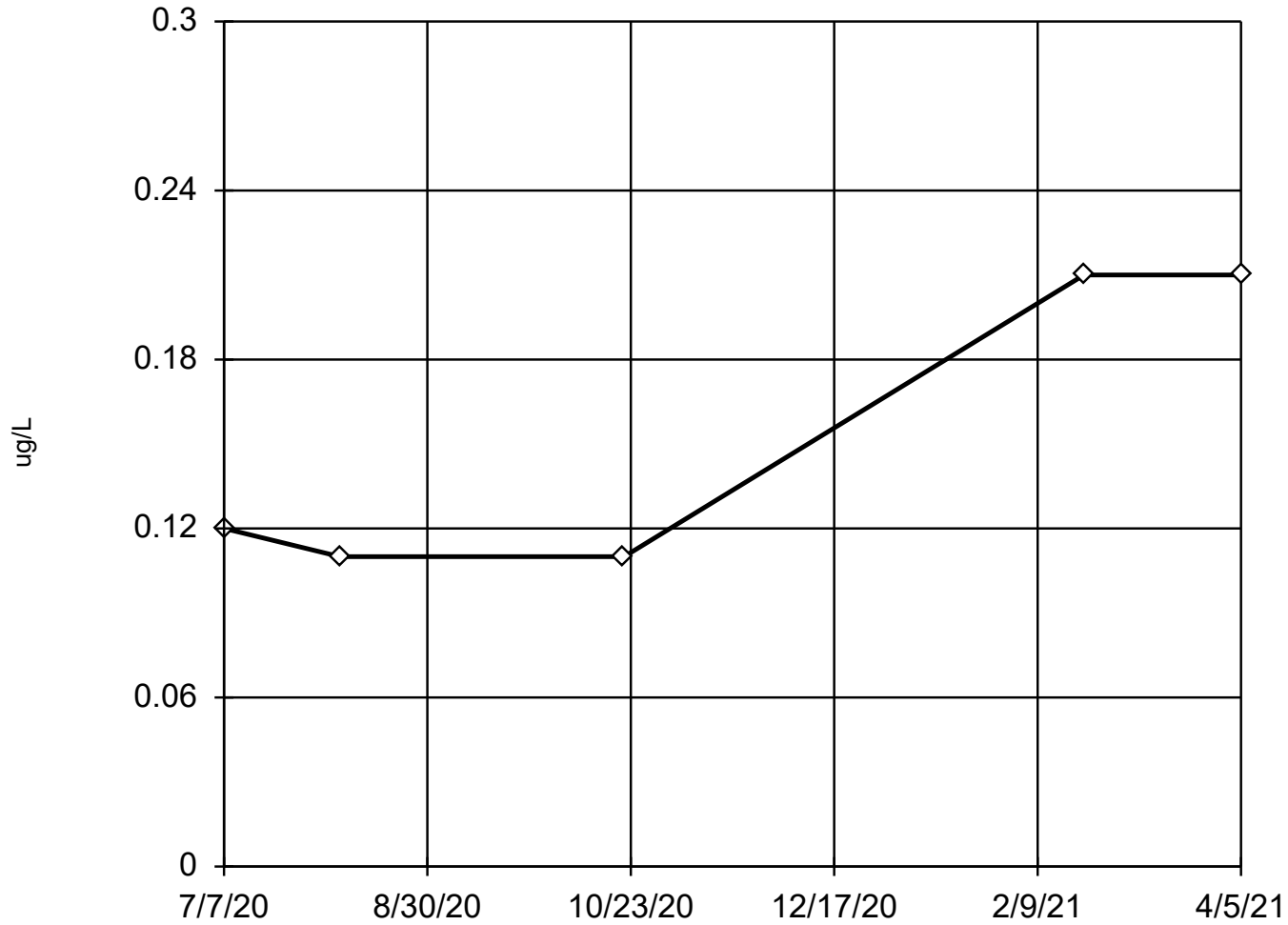
Constituent: Fluoride (mg/L) Analysis Run 6/28/2021 9:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<0.23 (U)
8/7/2020	<0.23 (U)
10/22/2020	<0.23 (U)
2/22/2021	<0.28 (U)
4/5/2021	<0.28 (U)

Tukey's Outlier Screening MW-307 (bg)



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Lead Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

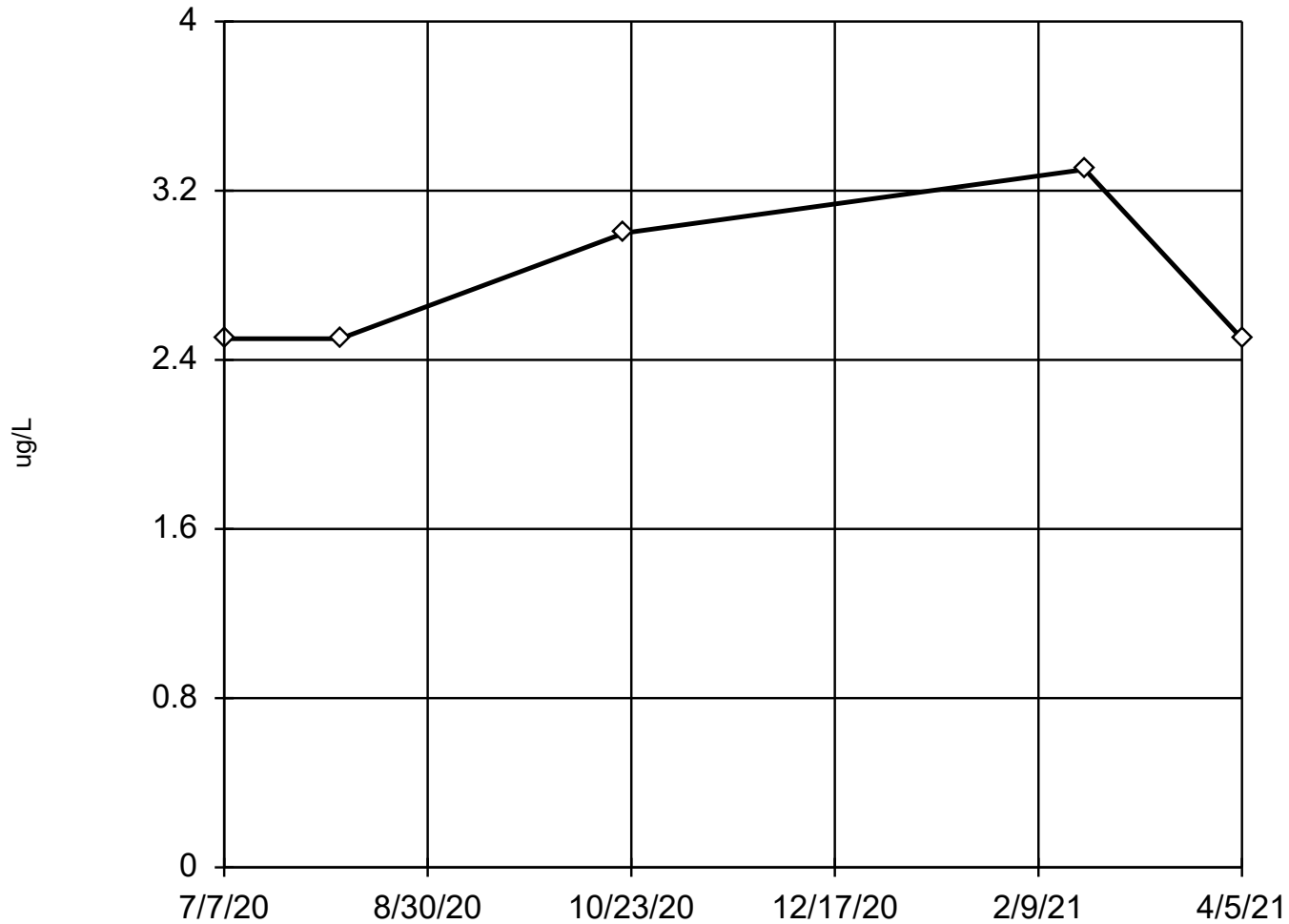
Constituent: Lead (ug/L) Analysis Run 6/28/2021 9:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	0.12 (J)
8/7/2020	<0.11 (U)
10/22/2020	<0.11 (U)
2/22/2021	<0.21 (U)
4/5/2021	<0.21 (U)

Tukey's Outlier Screening MW-307 (bg)



n = 5

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were cube transformed to achieve best W statistic (graph shown in original units).

High cutoff = 4.291, low cutoff = -3.172, based on IQR multiplier of 3.

Constituent: Lithium Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Lithium (ug/L) Analysis Run 6/28/2021 9:09 AM

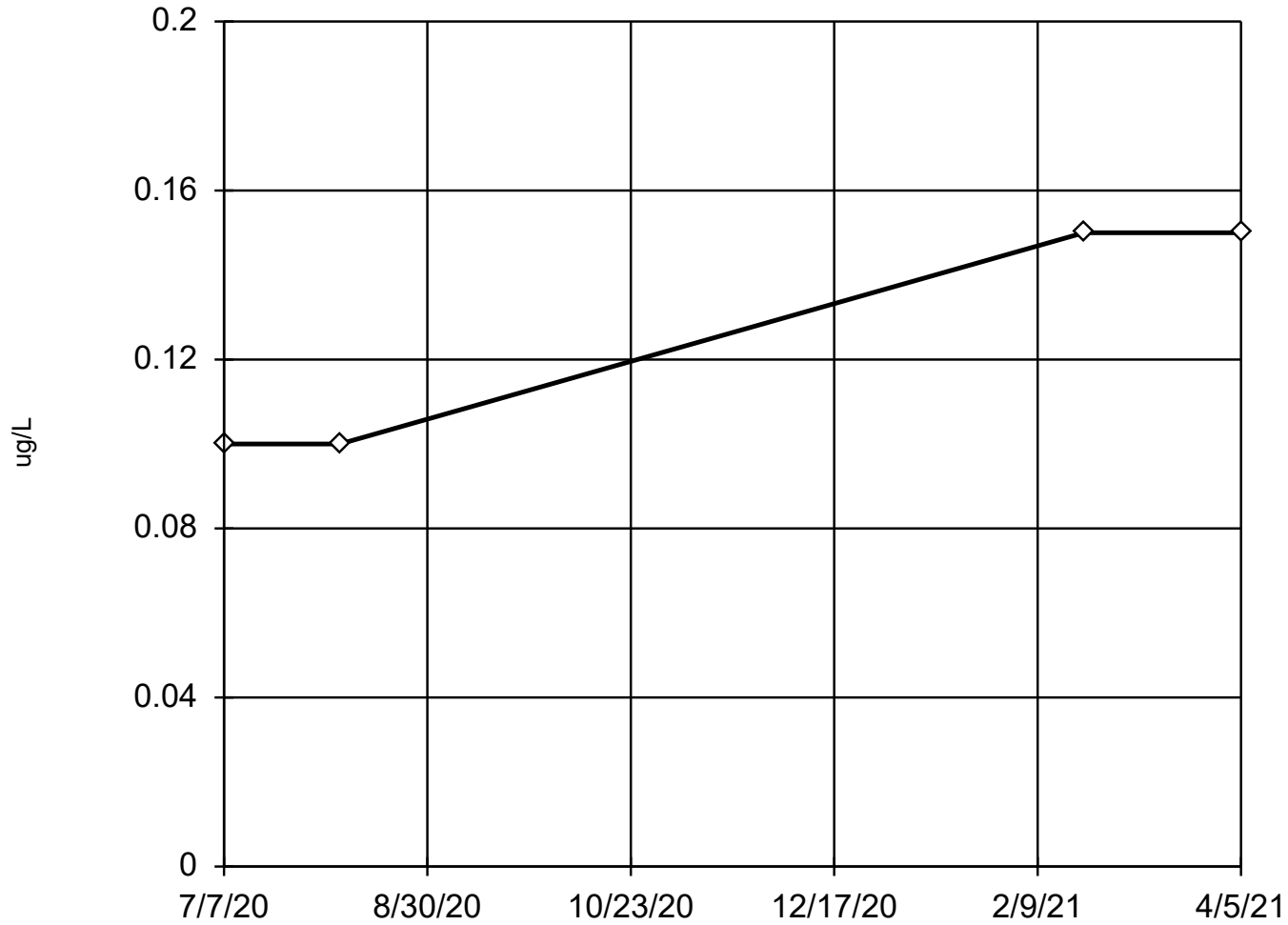
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<2.5 (U)
8/7/2020	<2.5 (U)
10/22/2020	3 (J)
2/22/2021	3.3 (J)
4/5/2021	2.5 (J)

Tukey's Outlier Screening

MW-307 (bg)



n = 4

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were square transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Mercury Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Mercury (ug/L) Analysis Run 6/28/2021 9:09 AM

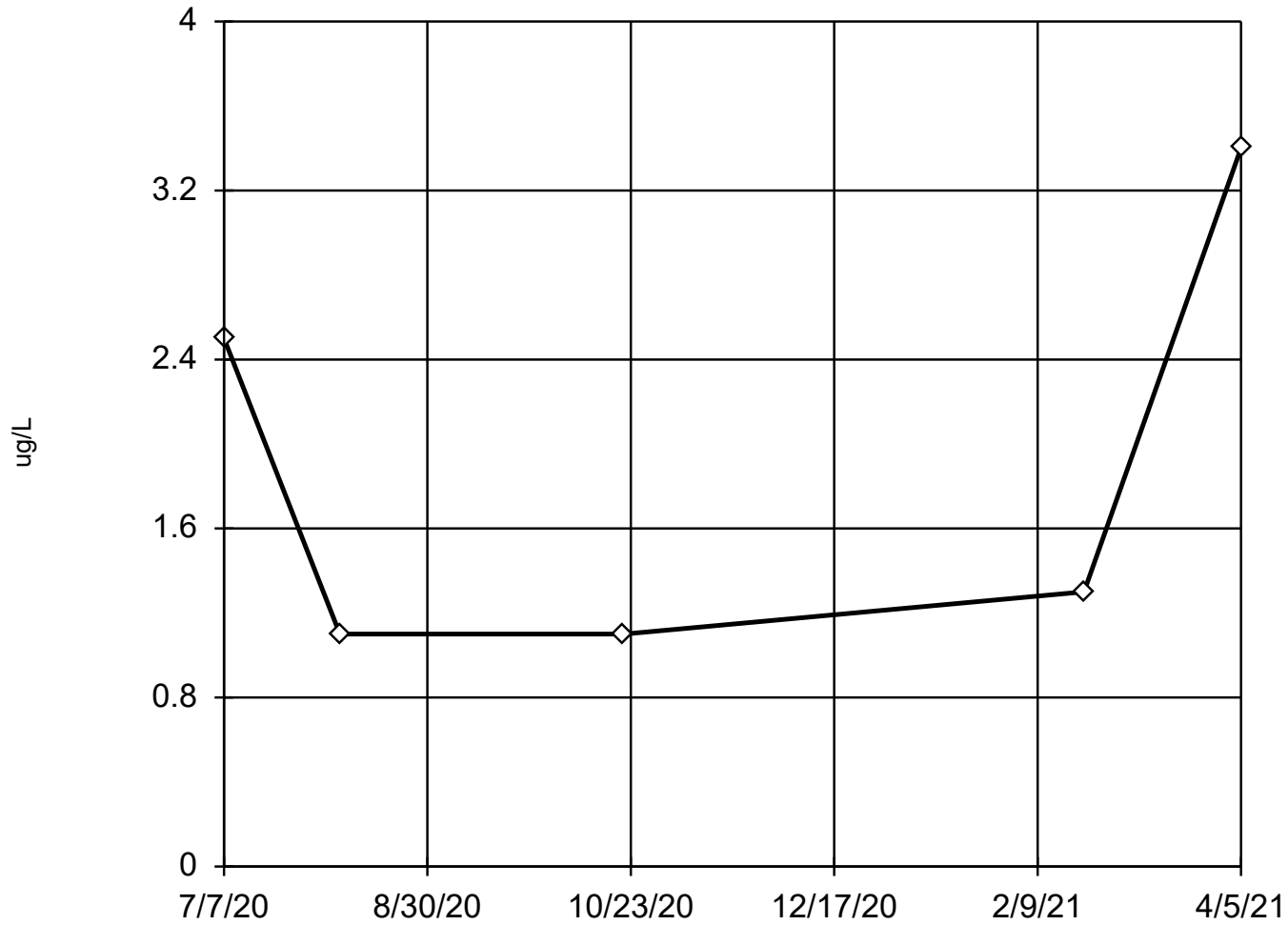
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<0.1 (U)
8/7/2020	<0.1 (U)
2/22/2021	<0.15 (U)
4/5/2021	<0.15 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 1.88, std. dev. 1.031, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.82
Critical = 0.806
The distribution was found to be normally distributed.

Constituent: Molybdenum Analysis Run 6/28/2021 9:05 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Molybdenum (ug/L) Analysis Run 6/28/2021 9:09 AM

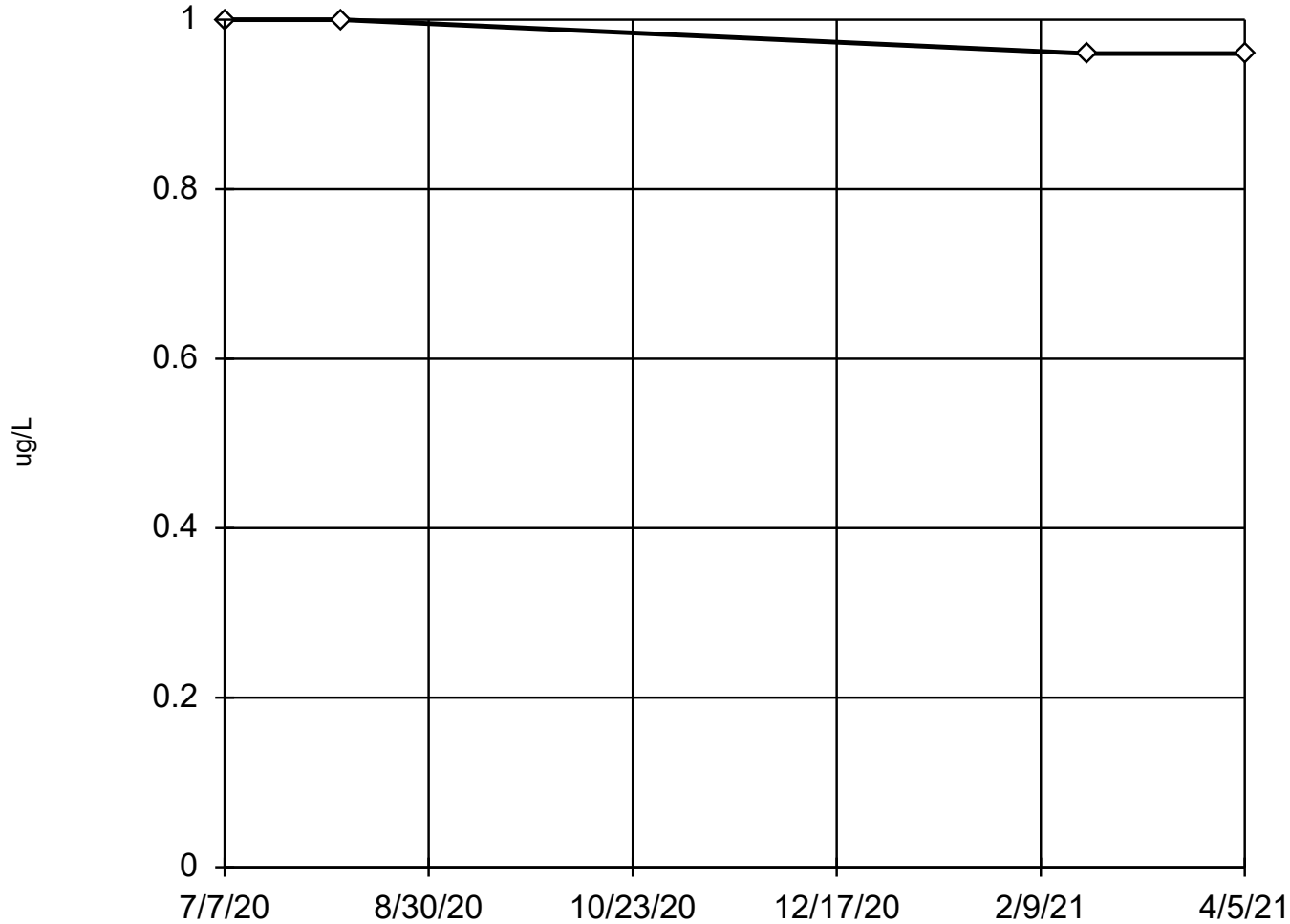
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	2.5
8/7/2020	<1.1 (U)
10/22/2020	<1.1 (U)
2/22/2021	<1.3 (U)
4/5/2021	3.4

Tukey's Outlier Screening

MW-307 (bg)



n = 4

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Data were x⁵ transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Selenium Analysis Run 6/28/2021 9:06 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Selenium (ug/L) Analysis Run 6/28/2021 9:09 AM

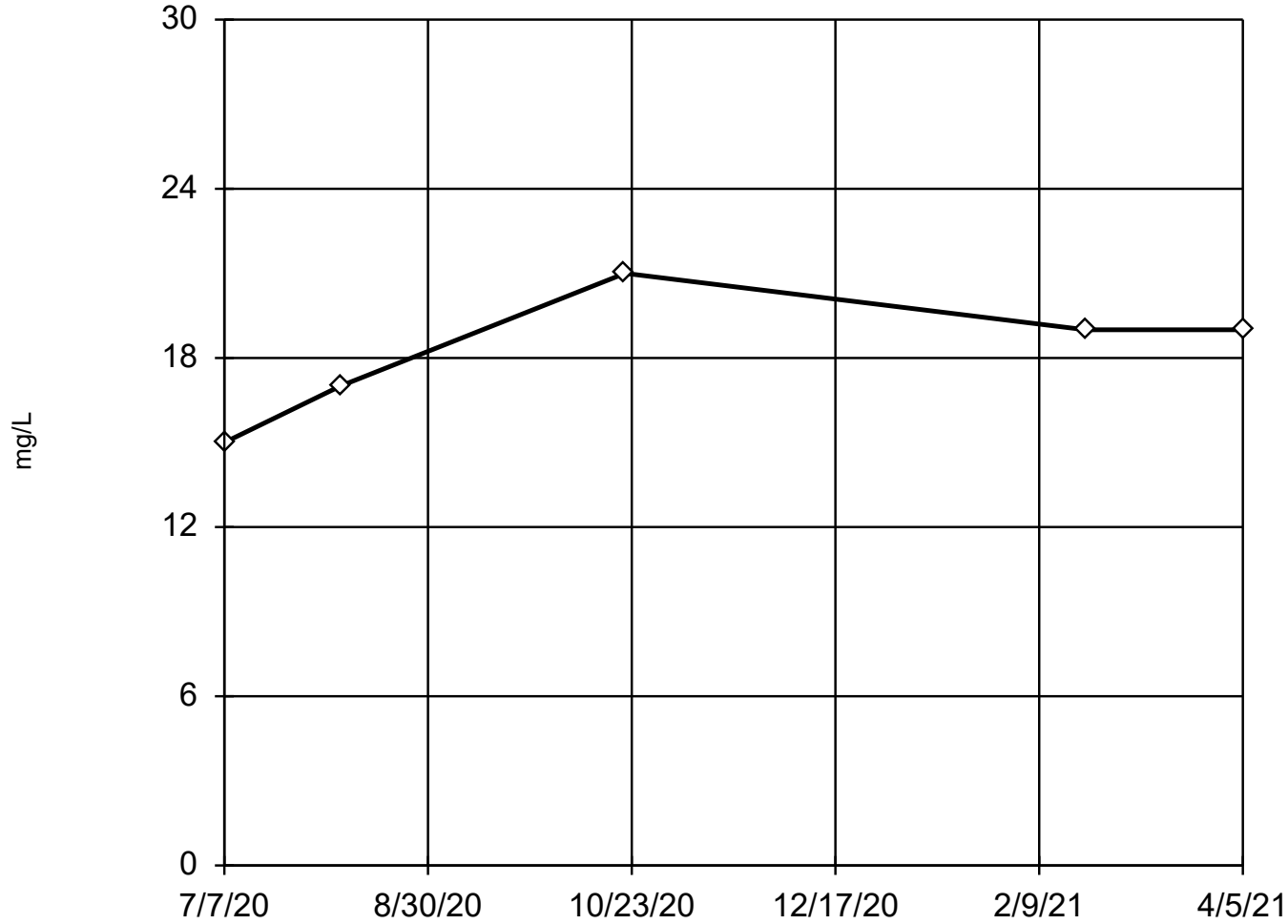
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<1 (U)
8/7/2020	<1 (U)
2/22/2021	<0.96 (U)
4/5/2021	<0.96 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified
or unable to establish
suspect values.
Mean 18.2, std. dev. 2.28,
critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9607
Critical = 0.806
The distribution was found
to be normally distrib-
uted.

Constituent: Sulfate Analysis Run 6/28/2021 9:06 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Sulfate (mg/L) Analysis Run 6/28/2021 9:09 AM

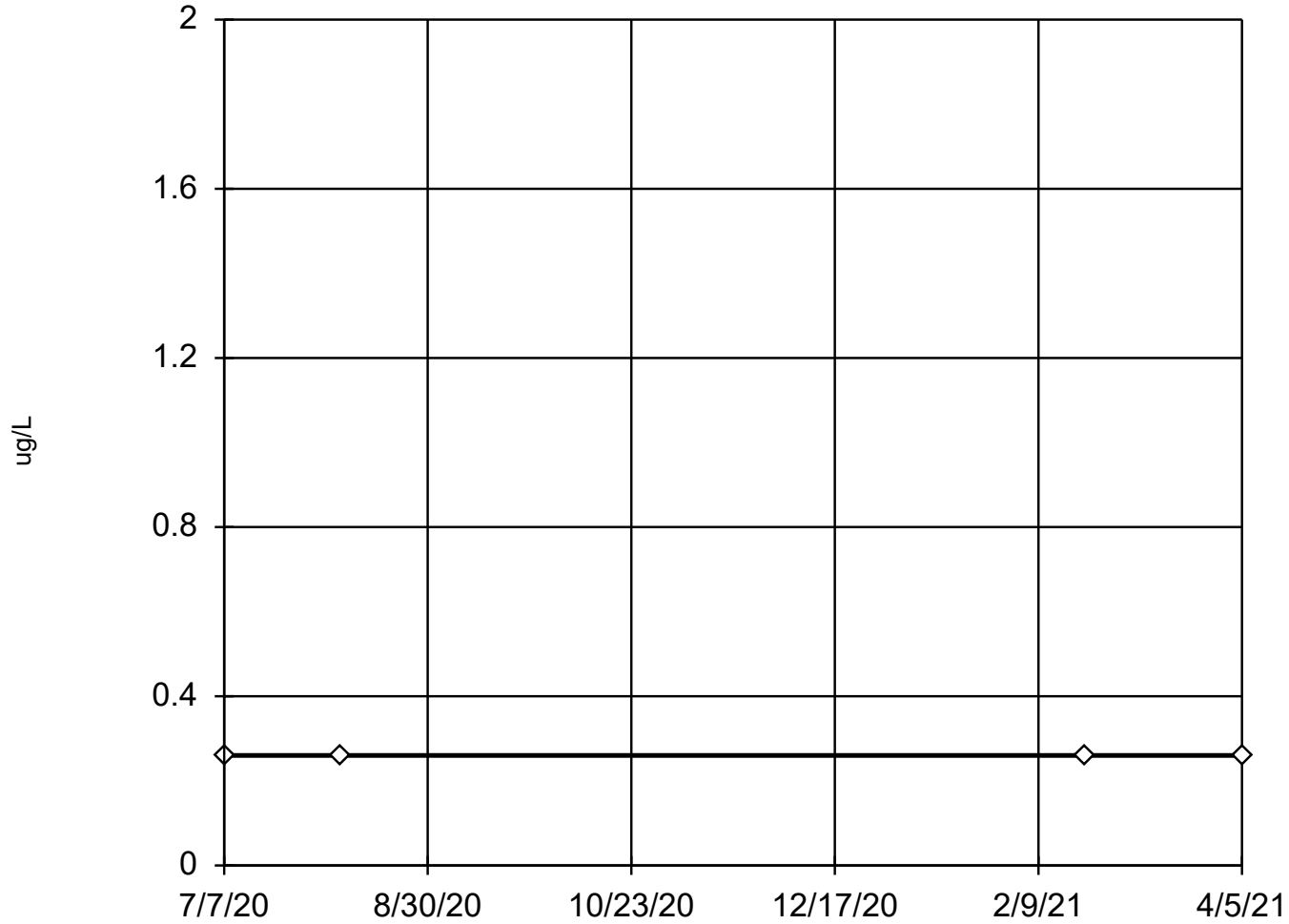
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	15
8/7/2020	17
10/22/2020	21
2/22/2021	19
4/5/2021	19

Tukey's Outlier Screening

MW-307 (bg)



n = 4

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.1 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium Analysis Run 6/28/2021 9:06 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Thallium (ug/L) Analysis Run 6/28/2021 9:09 AM

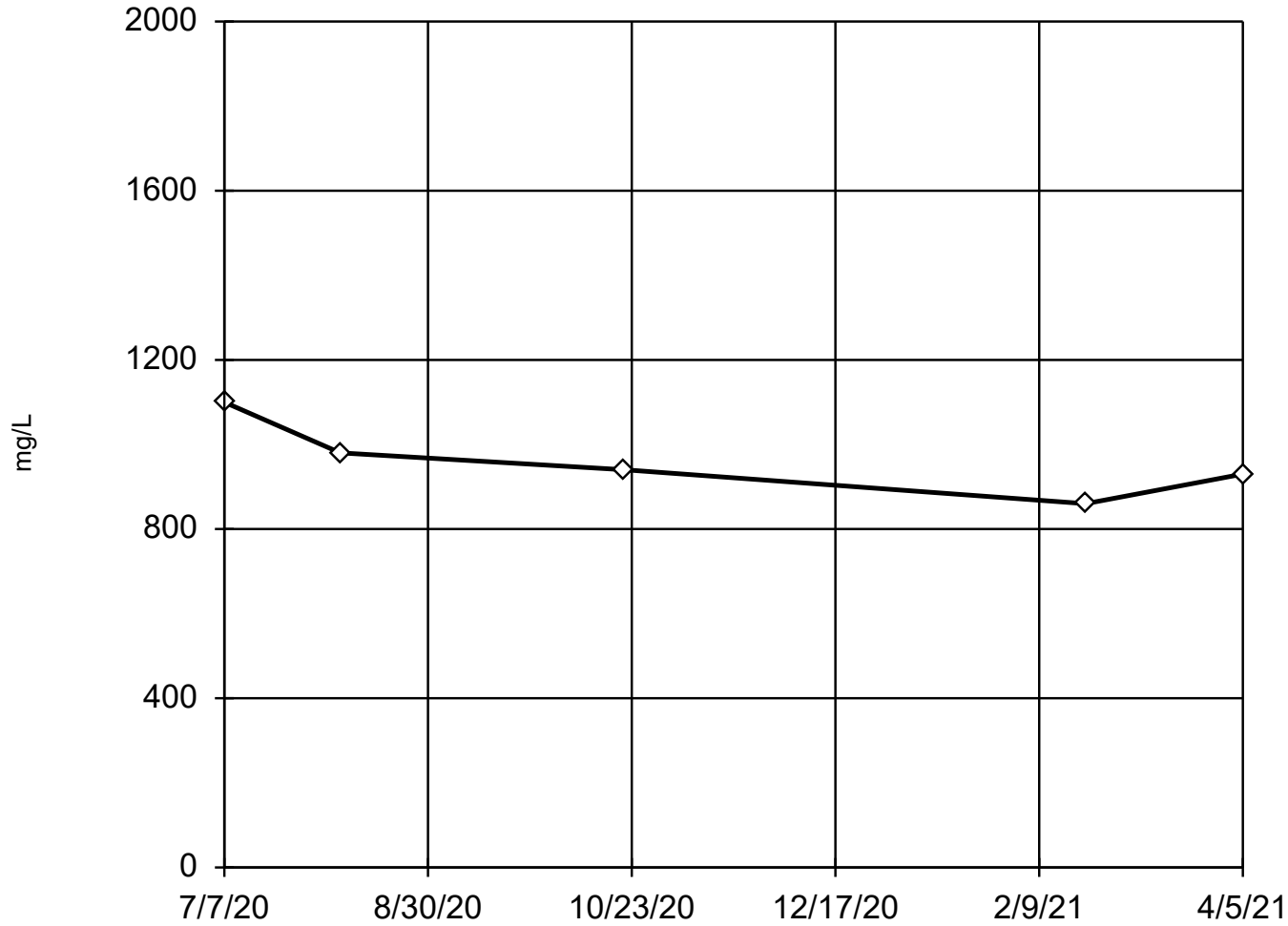
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	<0.26 (U)
8/7/2020	<0.26 (U)
2/22/2021	<0.26 (U)
4/5/2021	<0.26 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-307 (bg)



n = 5

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 962, std. dev. 88.43, critical Tn 1.672

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.941
Critical = 0.806
The distribution was found to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 6/28/2021 9:06 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/28/2021 9:09 AM

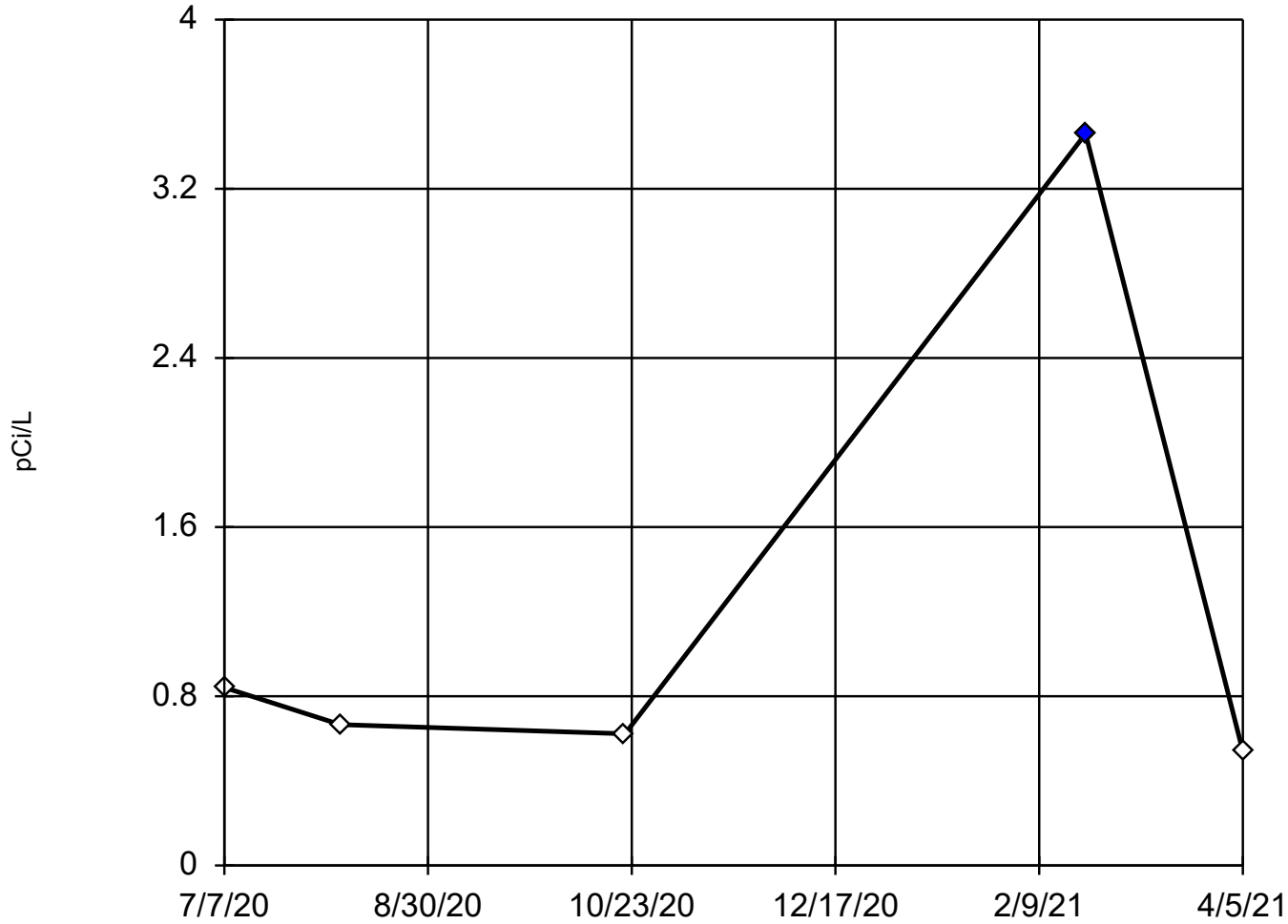
M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	1100
8/7/2020	980
10/22/2020	940
2/22/2021	860
4/5/2021	930

Dixon's Outlier Test

MW-307 (bg)



n = 5

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 1.226.
Std. Dev. = 1.254.
3.46: c = 0.8969
tab1 = 0.642.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.1
Calculated = 0.9479
Critical = 0.792
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Total Radium Analysis Run 6/28/2021 9:06 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Dixon's Outlier Test

Constituent: Total Radium (pCi/L) Analysis Run 6/28/2021 9:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

MW-307 (bg)

7/7/2020	0.841
8/7/2020	0.666
10/22/2020	0.623
2/22/2021	3.46 (O)
4/5/2021	0.54

Attachment 3

Interwell Prediction Limit Analysis

Prediction Limit

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020 Printed 8/2/2021, 11:09 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (ug/L)	MW-301	2.72	n/a	4/5/2021	0.375ND	No	5	MW-307	1.086	0.3267	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Arsenic (ug/L)	MW-302	2.72	n/a	4/5/2021	7.1	Yes	5	MW-307	1.086	0.3267	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Arsenic (ug/L)	MW-303	2.72	n/a	4/5/2021	14	Yes	5	MW-307	1.086	0.3267	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Arsenic (ug/L)	MW-304	2.72	n/a	4/5/2021	6.6	Yes	5	MW-307	1.086	0.3267	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Arsenic (ug/L)	MW-305	2.72	n/a	4/5/2021	1.6J	No	5	MW-307	1.086	0.3267	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Arsenic (ug/L)	MW-306	2.72	n/a	4/5/2021	0.375ND	No	5	MW-307	1.086	0.3267	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Barium (ug/L)	MW-301	370	n/a	4/5/2021	79	No	5	MW-307	320	10	0	None	No	0.0006269	Param Inter 1 of 2
Barium (ug/L)	MW-302	370	n/a	4/5/2021	92	No	5	MW-307	320	10	0	None	No	0.0006269	Param Inter 1 of 2
Barium (ug/L)	MW-303	370	n/a	4/5/2021	81	No	5	MW-307	320	10	0	None	No	0.0006269	Param Inter 1 of 2
Barium (ug/L)	MW-304	370	n/a	4/5/2021	180	No	5	MW-307	320	10	0	None	No	0.0006269	Param Inter 1 of 2
Barium (ug/L)	MW-305	370	n/a	4/5/2021	100	No	5	MW-307	320	10	0	None	No	0.0006269	Param Inter 1 of 2
Barium (ug/L)	MW-306	370	n/a	4/5/2021	84	No	5	MW-307	320	10	0	None	No	0.0006269	Param Inter 1 of 2
Boron (ug/L)	MW-301	280	n/a	4/5/2021	14000	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Boron (ug/L)	MW-302	280	n/a	4/5/2021	5500	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Boron (ug/L)	MW-303	280	n/a	4/5/2021	5200	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Boron (ug/L)	MW-304	280	n/a	4/5/2021	11000	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Boron (ug/L)	MW-305	280	n/a	4/5/2021	16000	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Boron (ug/L)	MW-306	280	n/a	4/5/2021	15000	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Cadmium (ug/L)	MW-301	0.343	n/a	4/5/2021	0.44	Yes	5	MW-307	0.1289	0.04272	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Cadmium (ug/L)	MW-302	0.343	n/a	4/5/2021	0.2ND	No	5	MW-307	0.1289	0.04272	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Cadmium (ug/L)	MW-303	0.343	n/a	4/5/2021	0.051ND	No	5	MW-307	0.1289	0.04272	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Cadmium (ug/L)	MW-304	0.343	n/a	4/5/2021	0.2ND	No	5	MW-307	0.1289	0.04272	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Cadmium (ug/L)	MW-305	0.343	n/a	4/5/2021	0.36ND	No	5	MW-307	0.1289	0.04272	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Cadmium (ug/L)	MW-306	0.343	n/a	4/5/2021	0.051ND	No	5	MW-307	0.1289	0.04272	20	Kapla...	No	0.0006269	Param Inter 1 of 2
Calcium (mg/L)	MW-301	260	n/a	4/5/2021	130	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Calcium (mg/L)	MW-302	260	n/a	4/5/2021	96	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Calcium (mg/L)	MW-303	260	n/a	4/5/2021	170	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Calcium (mg/L)	MW-304	260	n/a	4/5/2021	130	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Calcium (mg/L)	MW-305	260	n/a	4/5/2021	190	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Calcium (mg/L)	MW-306	260	n/a	4/5/2021	150	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Chloride (mg/L)	MW-301	63.0	n/a	4/5/2021	51	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Chloride (mg/L)	MW-302	63.0	n/a	4/5/2021	11	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Chloride (mg/L)	MW-303	63.0	n/a	4/5/2021	11	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Chloride (mg/L)	MW-304	63.0	n/a	4/5/2021	20	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Chloride (mg/L)	MW-305	63.0	n/a	4/5/2021	18	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Chloride (mg/L)	MW-306	63.0	n/a	4/5/2021	120	Yes	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Cobalt (ug/L)	MW-301	12	n/a	4/5/2021	4.6	No	5	MW-307	3.4	1.719	0	None	No	0.0006269	Param Inter 1 of 2
Cobalt (ug/L)	MW-302	12	n/a	4/5/2021	0.19J	No	5	MW-307	3.4	1.719	0	None	No	0.0006269	Param Inter 1 of 2
Cobalt (ug/L)	MW-303	12	n/a	4/5/2021	1	No	5	MW-307	3.4	1.719	0	None	No	0.0006269	Param Inter 1 of 2
Cobalt (ug/L)	MW-304	12	n/a	4/5/2021	1.2	No	5	MW-307	3.4	1.719	0	None	No	0.0006269	Param Inter 1 of 2
Cobalt (ug/L)	MW-305	12	n/a	4/5/2021	0.8	No	5	MW-307	3.4	1.719	0	None	No	0.0006269	Param Inter 1 of 2
Cobalt (ug/L)	MW-306	12	n/a	4/5/2021	0.0455ND	No	5	MW-307	3.4	1.719	0	None	No	0.0006269	Param Inter 1 of 2
Field pH (Std. Units)	MW-301	7.45	n/a	4/5/2021	6.52	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Field pH (Std. Units)	MW-302	7.45	n/a	4/5/2021	7.56	Yes	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Field pH (Std. Units)	MW-303	7.45	n/a	4/5/2021	7.19	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Field pH (Std. Units)	MW-304	7.45	n/a	4/5/2021	6.8	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Field pH (Std. Units)	MW-305	7.45	n/a	4/5/2021	7.31	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Field pH (Std. Units)	MW-306	7.45	n/a	4/5/2021	7.05	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Lead (ug/L)	MW-301	0.210	n/a	4/5/2021	0.21ND	No	5	MW-307	n/a	n/a	80	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Lead (ug/L)	MW-302	0.210	n/a	4/5/2021	0.21ND	No	5	MW-307	n/a	n/a	80	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2

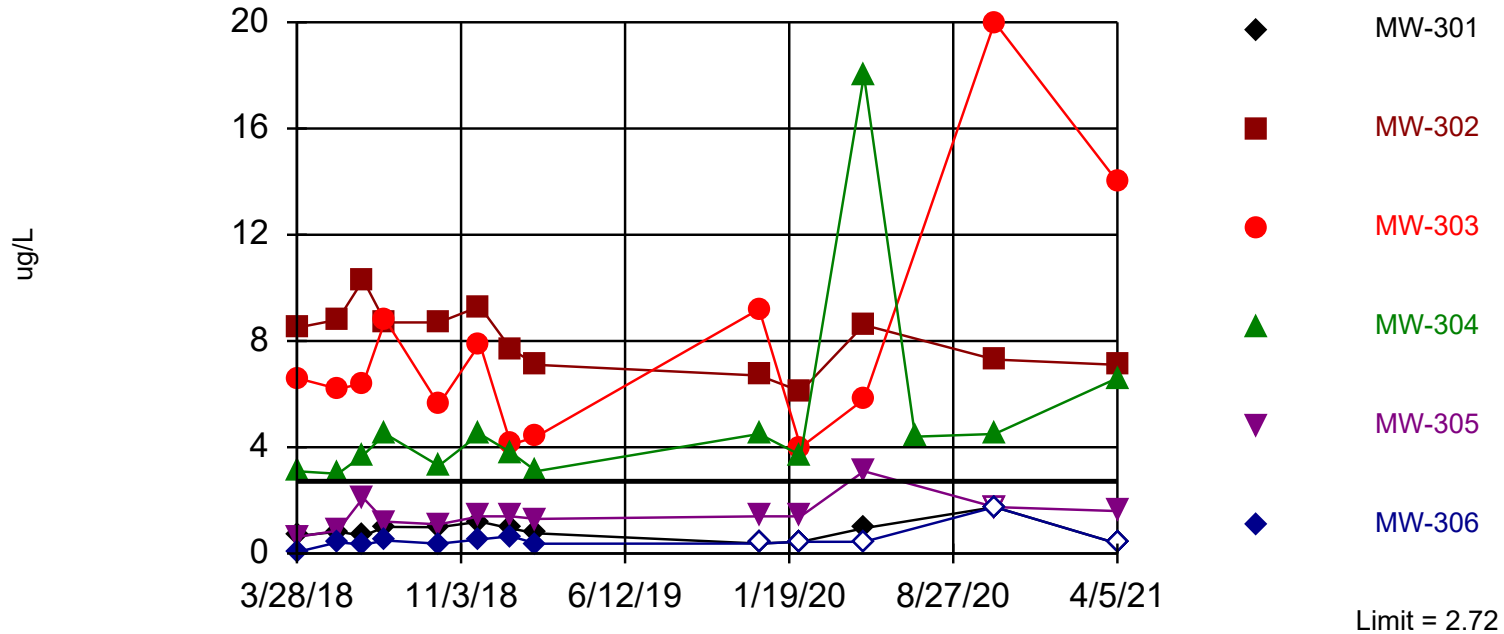
Prediction Limit

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020 Printed 8/2/2021, 11:09 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lead (ug/L)	MW-303	0.210	n/a	4/5/2021	0.21ND	No	5	MW-307	n/a	n/a	80	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Lead (ug/L)	MW-304	0.210	n/a	4/5/2021	0.21ND	No	5	MW-307	n/a	n/a	80	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Lead (ug/L)	MW-305	0.210	n/a	4/5/2021	0.21ND	No	5	MW-307	n/a	n/a	80	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Lead (ug/L)	MW-306	0.210	n/a	4/5/2021	0.21ND	No	5	MW-307	n/a	n/a	80	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Lithium (ug/L)	MW-301	4.42	n/a	4/5/2021	6.9J	No	5	MW-307	2.76	0.3323	40	Kapla...	No	0.0006269	Param Inter 1 of 2
Lithium (ug/L)	MW-302	4.42	n/a	4/5/2021	18	Yes	5	MW-307	2.76	0.3323	40	Kapla...	No	0.0006269	Param Inter 1 of 2
Lithium (ug/L)	MW-303	4.42	n/a	4/5/2021	47	Yes	5	MW-307	2.76	0.3323	40	Kapla...	No	0.0006269	Param Inter 1 of 2
Lithium (ug/L)	MW-304	4.42	n/a	4/5/2021	3.2J	No	5	MW-307	2.76	0.3323	40	Kapla...	No	0.0006269	Param Inter 1 of 2
Lithium (ug/L)	MW-305	4.42	n/a	4/5/2021	23	Yes	5	MW-307	2.76	0.3323	40	Kapla...	No	0.0006269	Param Inter 1 of 2
Lithium (ug/L)	MW-306	4.42	n/a	4/5/2021	70	Yes	5	MW-307	2.76	0.3323	40	Kapla...	No	0.0006269	Param Inter 1 of 2
Molybdenum (ug/L)	MW-301	3.40	n/a	4/5/2021	430	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Molybdenum (ug/L)	MW-302	3.40	n/a	4/5/2021	170	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Molybdenum (ug/L)	MW-303	3.40	n/a	4/5/2021	150	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Molybdenum (ug/L)	MW-304	3.40	n/a	4/5/2021	650	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Molybdenum (ug/L)	MW-305	3.40	n/a	4/5/2021	650	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Molybdenum (ug/L)	MW-306	3.40	n/a	4/5/2021	46	Yes	5	MW-307	n/a	n/a	60	n/a	n/a	0.03054	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-301	29.6	n/a	4/5/2021	250	Yes	5	MW-307	18.2	2.28	0	None	No	0.0006269	Param Inter 1 of 2
Sulfate (mg/L)	MW-302	29.6	n/a	4/5/2021	210	Yes	5	MW-307	18.2	2.28	0	None	No	0.0006269	Param Inter 1 of 2
Sulfate (mg/L)	MW-303	29.6	n/a	4/5/2021	470	Yes	5	MW-307	18.2	2.28	0	None	No	0.0006269	Param Inter 1 of 2
Sulfate (mg/L)	MW-304	29.6	n/a	4/5/2021	490	Yes	5	MW-307	18.2	2.28	0	None	No	0.0006269	Param Inter 1 of 2
Sulfate (mg/L)	MW-305	29.6	n/a	4/5/2021	710	Yes	5	MW-307	18.2	2.28	0	None	No	0.0006269	Param Inter 1 of 2
Sulfate (mg/L)	MW-306	29.6	n/a	4/5/2021	270	Yes	5	MW-307	18.2	2.28	0	None	No	0.0006269	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-301	1400	n/a	4/5/2021	690	No	5	MW-307	962	88.43	0	None	No	0.0006269	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-302	1400	n/a	4/5/2021	580	No	5	MW-307	962	88.43	0	None	No	0.0006269	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-303	1400	n/a	4/5/2021	920	No	5	MW-307	962	88.43	0	None	No	0.0006269	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-304	1400	n/a	4/5/2021	920	No	5	MW-307	962	88.43	0	None	No	0.0006269	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-305	1400	n/a	4/5/2021	1200	No	5	MW-307	962	88.43	0	None	No	0.0006269	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-306	1400	n/a	4/5/2021	970	No	5	MW-307	962	88.43	0	None	No	0.0006269	Param Inter 1 of 2
Total Radium (pCi/L)	MW-301	3.46	n/a	4/5/2021	0.414	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Total Radium (pCi/L)	MW-302	3.46	n/a	4/5/2021	0.178	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Total Radium (pCi/L)	MW-303	3.46	n/a	4/5/2021	0.415	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Total Radium (pCi/L)	MW-304	3.46	n/a	4/5/2021	2.95	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Total Radium (pCi/L)	MW-305	3.46	n/a	4/5/2021	0.429	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...
Total Radium (pCi/L)	MW-306	3.46	n/a	4/5/2021	0.0138	No	5	MW-307	n/a	n/a	0	n/a	n/a	0.03054	NP Inter (normality) ...

Exceeds Limit: MW-302, MW-303, MW-304

Prediction Limit Interwell Parametric



Limit = 2.72

Background Data Summary (after Kaplan-Meier Adjustment): Mean=1.086, Std. Dev.=0.3267, n=5, 20% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9508, critical = 0.762. Kappa = 5.006 (c=14, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Individual comparison alpha = 0.0006269. Comparing 6 points to limit.

Constituent: Arsenic Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

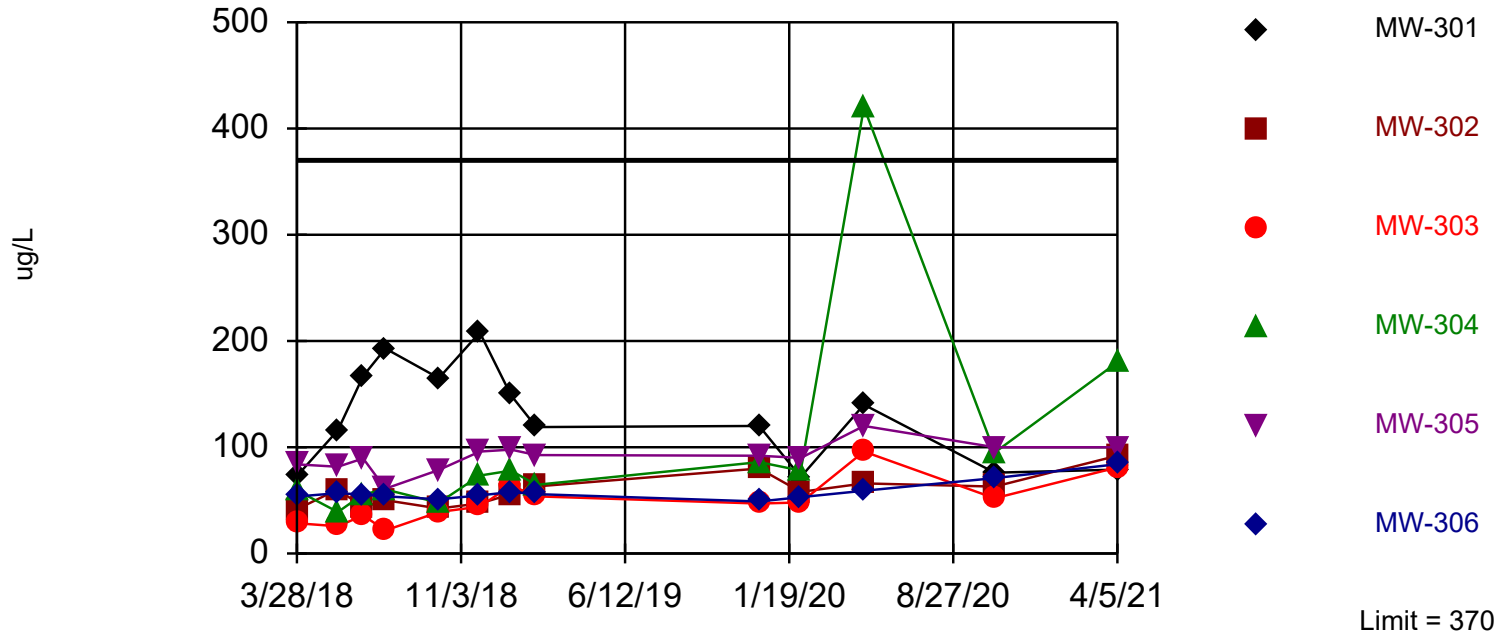
Constituent: Arsenic (ug/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
3/28/2018	0.66 (J)	8.5	6.6	3.1	0.62 (J)	0.054 (J)	
5/22/2018	0.82 (J)	8.8	6.2	3	0.86 (J)	0.42 (J)	
6/25/2018	0.67 (J)	10.3	6.4	3.7	2.1	0.33 (J)	
7/25/2018	1 (J)	8.7	8.8	4.5	1.2	0.49 (J)	
10/5/2018	0.99 (J)	8.7	5.6	3.3	1.1	0.37 (J)	
11/29/2018	1.2	9.3	7.9	4.5	1.4	0.53 (J)	
1/10/2019	0.94 (J)	7.7	4.1	3.8	1.4	0.65 (J)	
2/13/2019	0.76 (J)	7.1	4.4	3.1	1.3	0.37 (J)	
12/10/2019	<0.75 (U)	6.7	9.2	4.5	1.4 (J)	<0.75 (U)	
2/4/2020	<0.88 (U)	6.1	4	3.7	1.4 (J)	<0.88 (U)	
4/29/2020	0.95 (J)	8.6	5.8	18	3.1	<0.88 (U)	
7/7/2020				4.4			1.7 (J)
8/7/2020							1.1 (J)
10/22/2020	<3.5 (U)	7.3	20	4.5 (J)	<3.5 (U)	<3.5 (U)	0.92 (J)
2/22/2021							<0.75 (U)
4/5/2021	<0.75 (U)	7.1	14	6.6	1.6 (J)	<0.75 (U)	0.96 (J)

Within Limit

Prediction Limit
Interwell Parametric



Background Data Summary: Mean=320, Std. Dev.=10, n=5. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8207, critical = 0.762. Kappa = 5.006 (c=14, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Individual comparison alpha = 0.0006269. Comparing 6 points to limit.

Constituent: Barium Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

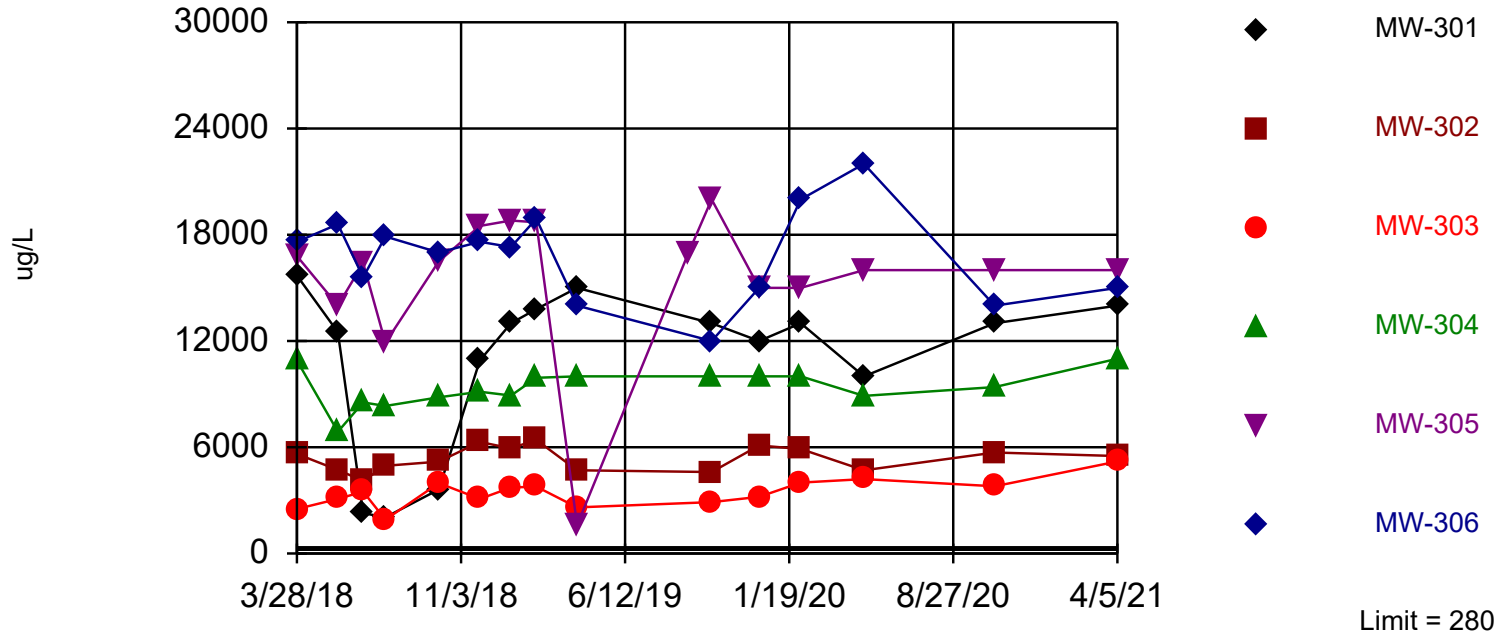
Constituent: Barium (ug/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
3/28/2018	72.9	41.6	28.5	59.4	83.9	53.6	
5/22/2018	116	60.4	25.7	39.1	81.7	56.8	
6/25/2018	167	43.4	35.8	55.7	89.5	55.5	
7/25/2018	193	50.1	21.7	60.2	61	53.8	
10/5/2018	165	42.3	39	47.7	78.6	51.1	
11/29/2018	208	47.1	44.2	73.3	95.9	54.7	
1/10/2019	149	55.7	64	78.1	97.8	57.9	
2/13/2019	119	63.1	53.8	64.6	92.6	55.9	
12/10/2019	120	80	47	86	92	49	
2/4/2020	72	58	48	78	90	53	
4/29/2020	140	66	96	420	120	59	
7/7/2020							320
8/7/2020							330
10/22/2020	76	63	52	95	100	71	330
2/22/2021							310
4/5/2021	79	92	81	180	100	84	310

Exceeds Limit: MW-301, MW-302, MW-303,
MW-304, MW-305, MW-306

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 60% NDs. Annual per-constituent alpha = 0.3108. Individual comparison alpha = 0.03054 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Boron Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

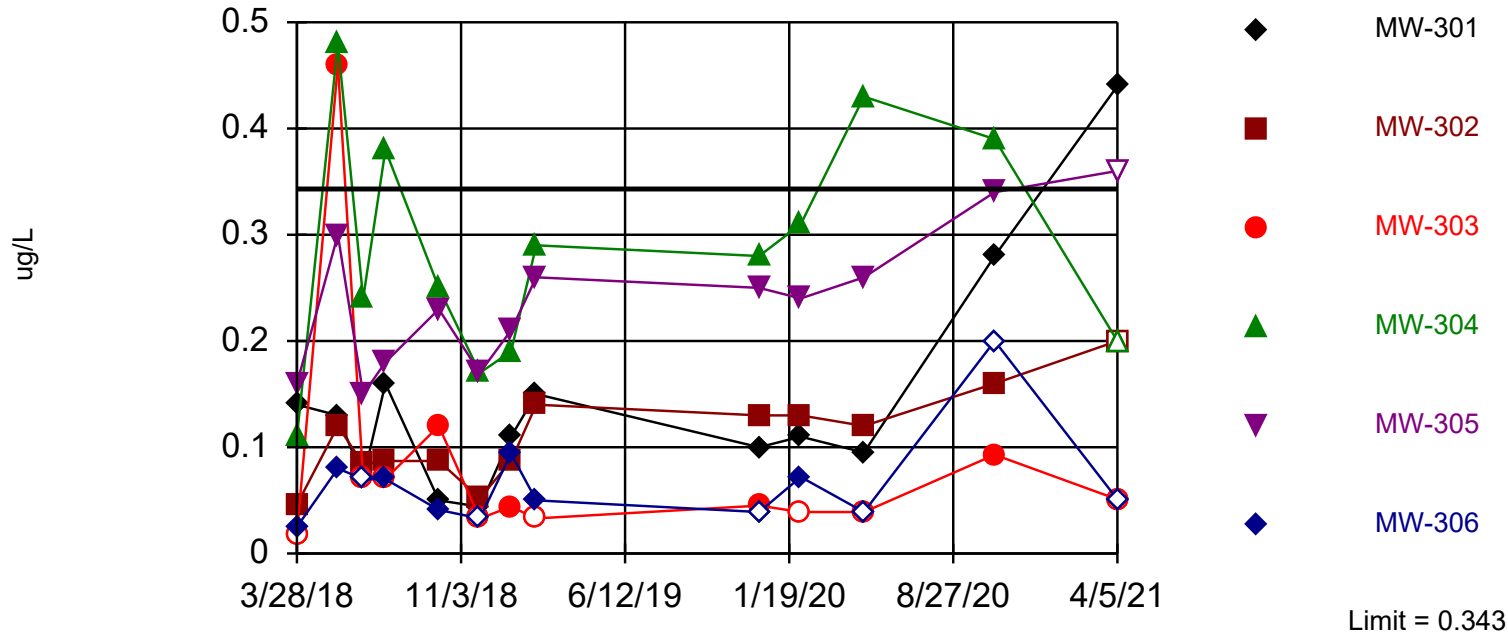
Constituent: Boron (ug/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-306	MW-305	MW-304	MW-303	MW-302	MW-307 (bg)
3/28/2018	15700	17600	16800	10900	2510	5620	
5/22/2018	12500	18600	14000	6880	3080	4720	
6/25/2018	2280	15600	16400	8530	3500	4100	
7/25/2018	2040	17900	11900	8330	1910	4950	
10/5/2018	3620	17000	16500	8820	3980	5190	
11/29/2018	10900	17600	18500	9140	3080	6300	
1/10/2019	13000	17300	18800	8920	3720	5940	
2/13/2019	13800	18900	18700	9920	3780	6420	
4/9/2019	15000	14000	1600	10000	2600	4700	
9/6/2019			17000				
10/7/2019	13000	12000	20000	10000	2900	4600	
12/10/2019	12000	15000	15000	10000	3200	6100	
2/4/2020	13000	20000	15000	10000	4000	5900	
4/29/2020	10000	22000	16000	8900	4200	4700	
7/7/2020							280
8/7/2020							<80 (U)
10/22/2020	13000	14000	16000	9400	3800	5700	130
2/22/2021							<58 (U)
4/5/2021	14000	15000	16000	11000	5200	5500	<230 (U)

Exceeds Limit: MW-301

Prediction Limit Interwell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.1289, Std. Dev.=0.04272, n=5, 20% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8743, critical = 0.762. Kappa = 5.006 (c=14, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Individual comparison alpha = 0.0006269. Comparing 6 points to limit.

Constituent: Cadmium Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

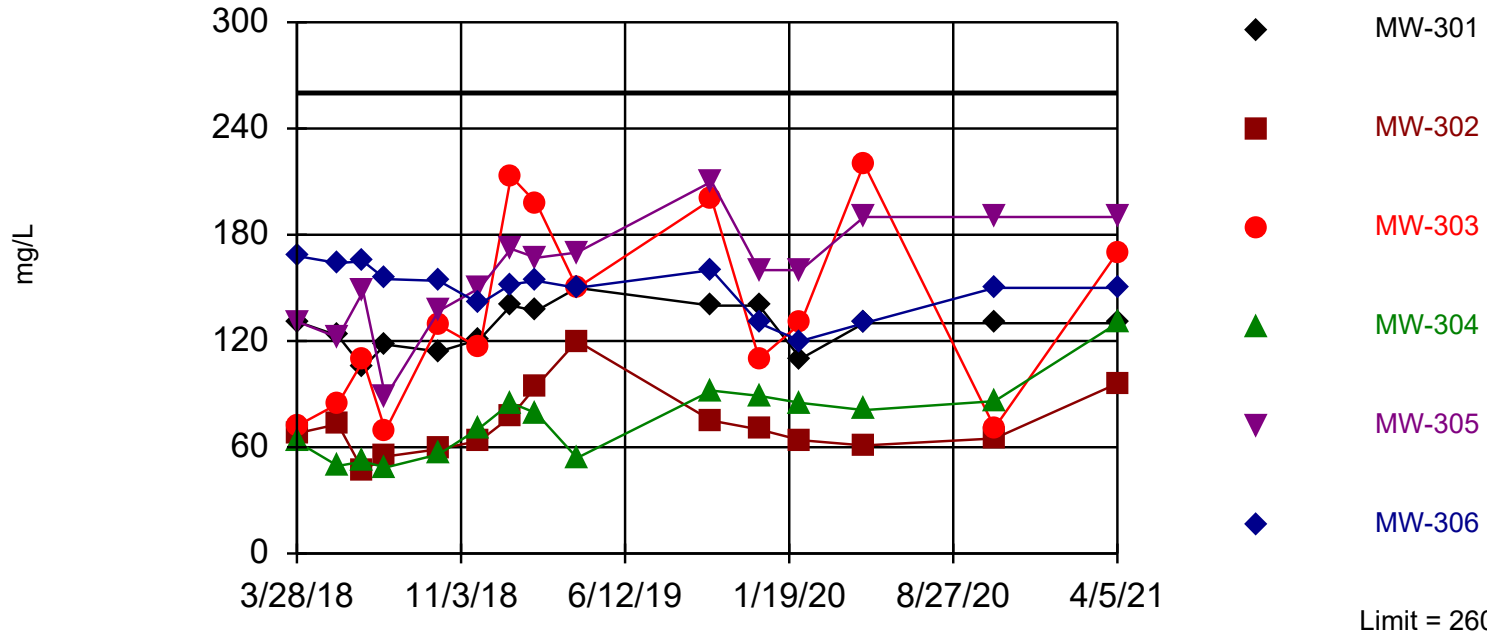
Constituent: Cadmium (ug/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
3/28/2018	0.14 (J)	0.046 (J)	<0.018 (U)	0.11 (J)	0.16 (J)	0.025 (J)	
5/22/2018	0.13 (J)	0.12 (J)	0.46 (J)	0.48 (J)	0.3 (J)	0.08 (J)	
6/25/2018	<0.07 (U)	0.084 (J)	<0.07 (U)	0.24 (J)	0.15 (J)	<0.07 (U)	
7/25/2018	0.16 (J)	0.087 (J)	<0.07 (U)	0.38 (J)	0.18 (J)	0.07 (J)	
10/5/2018	0.05 (J)	0.087 (J)	0.12 (J)	0.25 (J)	0.23 (J)	0.041 (J)	
11/29/2018	0.044 (J)	0.052 (J)	<0.033 (U)	0.17 (J)	0.17 (J)	<0.033 (U)	
1/10/2019	0.11 (J)	0.087 (J)	0.044 (J)	0.19 (J)	0.21 (J)	0.094 (J)	
2/13/2019	0.15 (J)	0.14 (J)	<0.033 (U)	0.29 (J)	0.26 (J)	0.05 (J)	
12/10/2019	0.1	0.13	0.045 (J)	0.28	0.25	<0.039 (U)	
2/4/2020	0.11	0.13	<0.039 (U)	0.31	0.24	0.072 (J)	
4/29/2020	0.095 (J)	0.12	<0.039 (U)	0.43	0.26	<0.039 (U)	
7/7/2020							0.098 (J)
8/7/2020							0.13
10/22/2020	0.28 (J)	0.16	0.093 (J)	0.39 (J)	0.34 (J)	<0.2 (U)	0.13
2/22/2021							0.21
4/5/2021	0.44	<0.2	<0.051 (U)	<0.2 (U)	<0.36 (U)	<0.051 (U)	<0.2 (U)

Within Limit

Prediction Limit Interwell Non-parametric



Limit = 260

Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 5 background values. Annual per-constituent alpha = 0.3108. Individual comparison alpha = 0.03054 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Calcium Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

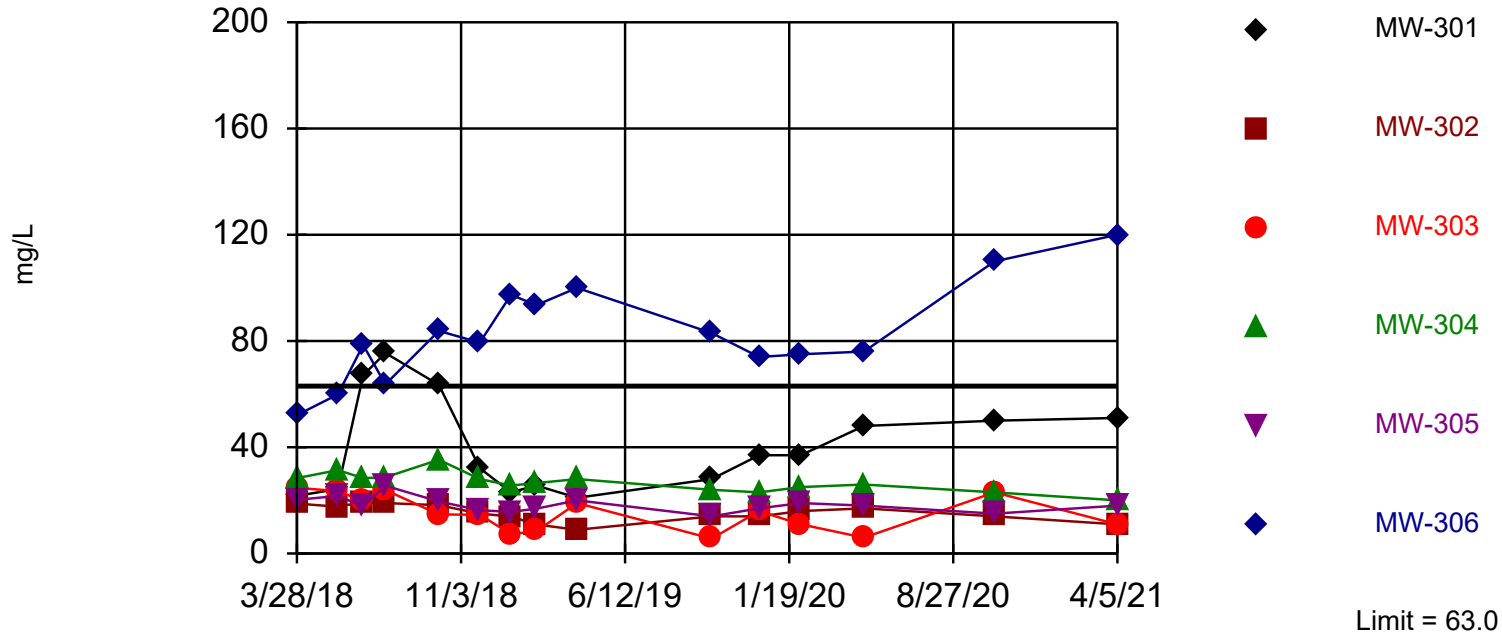
Constituent: Calcium (mg/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-306	MW-305	MW-304	MW-303	MW-302	MW-307 (bg)
3/28/2018	131	168	131	63.2	72	67.9	
5/22/2018	123	164	122	49.4	84.5	73	
6/25/2018	105	165	148	52	109	46.7	
7/25/2018	118	155	88.4	48.5	69.3	54.8	
10/5/2018	114	154	137	56	129	58.9	
11/29/2018	121	141	150	70.9	116	63.7	
1/10/2019	140	152	172	85	213	77.4	
2/13/2019	137	154	167	79.3	198	94.5	
4/9/2019	150	150	170	54	150	120	
10/7/2019	140	160	210	92	200	75	
12/10/2019	140	130	160	89	110	70	
2/4/2020	110	120	160	85	130	64	
4/29/2020	130	130	190	81	220	61	
7/7/2020							260
8/7/2020							260
10/22/2020	130	150	190	86	71	65	230
2/22/2021							230
4/5/2021	130	150	190	130	170	96	230

Exceeds Limit: MW-306

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 5 background values. Annual per-constituent alpha = 0.3108. Individual comparison alpha = 0.03054 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Chloride Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

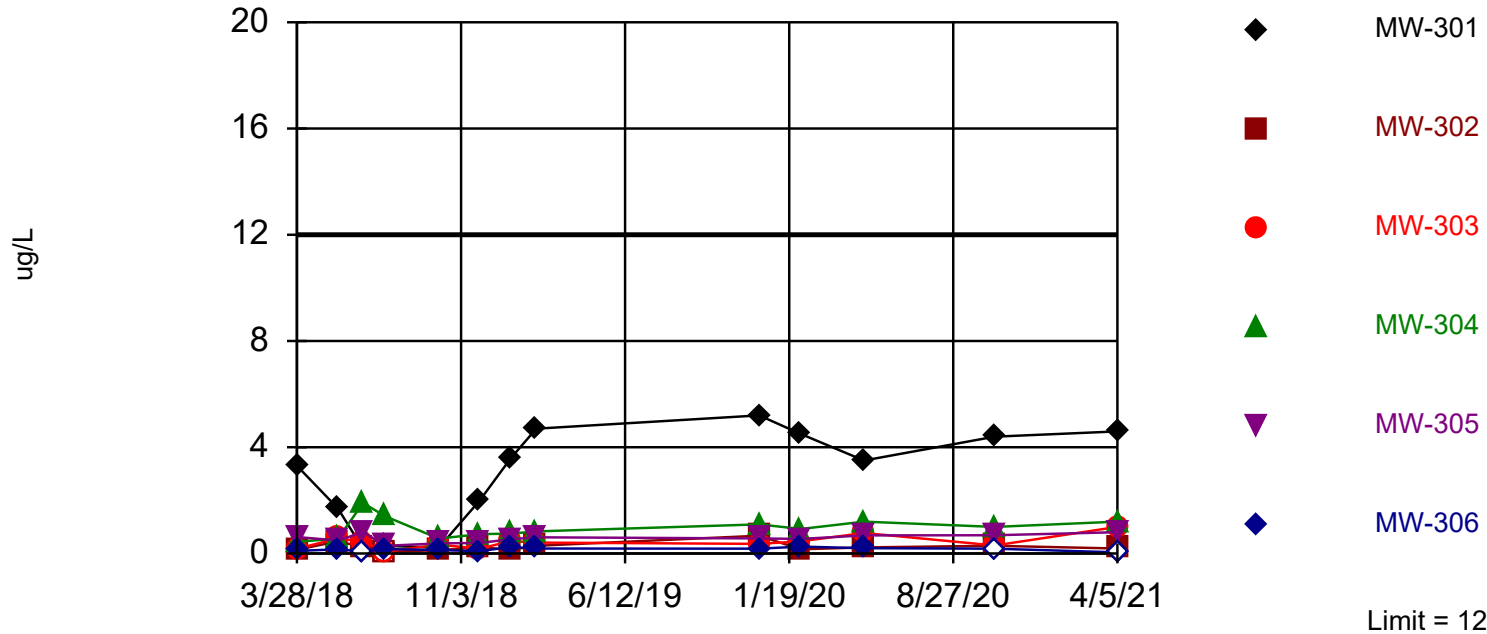
Constituent: Chloride (mg/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-306	MW-305	MW-304	MW-303	MW-302	MW-307 (bg)
3/28/2018	21.7	52.1	20.2	28.4	24.7	18.8	
5/22/2018	24.3	59.9	21.7	31.4	23.5	17.6	
6/25/2018	67.1	78.5	17.7	28.4	19.7	19.4	
7/25/2018	75.5	63.7	25.5	28.7	23.9	19	
10/5/2018	63.5	83.8	19.6	35.3	14.7	18.2	
11/29/2018	32.1	79.4	16.3	28	14.6	15	
1/10/2019	23	97.4	15.7	25.6	7.3	13.9	
2/13/2019	25.6	93.5	16.9	26.5	8.4	10.9	
4/9/2019	21	100	20	28	19	8.9	
10/7/2019	28	83	14	24	5.6	14	
12/10/2019	37	74	17	23	16	14	
2/4/2020	37	75	19	25	11	16	
4/29/2020	48	76	18	26	6	17	
7/7/2020							53
8/7/2020							55
10/22/2020	50	110	15	23	23	14	52
2/22/2021							53
4/5/2021	51	120	18	20	11	11	63

Within Limit

Prediction Limit Interwell Parametric



Background Data Summary: Mean=3.4, Std. Dev.=1.719, n=5. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8478, critical = 0.762. Kappa = 5.006 (c=14, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Individual comparison alpha = 0.0006269. Comparing 6 points to limit.

Constituent: Cobalt Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

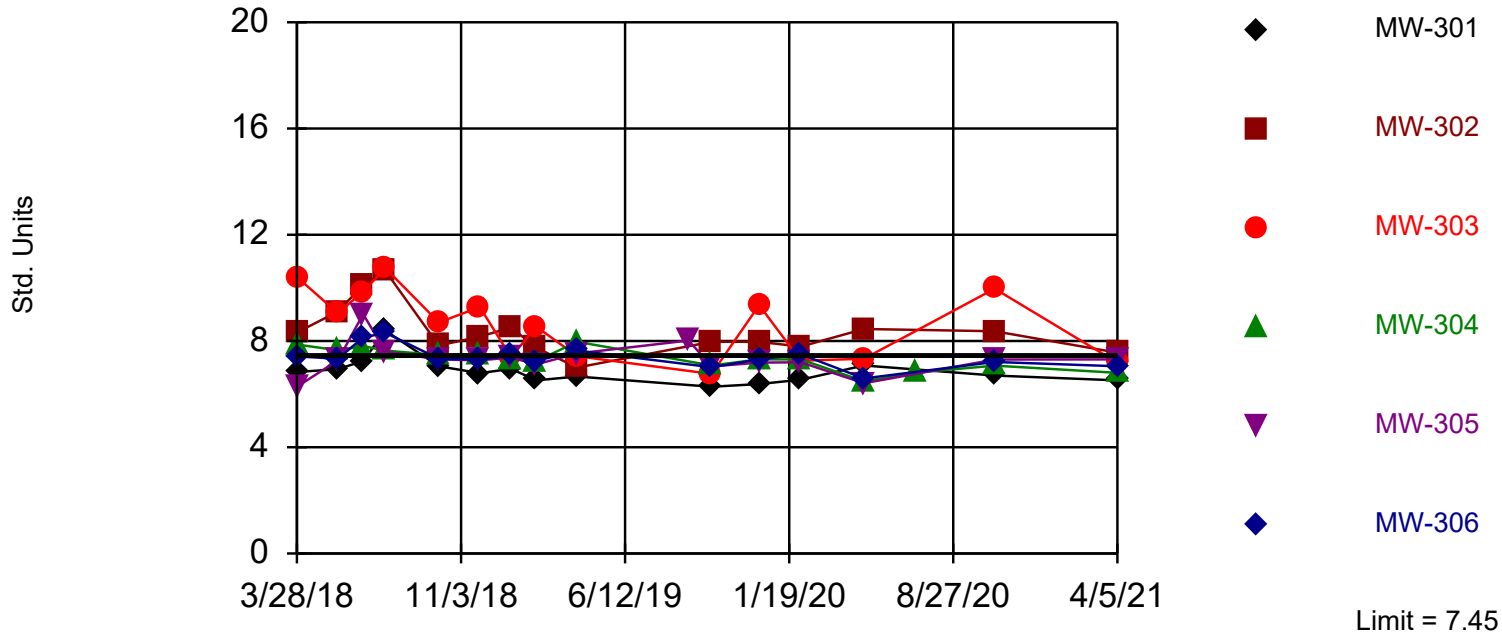
Constituent: Cobalt (ug/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
3/28/2018	3.3	0.14 (J)	0.18 (J)	0.44 (J)	0.62 (J)	0.1 (J)	
5/22/2018	1.7	0.46 (J)	0.57 (J)	0.56 (J)	0.49 (J)	0.16 (J)	
6/25/2018	0.17 (J)	0.24 (J)	0.44 (J)	1.9	0.8 (J)	<0.15 (U)	
7/25/2018	0.29 (J)	<0.15 (U)	<0.15 (U)	1.4	0.29 (J)	0.17 (J)	
10/5/2018	0.22 (J)	0.12 (J)	0.33 (J)	0.56 (J)	0.38 (J)	0.13 (J)	
11/29/2018	2	0.24 (J)	0.18 (J)	0.73 (J)	0.4 (J)	0.09 (J)	
1/10/2019	3.6	0.14 (J)	0.47 (J)	0.75 (J)	0.54 (J)	0.24 (J)	
2/13/2019	4.7	0.29 (J)	0.41 (J)	0.83 (J)	0.61 (J)	0.19 (J)	
12/10/2019	5.2	0.67	0.36 (J)	1.1	0.57	0.18 (J)	
2/4/2020	4.5	0.16 (J)	0.46 (J)	0.92	0.55	0.26 (J)	
4/29/2020	3.5	0.23 (J)	0.77	1.2	0.68	0.2 (J)	
7/7/2020							6.3
8/7/2020							1.9
10/22/2020	4.4	0.29 (J)	0.3 (J)	1 (J)	0.69 (J)	<0.36 (U)	2.4
2/22/2021							3
4/5/2021	4.6	0.19 (J)	1	1.2	0.8	<0.091 (U)	3.4

Exceeds Limit: MW-302

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 5 background values. Annual per-constituent alpha = 0.3108. Individual comparison alpha = 0.03054 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Field pH Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

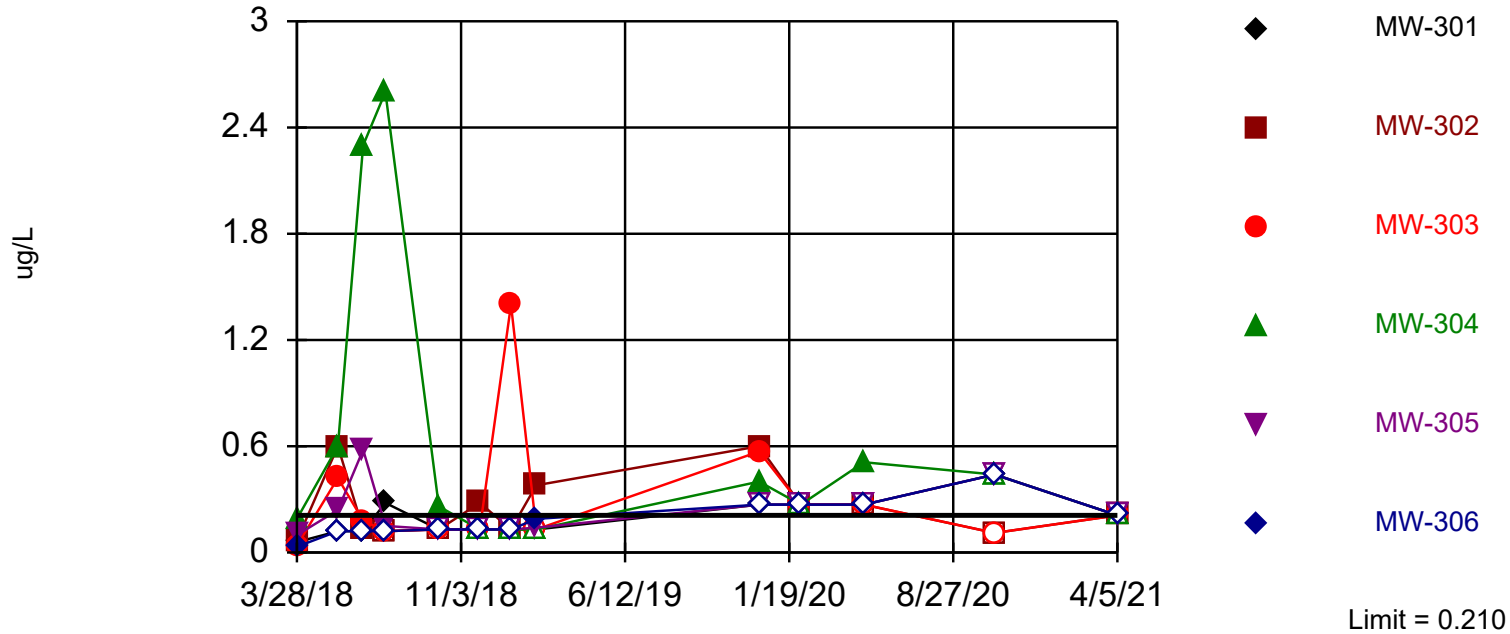
Constituent: Field pH (Std. Units) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-304	MW-306	MW-305	MW-303	MW-307 (bg)
3/28/2018	6.83	8.32	7.87	7.42	6.28	10.41	
5/22/2018	6.94	9.11	7.65	7.33	7.27	9.05	
6/25/2018	7.25	10.11	7.81	8.13	9.01	9.86	
7/25/2018	8.39	10.64	7.64	8.31	7.6	10.74	
10/5/2018	7.05	7.83	7.47	7.33	7.31	8.7	
11/29/2018	6.79	8.16	7.51	7.3	7.27	9.28	
1/10/2019	6.95	8.51	7.34	7.46	7.38	7.39	
2/13/2019	6.52	7.75	7.24	7.25	7.12	8.54	
4/9/2019	6.66	7	7.97	7.64	7.53	7.43	
9/6/2019					8.02		
10/7/2019	6.28	7.97	7.08	7.01	7.04	6.76	
12/10/2019	6.38	7.97	7.31	7.31	7.19	9.35	
2/4/2020	6.54	7.79	7.31	7.5	7.2	7.26	
4/29/2020	7.08	8.45	6.48	6.59	6.41	7.33	
7/7/2020			6.81				6.57
8/7/2020							7.45
10/22/2020	6.7	8.37	7.07	7.21	7.3	9.97	6.63
2/22/2021							6.58
4/5/2021	6.52	7.56	6.8	7.05	7.31	7.19	6.64

Within Limit

Prediction Limit Interwell Non-parametric



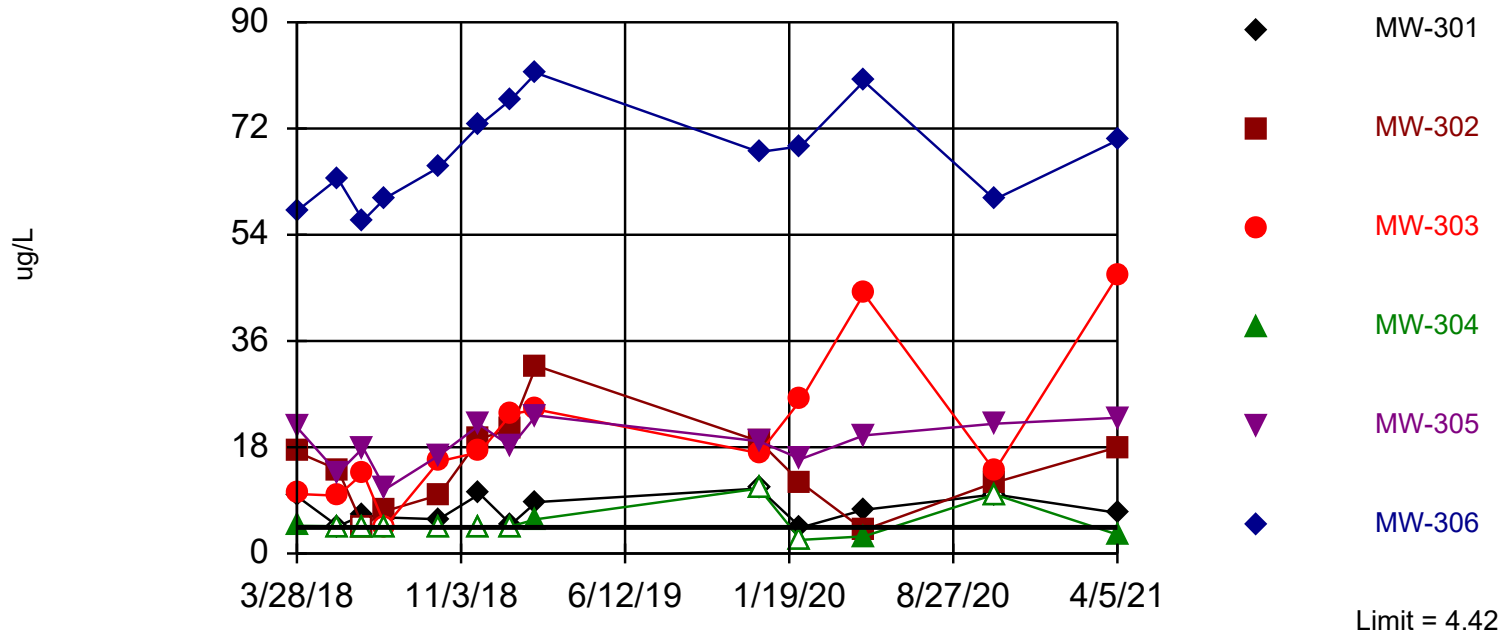
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 80% NDs. Annual per-constituent alpha = 0.3108. Individual comparison alpha = 0.03054 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Lead Analysis Run 8/2/2021 10:27 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Exceeds Limit: MW-302, MW-303, MW-305,
MW-306

Prediction Limit Interwell Parametric



Limit = 4.42

Background Data Summary (after Kaplan-Meier Adjustment): Mean=2.76, Std. Dev.=0.3323, n=5, 40% NDs.
Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.7709, critical = 0.762. Kappa = 5.006 (c=14, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756.
Individual comparison alpha = 0.0006269. Comparing 6 points to limit.

Constituent: Lithium Analysis Run 8/2/2021 10:28 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

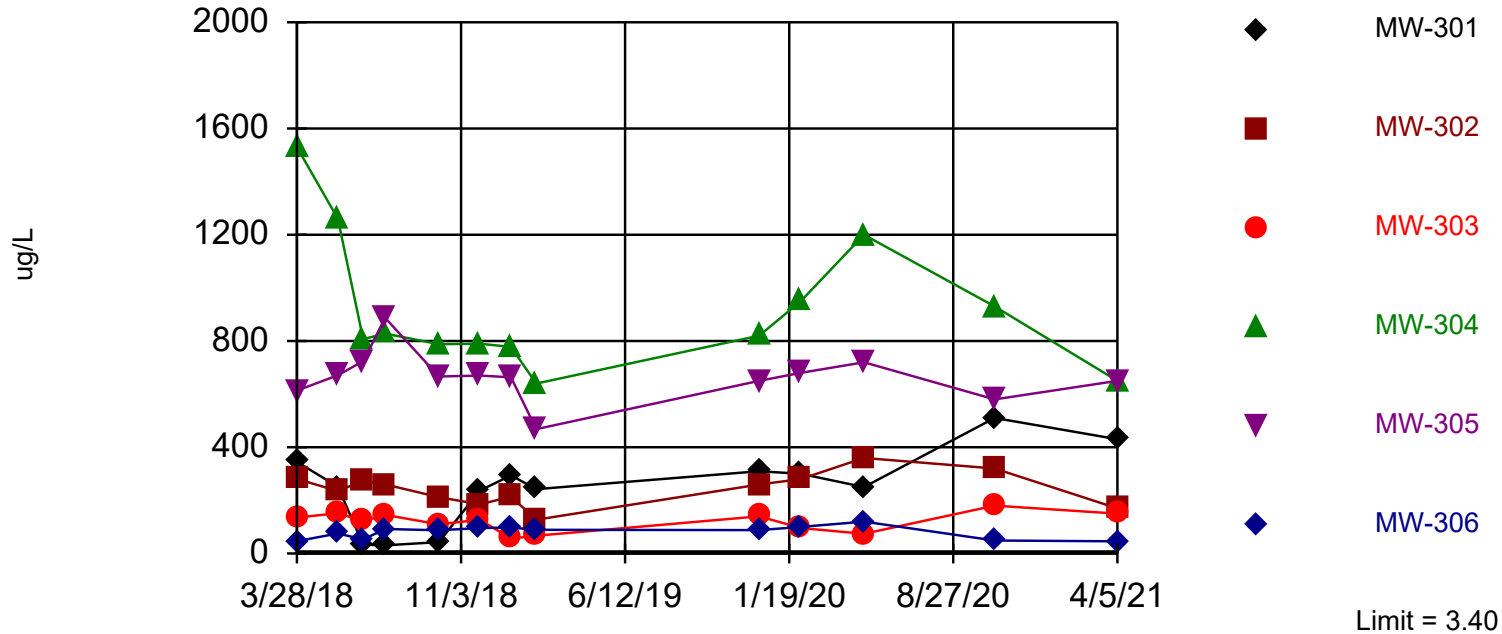
Constituent: Lithium (ug/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
3/28/2018	9.7 (J)	17.2	10.1	4.7 (J)	21.4	58	
5/22/2018	<4.6 (U)	14.2	9.8 (J)	<4.6 (U)	13.6	63.5	
6/25/2018	6.5 (J)	<4.6 (U)	13.6	<4.6 (U)	17.9	56.4	
7/25/2018	6.1 (J)	7.2 (J)	<4.6 (U)	<4.6 (U)	10.9	60.2	
10/5/2018	5.8 (J)	9.9 (J)	15.6	<4.6 (U)	16.6	65.4	
11/29/2018	10.1	19.5	17.2	<4.6 (U)	21.8	72.6	
1/10/2019	4.9 (J)	21	23.6	<4.6 (U)	18.1	76.9	
2/13/2019	8.7 (J)	31.8	24.4	5.8 (J)	23.4	81.4	
12/10/2019	<11 (U)	19 (J)	17	<11 (U)	19 (J)	68	
2/4/2020	4.4 (J)	12	26	<2.3 (U)	16	69	
4/29/2020	7.4 (J)	4 (J)	44	2.9 (J)	20	80	
7/7/2020							<2.5 (U)
8/7/2020							<2.5 (U)
10/22/2020	<10 (U)	12	14	<10 (U)	22 (J)	60	3 (J)
2/22/2021							3.3 (J)
4/5/2021	6.9 (J)	18	47	3.2 (J)	23	70	2.5 (J)

Exceeds Limit: MW-301, MW-302, MW-303,
MW-304, MW-305, MW-306

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 5 background values. 60% NDs. Annual per-constituent alpha = 0.3108. Individual comparison alpha = 0.03054 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Molybdenum Analysis Run 8/2/2021 10:28 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

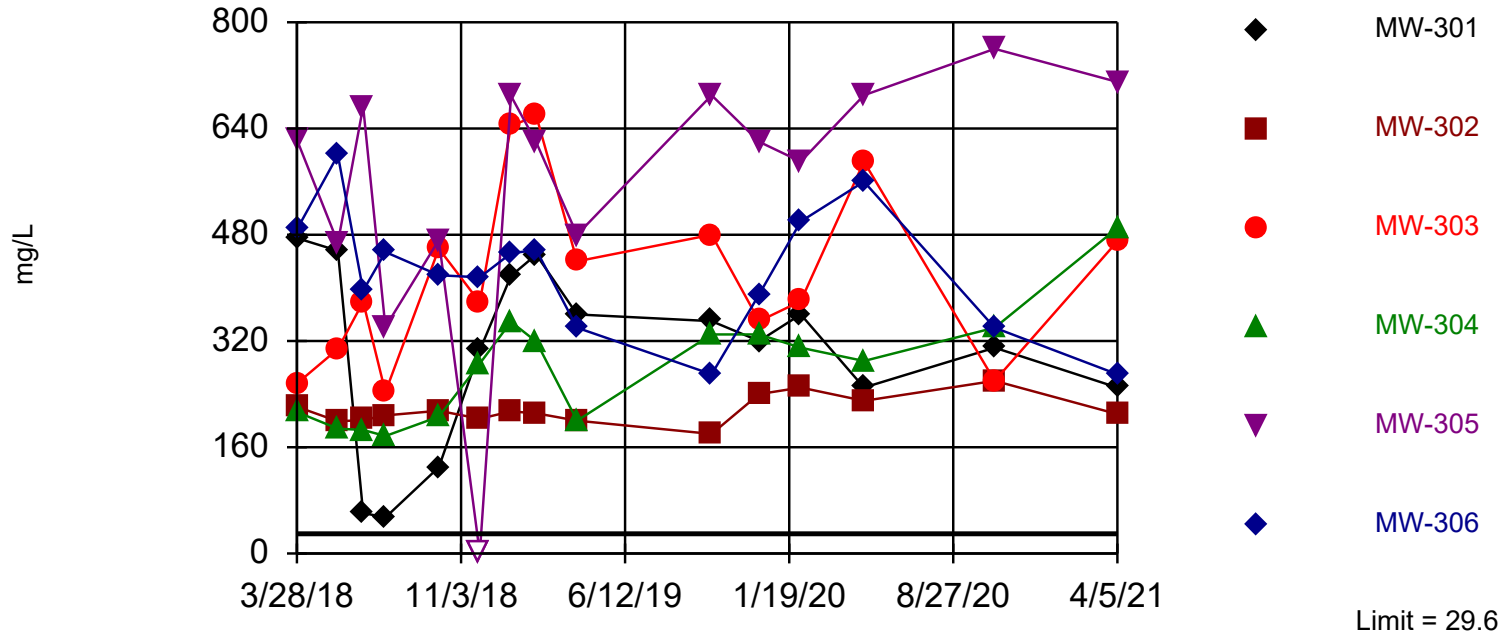
Constituent: Molybdenum (ug/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-306	MW-305	MW-304	MW-303	MW-302	MW-307 (bg)
3/28/2018	345	46.4	613	1530	135	281	
5/22/2018	251	75.3	671	1260	152	235	
6/25/2018	33.1	53.3	724	807	122	274	
7/25/2018	31.1	92	886	828	145	260	
10/5/2018	42.8	87.6	666	788	110	212	
11/29/2018	237	96.1	670	790	127	185	
1/10/2019	294	97.6	663	778	55.9	214	
2/13/2019	242	89.5	468	640	67.1	127	
12/10/2019	310	88	650	820	140	260	
2/4/2020	300	100	680	950	96	280	
4/29/2020	250	120	720	1200	74	360	
7/7/2020							2.5
8/7/2020							<1.1 (U)
10/22/2020	510	49	580	930	180	320	<1.1 (U)
2/22/2021							<1.3 (U)
4/5/2021	430	46	650	650	150	170	3.4

Exceeds Limit: MW-301, MW-302, MW-303,
MW-304, MW-305, MW-306

Prediction Limit Interwell Parametric



Background Data Summary: Mean=18.2, Std. Dev.=2.28, n=5. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9607, critical = 0.762. Kappa = 5.006 (c=14, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Individual comparison alpha = 0.0006269. Comparing 6 points to limit.

Constituent: Sulfate Analysis Run 8/2/2021 10:28 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

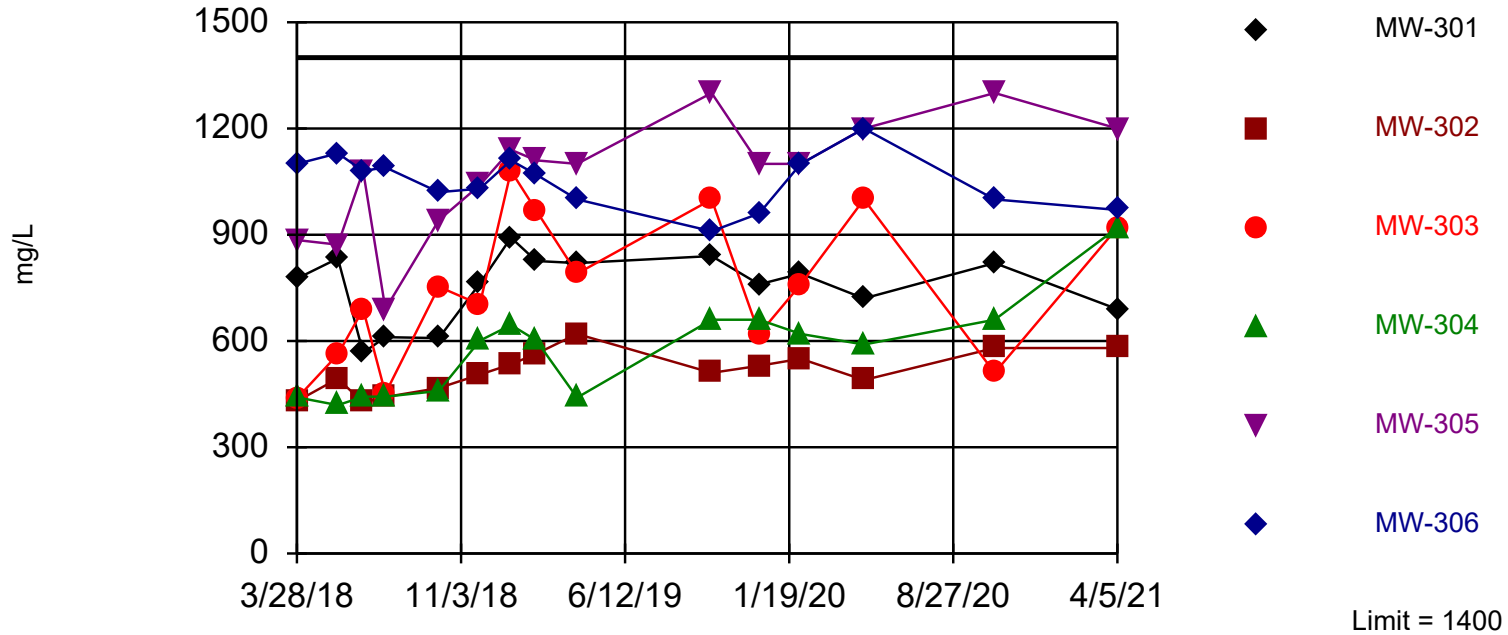
Constituent: Sulfate (mg/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
3/28/2018	475	221	256	213	623	488	
5/22/2018	456	199	308	188	468	600	
6/25/2018	61	201	379	186	673	396	
7/25/2018	54.3	208	243	177	341	454	
10/5/2018	130	215	459	206	472	419	
11/29/2018	306	203	378	286	<0.24 (U)	416	
1/10/2019	418	214	644	349	689	452	
2/13/2019	450	211	659	319	619	457	
4/9/2019	360	200	440	200	480	340	
10/7/2019	350	180	480	330	690	270	
12/10/2019	320	240	350	330	620	390	
2/4/2020	360	250	380	310	590	500	
4/29/2020	250	230	590	290	690	560	
7/7/2020							15
8/7/2020							17
10/22/2020	310	260	260	340	760	340	21
2/22/2021							19
4/5/2021	250	210	470	490	710	270	19

Within Limit

Prediction Limit
Interwell Parametric



Background Data Summary: Mean=962, Std. Dev.=88.43, n=5. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.941, critical = 0.762. Kappa = 5.006 (c=14, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Individual comparison alpha = 0.0006269. Comparing 6 points to limit.

Constituent: Total Dissolved Solids Analysis Run 8/2/2021 10:28 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

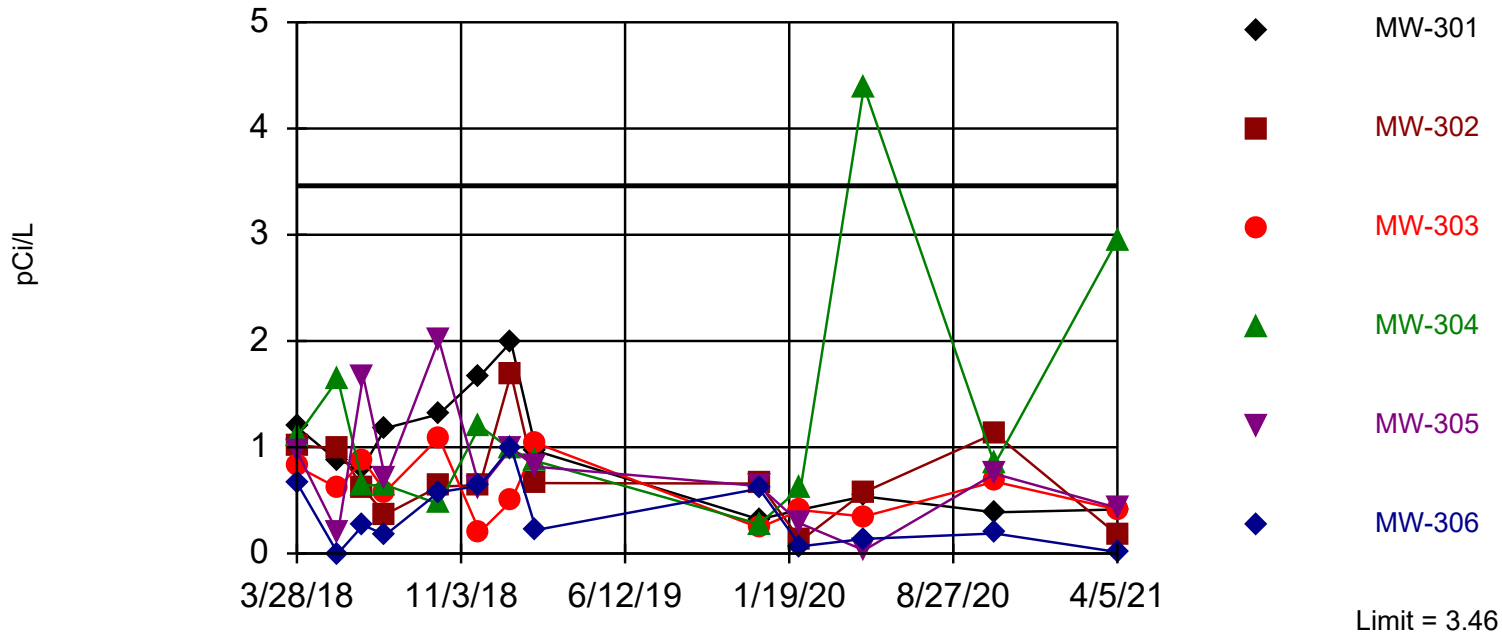
Constituent: Total Dissolved Solids (mg/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
3/28/2018	776	430	438	441	885	1100	
5/22/2018	833	494	562	419	872	1130	
6/25/2018	567	426	690	443	1080	1080	
7/25/2018	611	442	452	443	690	1090	
10/5/2018	608	467	753	459	941	1020	
11/29/2018	762	505	703	601	1040	1030	
1/10/2019	892	534	1080	645	1140	1110	
2/13/2019	826	564	968	602	1110	1070	
4/9/2019	820	620	790	440	1100	1000	
10/7/2019	840	510	1000	660	1300	910	
12/10/2019	760	530	620	660	1100	960	
2/4/2020	790	550	760	620	1100	1100	
4/29/2020	720	490	1000	590	1200	1200	
7/7/2020							1100
8/7/2020							980
10/22/2020	820	580	510	660	1300	1000	940
2/22/2021							860
4/5/2021	690	580	920	920	1200	970	930

Within Limit

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 5 background values. Annual per-constituent alpha = 0.3108. Individual comparison alpha = 0.03054 (1 of 2). Comparing 6 points to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Total Radium Analysis Run 8/2/2021 10:28 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Prediction Limit

Constituent: Total Radium (pCi/L) Analysis Run 8/2/2021 11:09 AM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-306	MW-305	MW-304	MW-303	MW-302	MW-307 (bg)
3/28/2018	1.19	0.666	0.962	1.1	0.821	1.02	
5/22/2018	0.872	0	0.189	1.64	0.614	0.987	
6/25/2018	0.813	0.267	1.67	0.641	0.876	0.611	
7/25/2018	1.18	0.175	0.702	0.645	0.581	0.367	
10/5/2018	1.31	0.577	2.01	0.466	1.09	0.63	
11/29/2018	1.67	0.638	0.616	1.2	0.202	0.644	
1/10/2019	1.99	1	0.987	0.978	0.49	1.69	
2/13/2019	0.966	0.221	0.817	0.869	1.04	0.663	
12/10/2019	0.321	0.61	0.634	0.277	0.242	0.659	
2/4/2020	0.413	0.068	0.28	0.622	0.409	0.122	
4/29/2020	0.538	0.137	0.0301	4.39	0.348	0.577	
7/7/2020							0.841
8/7/2020							0.666
10/22/2020	0.388	0.189	0.75	0.839	0.676	1.13	0.623
2/22/2021							3.46
4/5/2021	0.414	0.0138	0.429	2.95	0.415	0.178	0.54

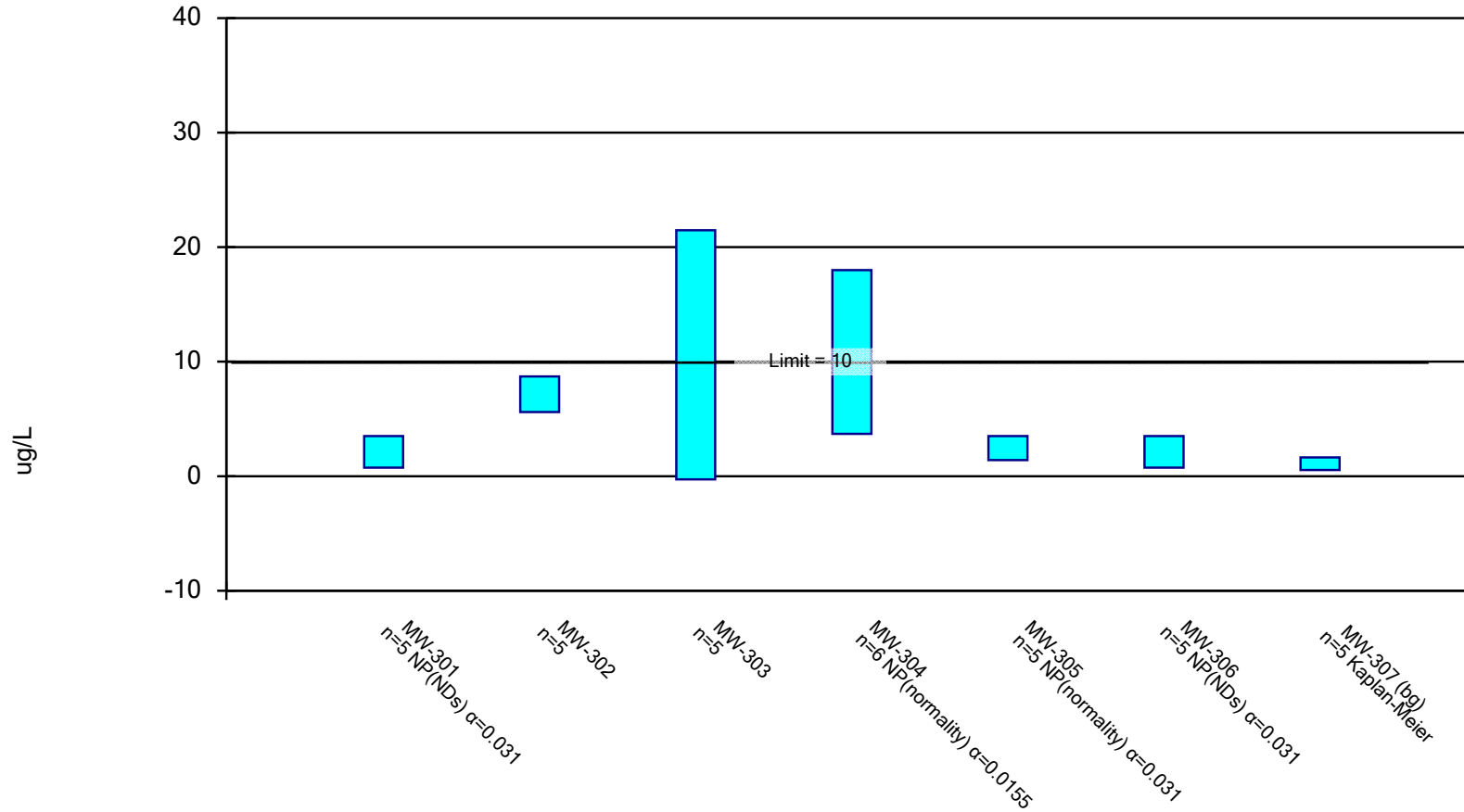
Confidence Interval

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020 Printed 6/9/2021, 3:56 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (ug/L)	MW-301	3.5	0.75	10	No	5	80	No	0.031	NP (NDs)
Arsenic (ug/L)	MW-302	8.712	5.608	10	No	5	0	No	0.01	Param.
Arsenic (ug/L)	MW-303	21.48	-0.2752	10	No	5	0	No	0.01	Param.
Arsenic (ug/L)	MW-304	18	3.7	10	No	6	0	No	0.0155	NP (normality)
Arsenic (ug/L)	MW-305	3.5	1.4	10	No	5	20	No	0.031	NP (normality)
Arsenic (ug/L)	MW-306	3.5	0.75	10	No	5	100	No	0.031	NP (NDs)
Arsenic (ug/L)	MW-307 (bg)	1.633	0.5386	10	No	5	20	No	0.01	Param.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 6/9/2021 3:49 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 6/9/2021 3:56 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
12/10/2019	<0.75 (U)	6.7	9.2	4.5	1.4 (J)	<0.75 (U)	
2/4/2020	<0.88 (U)	6.1	4	3.7	1.4 (J)	<0.88 (U)	
4/29/2020	0.95 (J)	8.6	5.8	18	3.1	<0.88 (U)	
7/7/2020				4.4			1.7 (J)
8/7/2020							1.1 (J)
10/22/2020	<3.5 (U)	7.3	20	4.5 (J)	<3.5 (U)	<3.5 (U)	0.92 (J)
2/22/2021							<0.75 (U)
4/5/2021	<0.75 (U)	7.1	14	6.6	1.6 (J)	<0.75 (U)	0.96 (J)
Mean	1.366	7.16	10.6	6.95	2.2	1.352	1.086
Std. Dev.	1.196	0.9263	6.49	5.501	1.017	1.203	0.3652
Upper Lim.	3.5	8.712	21.48	18	3.5	3.5	1.633
Lower Lim.	0.75	5.608	-0.2752	3.7	1.4	0.75	0.5386

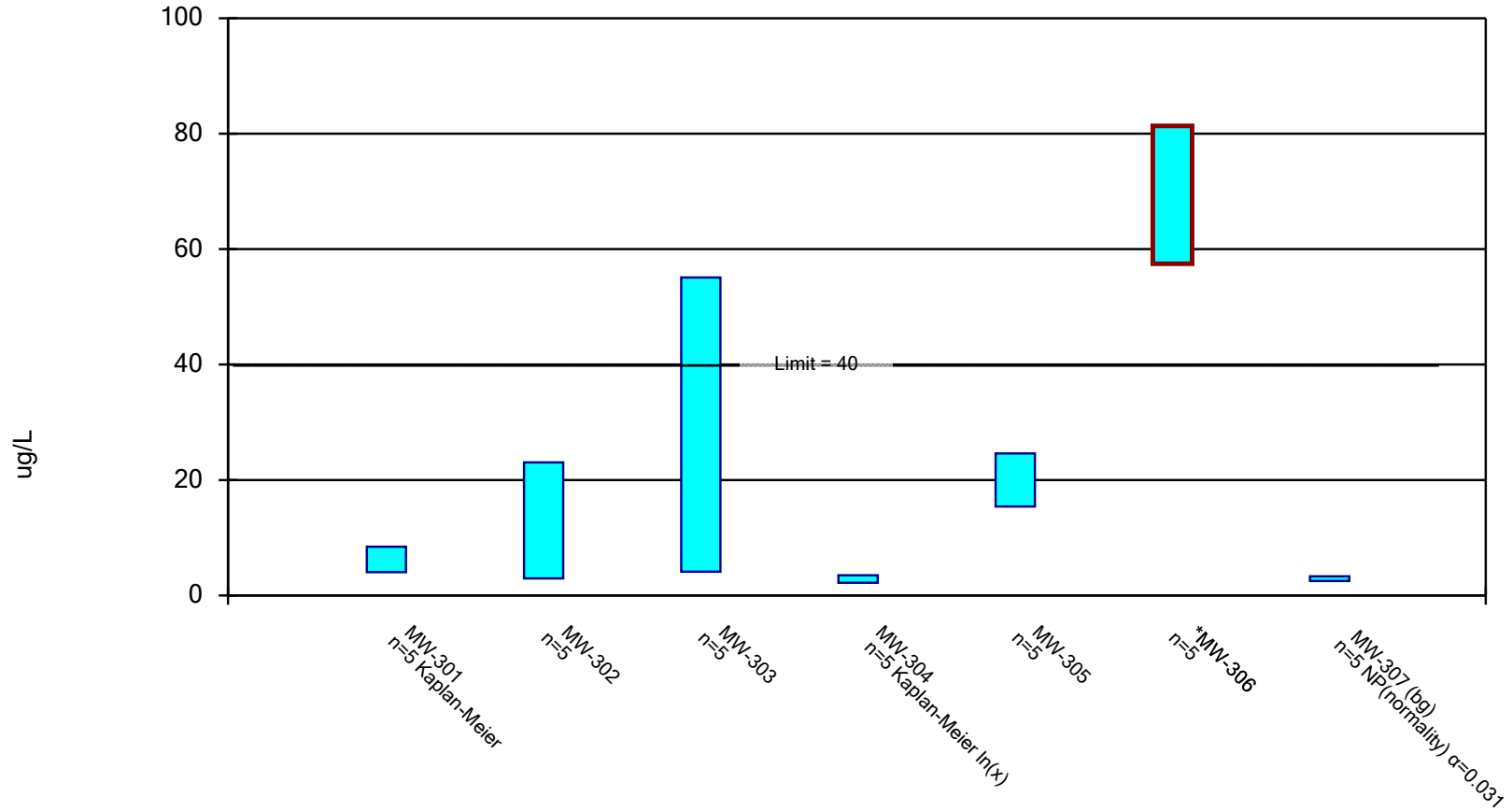
Confidence Interval

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020 Printed 6/9/2021, 4:13 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Lithium (ug/L)	MW-301	8.432	4.034	40	No	5	40	No	0.01	Param.
Lithium (ug/L)	MW-302	23.05	2.946	40	No	5	0	No	0.01	Param.
Lithium (ug/L)	MW-303	55.08	4.115	40	No	5	0	No	0.01	Param.
Lithium (ug/L)	MW-304	3.498	2.2	40	No	5	60	ln(x)	0.01	Param.
Lithium (ug/L)	MW-305	24.59	15.41	40	No	5	0	No	0.01	Param.
Lithium (ug/L)	MW-306	81.34	57.46	40	Yes	5	0	No	0.01	Param.
Lithium (ug/L)	MW-307 (bg)	3.3	2.5	40	No	5	40	No	0.031	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 6/9/2021 3:58 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 6/9/2021 4:13 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
12/10/2019	<11 (U)	19 (J)	17	<11 (U)	19 (J)	68	
2/4/2020	4.4 (J)	12	26	<2.3 (U)	16	69	
4/29/2020	7.4 (J)	4 (J)	44	2.9 (J)	20	80	
7/7/2020							<2.5 (U)
8/7/2020							<2.5 (U)
10/22/2020	<10 (U)	12	14	<10 (U)	22 (J)	60	3 (J)
2/22/2021							3.3 (J)
4/5/2021	6.9 (J)	18	47	3.2 (J)	23	70	2.5 (J)
Mean	7.94	13	29.6	5.88	20	69.4	2.76
Std. Dev.	2.623	6	15.21	4.245	2.739	7.127	0.3715
Upper Lim.	8.432	23.05	55.08	3.498	24.59	81.34	3.3
Lower Lim.	4.034	2.946	4.115	2.2	15.41	57.46	2.5

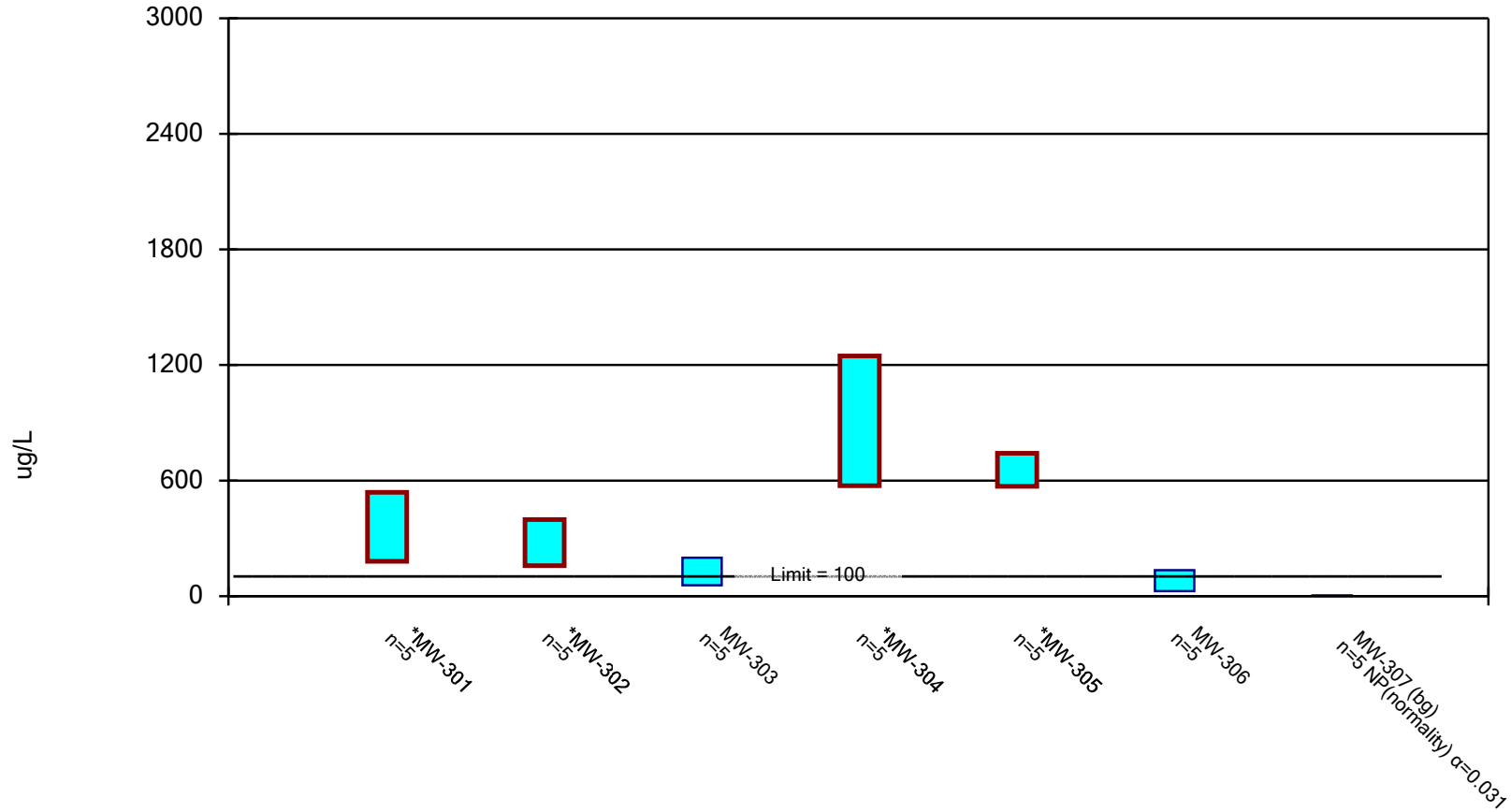
Confidence Interval

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020 Printed 6/9/2021, 4:15 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Molybdenum (ug/L)	MW-301	538.9	181.1	100	Yes	5	0	No	0.01	Param.
Molybdenum (ug/L)	MW-302	397.9	158.1	100	Yes	5	0	No	0.01	Param.
Molybdenum (ug/L)	MW-303	199.4	56.55	100	No	5	0	No	0.01	Param.
Molybdenum (ug/L)	MW-304	1247	573	100	Yes	5	0	No	0.01	Param.
Molybdenum (ug/L)	MW-305	741.9	570.1	100	Yes	5	0	No	0.01	Param.
Molybdenum (ug/L)	MW-306	134.8	26.44	100	No	5	0	No	0.01	Param.
Molybdenum (ug/L)	MW-307 (bg)	3.4	0.55	100	No	5	60	No	0.031	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 6/9/2021 4:14 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 6/9/2021 4:15 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
12/10/2019	310	260	140	820	650	88	
2/4/2020	300	280	96	950	680	100	
4/29/2020	250	360	74	1200	720	120	
7/7/2020							2.5
8/7/2020							<1.1 (U)
10/22/2020	510	320	180	930	580	49	<1.1 (U)
2/22/2021							<1.3 (U)
4/5/2021	430	170	150	650	650	46	3.4
Mean	360	278	128	910	656	80.6	1.53
Std. Dev.	106.8	71.55	42.64	201.1	51.28	32.32	1.335
Upper Lim.	538.9	397.9	199.4	1247	741.9	134.8	3.4
Lower Lim.	181.1	158.1	56.55	573	570.1	26.44	0.55

F2 October 2021 Monitoring Event Evaluation

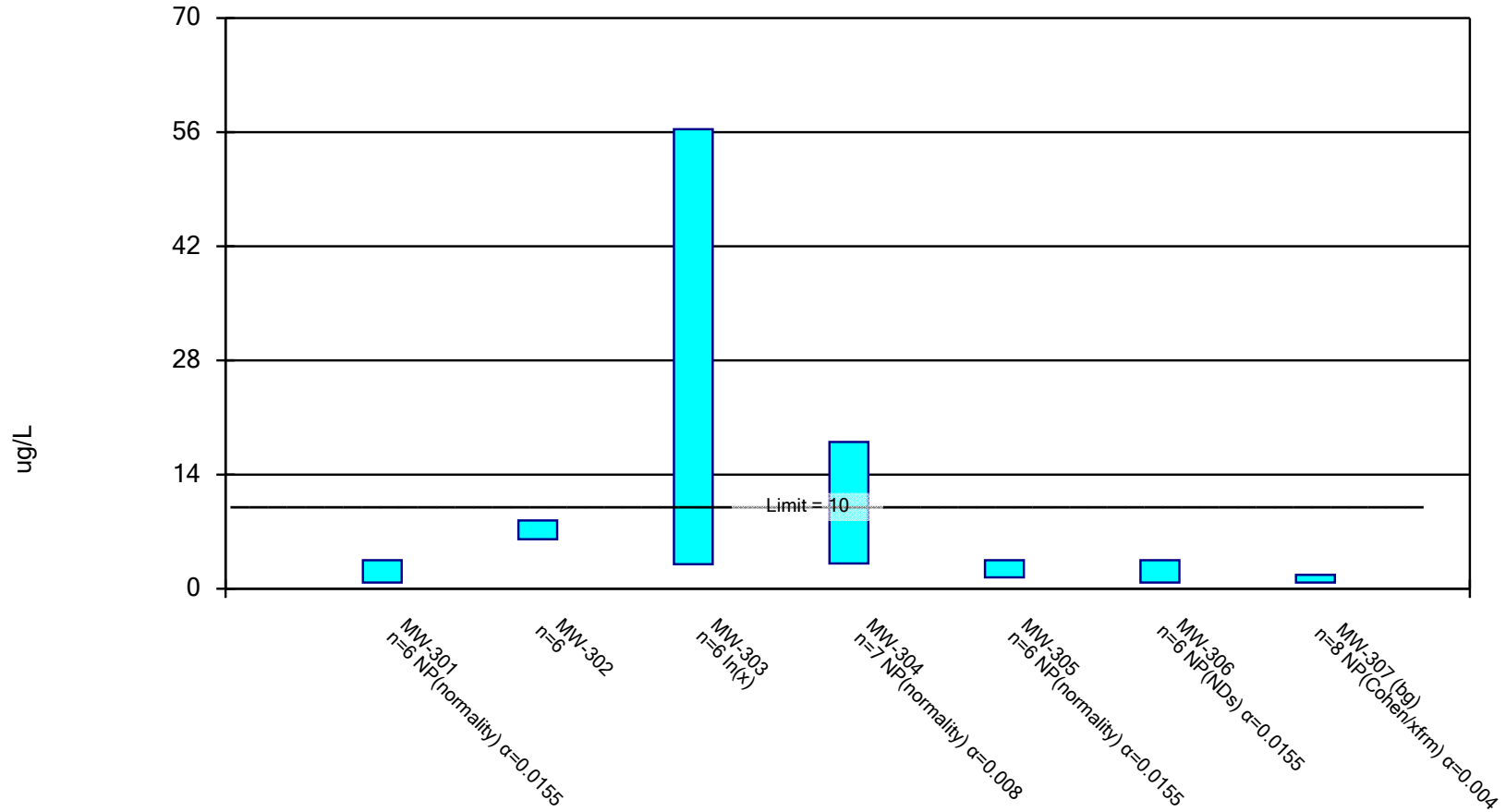
Confidence Interval

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020 Printed 12/13/2021, 10:40 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (ug/L)	MW-301	3.5	0.75	10	No	6	66.67	None	No	0.0155	NP (normality)
Arsenic (ug/L)	MW-302	8.371	6.063	10	No	6	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-303	56.37	3.001	10	No	6	0	None	ln(x)	0.01	Param.
Arsenic (ug/L)	MW-304	18	3.1	10	No	7	0	None	No	0.008	NP (normality)
Arsenic (ug/L)	MW-305	3.5	1.4	10	No	6	16.67	None	No	0.0155	NP (normality)
Arsenic (ug/L)	MW-306	3.5	0.75	10	No	6	100	None	No	0.0155	NP (NDs)
Arsenic (ug/L)	MW-307 (bg)	1.7	0.75	10	No	8	25	None	No	0.004	NP (Cohens/xfrm)
Lithium (ug/L)	MW-301	13.46	3.479	40	No	6	33.33	Cohen's	No	0.01	Param.
Lithium (ug/L)	MW-302	22.52	5.814	40	No	6	0	None	No	0.01	Param.
Lithium (ug/L)	MW-303	50.7	11.12	40	No	6	0	None	ln(x)	0.01	Param.
Lithium (ug/L)	MW-304	11	2.3	40	No	6	66.67	None	No	0.0155	NP (normality)
Lithium (ug/L)	MW-305	24	13.66	40	No	6	0	None	No	0.01	Param.
Lithium (ug/L)	MW-306	86.72	58.61	40	Yes	6	0	None	No	0.01	Param.
Lithium (ug/L)	MW-307 (bg)	4.8	2.5	40	No	8	50	None	No	0.004	NP (normality)
Molybdenum (ug/L)	MW-301	508.6	234.7	100	Yes	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-302	363.2	166.8	100	Yes	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-303	201.2	75.46	100	No	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-304	1254	662.5	100	Yes	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-305	788.6	574.8	100	Yes	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-306	118.5	34.8	100	No	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-307 (bg)	3.4	1.1	100	No	8	75	None	No	0.004	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/13/2021 10:39 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Confidence Interval

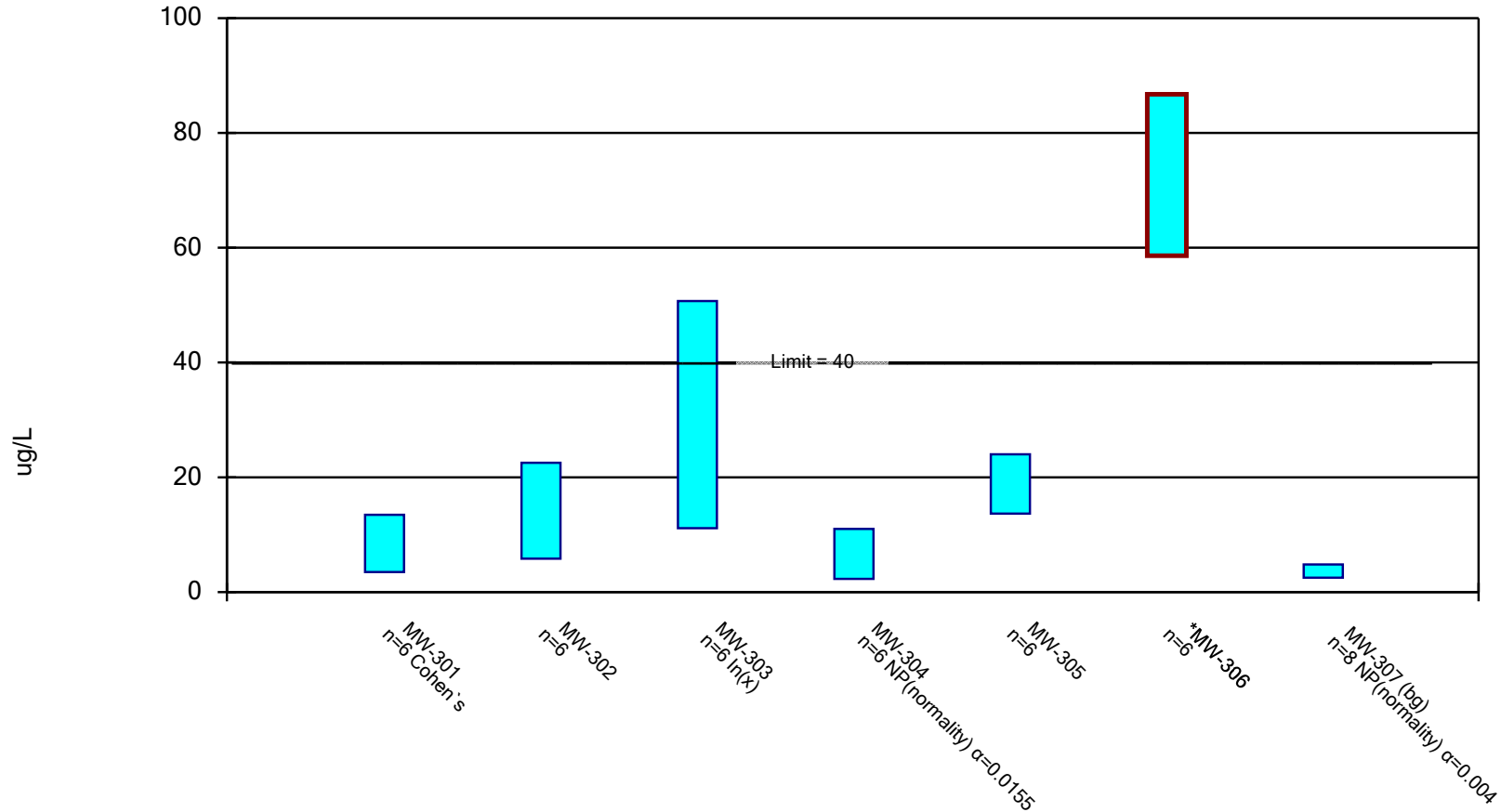
Constituent: Arsenic (ug/L) Analysis Run 12/13/2021 10:40 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
12/10/2019	<0.75 (U)	6.7	9.2	4.5	1.4 (J)	<0.75 (U)	
2/4/2020	<0.88 (U)	6.1	4	3.7	1.4 (J)	<0.88 (U)	
4/29/2020	0.95 (J)	8.6	5.8	18	3.1	<0.88 (U)	
7/7/2020				4.4			1.7 (J)
8/7/2020							1.1 (J)
10/22/2020	<3.5 (U)	7.3	20	4.5 (J)	<3.5 (U)	<3.5 (U)	0.92 (J)
2/22/2021							<0.75 (U)
4/5/2021	<0.75 (U)	7.1	14	6.6	1.6 (J)	<0.75 (U)	0.96 (J)
6/17/2021							<0.75 (U)
7/22/2021							0.98 (J)
10/18/2021			81	3.1	3.1	<0.75 (U)	
10/19/2021	1.7 (J)	7.5					0.99 (J)
Mean	1.422	7.217	22.33	6.4	2.35	1.252	1.019
Std. Dev.	1.078	0.84	29.32	5.228	0.9813	1.103	0.3002
Upper Lim.	3.5	8.371	56.37	18	3.5	3.5	1.7
Lower Lim.	0.75	6.063	3.001	3.1	1.4	0.75	0.75

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/13/2021 10:39 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Confidence Interval

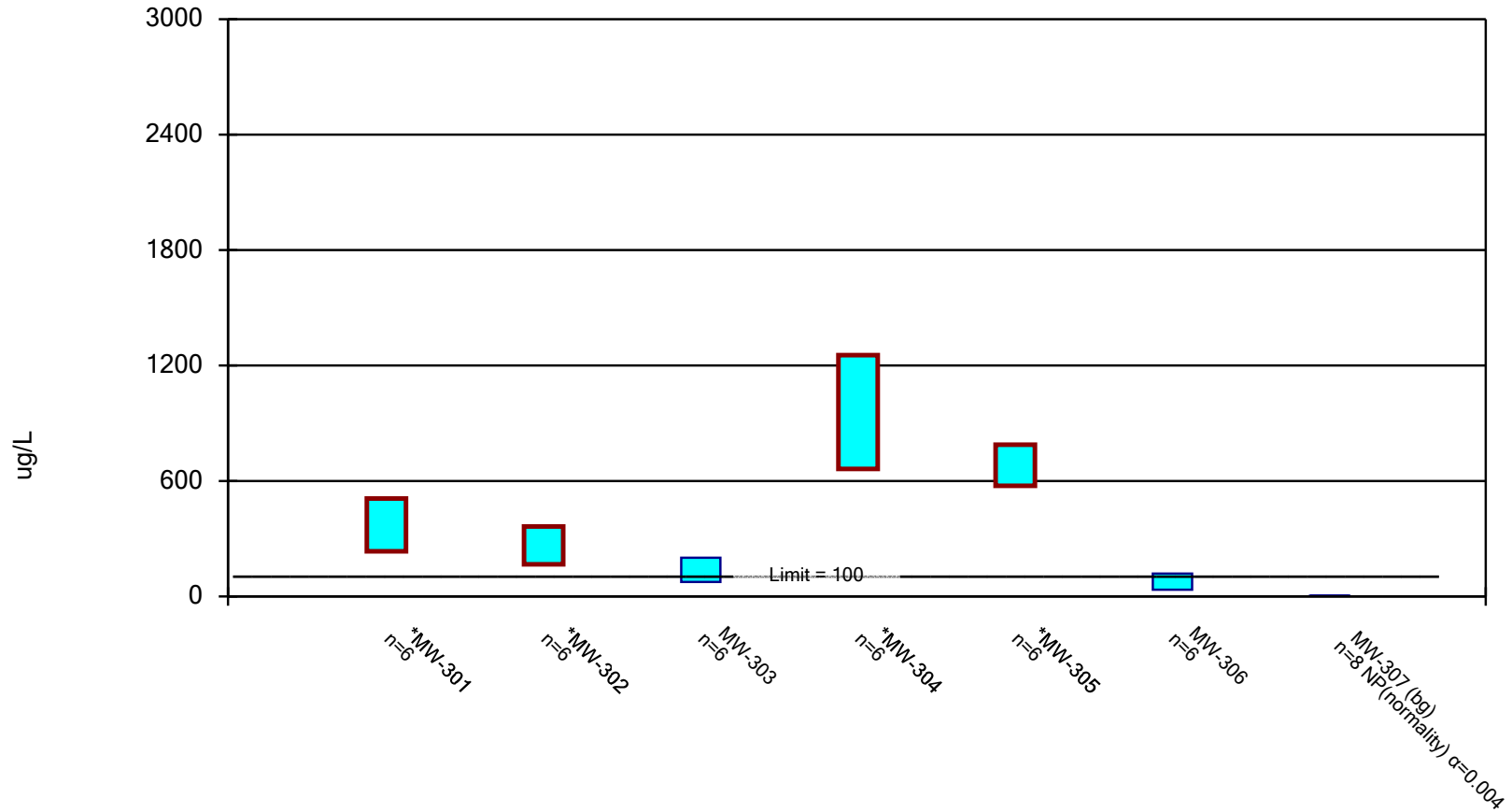
Constituent: Lithium (ug/L) Analysis Run 12/13/2021 10:40 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
12/10/2019	<11 (U)	19 (J)	17	<11 (U)	19 (J)	68	
2/4/2020	4.4 (J)	12	26	<2.3 (U)	16	69	
4/29/2020	7.4 (J)	4 (J)	44	2.9 (J)	20	80	
7/7/2020							<2.5 (U)
8/7/2020							<2.5 (U)
10/22/2020	<10 (U)	12	14	<10 (U)	22 (J)	60	3 (J)
2/22/2021							3.3 (J)
4/5/2021	6.9 (J)	18	47	3.2 (J)	23	70	2.5 (J)
6/17/2021							<2.5 (U)
7/22/2021							<2.5 (U)
10/18/2021			14	<2.5 (U)	13	89	
10/19/2021	5.8 (J)	20					4.8 (J)
Mean	7.583	14.17	27	5.317	18.83	72.67	2.95
Std. Dev.	2.503	6.08	15.02	4.04	3.764	10.23	0.8071
Upper Lim.	13.46	22.52	50.7	11	24	86.72	4.8
Lower Lim.	3.479	5.814	11.12	2.3	13.66	58.61	2.5

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 12/13/2021 10:39 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 12/13/2021 10:40 PM

M. L. Kapp Generating Station Client: SCS Engineers Data: KAP - Chempoint- export-Dec2020

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307 (bg)
12/10/2019	310	260	140	820	650	88	
2/4/2020	300	280	96	950	680	100	
4/29/2020	250	360	74	1200	720	120	
7/7/2020							2.5
8/7/2020							<1.1 (U)
10/22/2020	510	320	180	930	580	49	<1.1 (U)
2/22/2021							<1.3 (U)
4/5/2021	430	170	150	650	650	46	3.4
6/17/2021							<1.3 (U)
7/22/2021							<1.3 (U)
10/18/2021			190	1200	810	57	
10/19/2021	430	200					<1.3 (U)
Mean	371.7	265	138.3	958.3	681.7	76.67	1.662
Std. Dev.	99.68	71.48	45.77	215.4	77.82	30.47	0.8348
Upper Lim.	508.6	363.2	201.2	1254	788.6	118.5	3.4
Lower Lim.	234.7	166.8	75.46	662.5	574.8	34.8	1.1

Appendix G

Assessment of Corrective Measures Extension Letter

January 8, 2021
File No. 25220077.00

Ms. Jessica Wilkening
Interstate Power and Light
2933 University Drive
Muscatine, IA 52761

Subject: Demonstration of Need for Deadline Extension
Assessment of Corrective Measures – KAP Main Ash Pond
ML Kapp Generating Station, Clinton, Iowa

Dear Ms. Wilkening:

In accordance with 40 CFR 257.96(a), Interstate Power and Light Company (IPL) has initiated an Assessment of Corrective Measures (ACM) for the KAP Main Ash Pond. The ACM was initiated on October 12, 2020, in response to detections of constituents in Appendix IV to 40 CFR Part 257 at statistically significant levels above the groundwater protection standards (GPS) established under 40 CFR 257.95(h). As allowed under 40 CFR 257.96(a), this letter provides a demonstration that additional time beyond the 90-day deadline is needed to complete the ACM, and that the deadline may be extended by 60 days. Therefore, the ACM must be completed by March 11, 2021.

Demonstration of Need for Additional Time

Additional time is needed to complete the ACM in order to investigate the nature and extent of downgradient groundwater impacts and consider that information in preparing the ACM. The additional information obtained through further investigation of site conditions is important to the selection of suitable corrective measures and the evaluation of those corrective measures in meeting the requirements and objectives outlined in 40 CFR 257.96(c). Specifically, additional data about the nature and extent of groundwater impacts is needed to determine the current level of risk, evaluate the reduction of risk provided, and evaluate the implementation of potential corrective measures.

In May 2020, prior to initiating an ACM in October 2020, IPL began the process of designing, permitting, installing, and sampling additional groundwater monitoring wells to investigate the nature and extent of these constituents in groundwater, in accordance with 40 CFR 257.95(g)(1).

Significant schedule delays occurred due to the COVID-19 pandemic. Temporary travel bans, social distancing restrictions, and pandemic response planning delayed ACM activities. The pandemic along with the following factors contributed to delays in the characterization of the nature and extent of the release, which in turn creates the need for the extension of the ACM deadline by up to 60 days as allowed under 40 CFR 257.96(a):

- Installing an additional upgradient background well to provide additional information on groundwater flow directions and background groundwater quality.


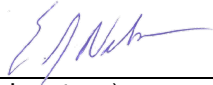


- Obtaining access to downgradient properties not owned by IPL for the purpose of installing additional groundwater monitoring wells to characterize the nature and extent of releases from the site. COVID-19 has limited access to neighboring property owners and slowed progress in securing site access.
- Permitting the new wells, which includes Federal, state, and local permit reviews related to floodplains, wetlands, and sovereign lands, and is significantly delaying assessment well installation.

Additional information regarding the nature and extent of groundwater impacts will provide further understanding of existing risks associated with the groundwater impacts identified at the KAP Main Ash Pond, which provides the basis for evaluating potential corrective measures as required under 40 CFR 257.96. While evaluation of the nature and extent of impacts may continue in parallel with the ACM and selection of remedy, extending the ACM deadline as allowed under the coal combustion residuals (CCR) rule will allow for the consideration of additional information and provide for a more complete ACM. Thus, the 60-day extension is needed.

As required by 40 CFR 257.96(a), a professional engineer's certification of the accuracy of this demonstration is enclosed.

PE Certification

 1/8/21	<p>As required by 40 CFR 257.96, I, Eric J. Nelson, hereby certify that this demonstration of need for the 60-day extension of the deadline for completing an Assessment of Corrective Measures is accurate. I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p>
	<p> 1/8/2021</p> <p>(signature) (date)</p>
	<p>Eric J. Nelson (printed or typed name)</p>
	<p>License number <u>23136</u></p> <p>My license renewal date is December 31, 2022.</p> <p>Pages or sheets covered by this seal: All</p>

Ms. Jessica Wilkening

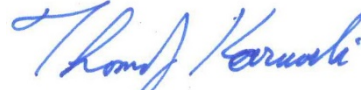
January 8, 2021

Page 3

Sincerely,



Eric J. Nelson, PE
Project Director
SCS Engineers



Thomas J. Karwoski
Senior Project Manager
SCS Engineers

EJN/AJR/TK

cc: Brad Weber, Interstate Power and Light Company
Jeff Maxted, Alliant Energy

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