2021 Annual Groundwater Monitoring and Corrective Action Report

Lansing Generating Station
Lansing, Iowa

Prepared for:

Alliant Energy

SCS ENGINEERS

25221070.00 | January 31, 2022

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OVERVIEW OF CURRENT STATUS

Lansing Generating Station, Landfill, and Upper Ash Pond
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 at the Lansing Generating Station (LAN) is a multiunit system that includes the Landfill and Upper 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)	(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):	
	(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and	SSIs initially determined on January 15, 2018, based on October 2017 monitoring results. In 2021, SSIs for semiannual events for compliance wells at waste boundary included the following; see Table 5 for complete results. April 2021 Boron: MW-301, MW-302, MW-303 Calcium: MW-302, Chloride: MW-301, MW-302, MW-303 Fluoride: MW-303 Field pH: MW-301, MW-303 Total Dissolved Solids: MW-302 October 2021 Boron: MW-301, MW-302, MW-303

Category	Rule Requirement	Site Status
		Calcium: MW-302 Chloride: MW-301, MW-302, MW-303 Field pH: MW-301 Sulfate: MW-301 Total Dissolved Solids: MW-302
	(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	July 16, 2018
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;	Arsenic: MW-302 Determined to be at SSL above GPS on January 15, 2019. In 2021, concentrations exceeding the GPS detected in April and October events. Molybdenum: MW-304A Determined to be at SSL above GPS on June 7, 2021. In 2021, concentrations exceeding the GPS detected in February, April, July, and October events.
	(B) Provide the date when the Assessment of Corrective Measures (ACM) was initiated for the CCR unit;	Arsenic: April 15, 2019 Molybdenum: Alternative Source Demonstration completed September 3, 2021; no ACM required.
	(C) Provide the date when the public meeting was held for the ACM for the CCR unit; and	October 12, 2020
	(D) Provide the date when the ACM was completed for the CCR unit.	September 12, 2019 – Original ACM November 25, 2020 – Addendum No. 1 to ACM
Selection of Remedy (SOR)	(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	SOR is in progress
Corrective Action	(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	Not applicable - SOR is in progress

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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) Rule [40 Code of Federal Regulations (CFR) 257.50-107]. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.90(e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2021 Annual Groundwater Monitoring and Corrective Action Report for the CCR Units. The Lansing Generating Station (LAN) site location is shown on **Figure 1**.

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

The groundwater monitoring system at the LAN is a multiunit system that includes the following two existing CCR units:

- LAN Landfill
- LAN Upper Ash Pond

The groundwater system is designed to detect monitored constituents at the waste boundary of the facility as required by 40 CFR 257.91(d). The groundwater monitoring system currently consists of 1 upgradient monitoring well, 3 downgradient monitoring wells at the waste boundary, and 10 additional downgradient wells. Four of the additional 10 downgradient wells were installed as deeper delineation piezometers, and two were installed as groundwater elevation monitoring points only (**Figure 2** and **Table 1**).

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 sections:

- Geologic and hydrogeologic setting
- CCR Rule monitoring system

2.1 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.1.1 Regional Information

The uppermost bedrock unit in the site area is the Jordan aquifer, which is the lower Cambrian-Ordovician sandstone interbedded with dolostone. The thickness of the Jordan aquifer varies from 50 to more than 120 feet thick in most areas of Allamakee County. Underlying the Cambrian-Ordovician sandstone are the Cambrian confining beds comprised of dolostone, siltstone, and shale. The Cambrian confining beds overlie the Dresbach Aquifer, comprised of shaly sandstone. A summary of the regional hydrogeologic stratigraphy is provided in **Appendix A**. A regional bedrock surface hydrogeologic map, hydrogeologic cross sections, and a contour map of the top of the Cambrian-Ordovician sandstone in northeastern Iowa are also included in **Appendix A**. The bedrock surface elevation is highly variable due to erosion.

The Mississippi River and associated alluvial aquifers are a major source of surface water and shallow groundwater in the area. The alluvial aquifer is up to 60 feet thick within the deeply incised valley where the LAN is located, but is thin to absent on the surrounding bluffs and hilltops. The lower Cambrian-Ordovician sandstone unit (Jordan sandstone) is the shallowest regional bedrock aquifer. The October 1989 Iowa Department of Natural Resources (IDNR) Water Atlas No. 8 states that the Jordan aquifer is commonly the source of municipal and industrial high-capacity wells in the region. A summary of the regional groundwater units in included in **Appendix A.**

A map showing the regional potentiometric surface in the Jordan sandstone is presented in **Appendix A**. This map shows the potentiometric surface near the site area as sloping to the east-northeast. The flow direction in the shallow unconsolidated aquifer at Lansing is generally to the north (**Appendix A**). The flow in the Jordan sandstone immediately beneath the landfill and ponds is also likely to the north due to the control of incoming groundwater from the bluffs flanking the valley with ultimate discharge to the Mississippi River.

2.1.2 Site Information

For the purposes of groundwater monitoring in accordance with section 257.91 of the CCR Rule, the shallow alluvial aquifer in combination with the hydraulically connected lower Cambrian-Ordovician sandstone unit (Jordan sandstone) is considered to be the uppermost aquifer unit at the Lansing site. The upgradient background monitoring well total boring depth was 93.5 feet. The bedrock at this location is overlain by 37 feet of unconsolidated material and the water table occurs in the bedrock.

Monitoring wells MW-301 through MW-309 and piezometers MW-302A, MW-304A, MW-306A, and MW-307A are installed in the shallow alluvial aquifer and in the hydraulically connected lower Cambrian-Ordovician sandstone unit (Jordan sandstone), which is the uppermost aquifer unit at the Lansing site. The unconsolidated materials at these well locations are generally sand, silt, with minor clay and gravel. The total boring depths of monitoring wells MW-301 through MW-309 are between 16 and 27 feet, and bedrock was not encountered in any of the monitoring well borings. The total depths of piezometers MW-302A, MW-304A, and MW-307A are between 50 and 56 feet. Background monitoring well MW-6 is screened within the bedrock unit because the water table occurs within the bedrock at this location. Boring logs, well construction, and development documentation for all monitoring wells are included in **Appendix B.**

To evaluate groundwater flow directions and rates, groundwater flow maps were developed for two depth intervals within the aquifer. The water table maps are based on monitoring wells installed at or near the water table. The potentiometric surface maps are based on the deeper “A” wells.

The water table and potentiometric surface contours and groundwater flow patterns based on April 2021 water level measurements are shown on **Figures 3** and **4**. The water table and potentiometric surface contours and groundwater flow patterns for the October 2021 water level measurements are shown on **Figures 5** and **6**. The groundwater elevation data for the CCR monitoring wells are provided in **Table 3**, along with additional groundwater elevation data for the wells in the state monitoring program for the CCR landfill. Estimated horizontal gradients and flow velocities are provided in **Table 4A**. Calculated vertical gradients for the nested wells are 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 three downgradient monitoring wells installed at the waste boundary (**Table 1** and **Figure 2**). The background well is MW-6, and the three downgradient compliance wells at the waste boundary include MW-301, MW-302, and MW-303. Four additional water table wells (MW-304, MW-305, MW-306, and MW-307) and four deeper piezometers (MW-302A, MW-304A, MW-306A, and MW-307A) were added as delineation wells to support the evaluation of the nature and extent of groundwater impacts and characterization of the site conditions. Two additional water table wells (MW-308 and MW-309) were installed to provide information on horizontal groundwater flow, and groundwater sample collection is not currently planned at these two wells.

3.0 § 257.90(E) ANNUAL REPORT REQUIREMENTS

Annual groundwater monitoring and corrective action report. *For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. 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:*

3.1 §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 of the site location is provided on **Figure 1.** A map with an aerial image showing the CCR units and all background (or upgradient) and downgradient monitoring wells with identification numbers for the groundwater monitoring program is provided as **Figure 2**.

3.2 §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;

Four new monitoring wells were installed on June 22-23, 2021, to support characterization of the nature and extent of arsenic concentrations and evaluation of hydrogeologic conditions for the selection of a remedy. Monitoring wells MW-307 and MW-307A were installed to provide information on horizontal and vertical groundwater flow and the distribution of target groundwater quality parameters. Monitoring wells MW-308 and MW-309 were installed to provide information on

horizontal groundwater flow, and groundwater sample collection is not currently planned at wells MW-308 and MW-309.

3.3 §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;

Five groundwater sampling events were completed in 2021. 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 assessment monitoring programs is included in **Table 2**.

The semiannual assessment monitoring events for the entire monitoring network were completed in April and October 2021. In April and October 2021, all wells were sampled for Appendix III and Appendix IV parameters and additional parameters chosen to assist with the Selection of Remedy (SOR) process. Parameters included dissolved and total metals, general water quality parameters, and parameters used to evaluate feasibility of monitored natural attenuation (MNA). Samples were also analyzed for total and dissolved molybdenum to support the evaluation of potential sources of molybdenum detected at concentrations exceeding the Groundwater Protection Standards (GPS) in piezometer MW-304A.

Supplemental monitoring events performed in February, July, and August 2021 were limited to a subset of the wells and/or parameters as described below.

In February 2021, MW-304A and MW-306 were sampled for Appendix IV parameters previously detected at concentrations exceeding the GPS. Supplemental results for arsenic at compliance well MW-306 and for molybdenum at delineation well MW-304 were used to evaluate if concentrations are at a statistically significant level (SSL) above the GPS, as described in **Section 3.4**.

In July 2021 monitoring wells MW-304A and MW-306 were sampled for specific parameters to further evaluate the nature and extent of arsenic and molybdenum impacts and to characterize site conditions as part of the SOR. Monitoring wells MW-307 and MW-307A, installed in June 2021, were sampled for the first time during the July event for all Appendix III and Appendix IV parameters.

In August 2021, monitoring wells MW-307 and MW-307A were sampled for the second time for all Appendix III and Appendix IV parameters.

The 2021 monitoring results are summarized in **Table 5**. Field parameter results for the 2021 sampling events are provided in **Table 6**. The analytical reports are provided in **Appendix C**. Historical results for each monitoring well are summarized in **Appendix D**.

3.4 § 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);

There was no monitoring program transition in 2021.

The LAN monitoring program transitioned to assessment monitoring beginning in April 2018 and assessment monitoring continued through 2021. An Assessment of Corrective Measures (ACM) was initiated for the LAN CCR units in April 2019 and completed in September 2019. Addendum No. 1 to the ACM was completed in November 2020. The SOR is in progress. The ACM was initiated in response to the detection of arsenic at SSLs exceeding the GPS. Assessment monitoring continued during the ACM and will continue during the SOR.

The statistical evaluation of the October 2020 semiannual monitoring event was completed in January 2021. Evaluation of the April 2021 semiannual monitoring event was completed in July 2021. Evaluation of the February, July, and August 2021 supplemental sampling events were completed in June, November, and December 2021, respectively.

In 2021, Appendix IV parameters arsenic, thallium, and molybdenum were detected at concentrations above the GPS values established under §257.95(h). As shown in **Table 5**, several Appendix III and Appendix IV parameters continue to be detected at levels that represent statistically significant increases (SSIs) above background. The evaluation of significance of the GPS exceedances for arsenic, thallium, and molybdenum is discussed below.

In accordance with the Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act Facilities (U.S. Environmental Protection Agency, 2009), the comparison of assessment monitoring results to the GPS was based on the lower confidence limit (LCL) for the arithmetic mean. The LCL evaluation was completed for Appendix IV parameters that have been detected at a concentration exceeding the GPS in at least one sample result since assessment monitoring was initiated, which include arsenic, thallium, and molybdenum. The LCLs were calculated with Sanitas™ using historical concentrations measured since assessment monitoring began in April 2018. The most recent LCL evaluation, completed for the October 2021 event, is provided in **Appendix F**.

Based on the LCL evaluation, the parameters at an SSL above the GPS are arsenic at compliance well MW-302 and molybdenum at delineation well MW-304A. For the April 2021 sampling event, thallium at compliance well MW-302 exceeded the GPS but was flagged due to detection of thallium in the method blank. The April result was anomalous in comparison to previous thallium results for MW-302, which were mostly non-detect, and thallium was detected at a trace concentration well below the GPS in the October 2021 sampling event. Based on these observations and the LCL evaluation, thallium was determined not to be at an SSL above the GPS. Thallium concentrations will continue to be evaluated.

Molybdenum was initially determined to be at an SSL above the GPS at MW-304A in June 2021 based on sampling results in April 2021. The SSL was addressed through the completion of an Alternative Source Demonstration in September 2021. The source of molybdenum at an SSL above the GPS for the October 2021 event will be evaluated in 2022. As shown in the confidence interval plot in **Appendix F**, molybdenum concentrations in samples from the compliance wells located at the waste boundary of the CCR unit were well below the GPS, suggesting that the CCR unit is not the source.

A trend analysis evaluation was also completed for arsenic at the compliance and delineation wells. Trends were evaluated with Sanitas™ using historical concentrations measured since assessment monitoring began for each well. The evaluation is provided in **Appendix F**. Based on the trend analysis, there are no statistically significant trends in arsenic concentrations at the monitoring wells. For some delineation wells, additional data are needed before trends can be evaluated.

Supplemental groundwater quality parameters were included in the monitoring program in 2021 to support the SOR process, including the evaluation of MNA. The results for the supplemental parameters are also included in **Table 5**, in the laboratory reports in **Appendix C**, and in the historical results tables in **Appendix D**.

3.5 § 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 the 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 Units.

3.5.1 § 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 SOR process, with assessment monitoring continuing.

Summary of Key Actions Completed.

- Two semiannual assessment monitoring events (April and October 2021).
- Supplemental monitoring events in February, July, and August 2021 to characterize groundwater quality at selected wells installed to delineate the nature and extent of impacts.
- Installation of four monitoring wells (MW-307, MW-307A, MW-308, and MW-309) to provide information on the horizontal and vertical flow of groundwater. Monitoring wells MW-307 and MW-307A were added to the sampling program starting with the July 2021 sampling event.
- Statistical evaluation for the October 2020 assessment monitoring event completed in January 2021.
- Statistical evaluation for the February 2021 supplemental event completed in June 2021.
- Statistical evaluation for the April 2021 assessment monitoring event completed in July 2021.
- Statistical evaluation for the July 2021 supplemental monitoring event completed in November 2021.

- Statistical evaluation for the August 2021 supplemental monitoring event completed in December 2021.
- Continued work on the SOR in accordance with § 257.97.
- Semiannual progress reports for the SOR process (March and September 2021).

Description of Any Problems Encountered.

- No problems were encountered during the groundwater sampling events in 2021.

Discussion of Actions to Resolve the Problems. Not applicable.

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

- Two semiannual assessment monitoring events (April and October 2022).
- Statistical evaluation and determination of any SSLs exceeding the GPS for the October 2021 monitoring event (January 2022).
- Statistical evaluation and determination of any SSLs exceeding the GPS for the April 2022 monitoring event (July 2022).
- Continued work on the SOR in accordance with § 257.97.

3.5.2 § 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. The LAN CCR units are no longer in the detection monitoring program.

3.5.3 § 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. The LAN CCR units are no longer in the detection monitoring program.

3.5.4 § 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.

3.5.5 § 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 LAN are provided in **Table 5**. The laboratory reports are provided in **Appendix C**. Historical monitoring results are summarized in **Appendix D**.

Supplemental groundwater quality parameters were included in the monitoring program in 2021 to support the SOR process, including the evaluation of MNA. The results for the supplemental parameters are included in **Table 5**, in the laboratory reports in **Appendix C**, and in the historical results in **Appendix D**.

3.5.6 § 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.

An alternative source demonstration was completed for molybdenum observed at monitoring well MW-304A and is included in **Appendix E**. The alternative source demonstration includes certification by a professional engineer.

3.5.7 § 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 April 15, 2019. The July 10, 2019, certification demonstrating the need for a 90-day deadline extension which was provided in the 2019 Annual Groundwater Monitoring and Corrective Action Report. The ACM was completed on September 19, 2019. Addendum No. 1 to the ACM was completed on November 25, 2020.

3.6 §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.

4.0 REFERENCE

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

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Tables

Table 1. Groundwater Monitoring Well Network
Lansing Generating Station / SCS Engineers Project #25221070.00

Monitoring Well	Location in Monitoring Network	Role in Monitoring Network
MW-6	Upgradient	Background
MW-301	Downgradient	Compliance
MW-302	Downgradient	Compliance
MW-302A	Downgradient, deeper	Delineation
MW-303	Downgradient	Compliance
MW-304	Downgradient	Delineation
MW-304A	Downgradient, deeper	Delineation
MW-305	Downgradient	Delineation
MW-306	Downgradient	Delineation
MW-306A	Downgradient, deeper	Delineation
MW-307	Downgradient	Delineation
MW-307A	Downgradient, deeper	Delineation
MW-308	Downgradient	Groundwater Elevation Only
MW-309	Downgradient	Groundwater Elevation Only

Created by:	RM	Date:	12/14/2020
Last revision by:	RM	Date:	12/21/2021
Checked by:	JAO	Date:	12/28/2021

Table 2. CCR Rule Groundwater Samples Summary
Lansing Generating Station / SCS Engineers Project #25221070.00

Sample Dates	Background Well	Compliance Wells		Delineation Well	Compliance Well	Delineation Wells								
	MW-6	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A	MW-307	MW-307A	MW-308[1]	MW-309[1]
2/23/2021	--	--	--	--	--	--	A-S	--	A-S	--	--	--	--	--
4/7-9/2021	A	A	A	A	A	A	A	A	A	A	--	--	--	--
7/12-13/2021	--	--	--	--	--	--	A-S	--	A-S	--	A-S	A-S	--	--
8/13/2021	--	--	--	--	--	--	--	--	--	--	A-S	A-S	--	--
10/25-27/2021	A	A	A	A	A	A	A	A	A	A	A	A	--	--
Total Samples	2	2	2	2	2	2	4	2	4	2	3	3	0	0

Abbreviations:
A = Assessment Monitoring Sample
A-S = Supplemental event under Assessment Monitoring Program
-- = Not Sampled

Notes:
1. No sampling events are currently planned for MW-308 or MW-309. These wells are intended for groundwater elevation measurements only.

Created by: NDK Date: 1/8/2018
Last revision by: RM Date: 12/28/2021
Checked by: JAO Date: 12/28/2021

Table 3. Groundwater Elevation Summary
Interstate Power & Light - Lansing, Iowa / SCS Engineers Project #25221070.00

Well Number	MW1[4]	MW2	MW3[3]	MW4	MW5	MW6	MW11	MW11R	MW12	MW12P	MW13	MW14	MW15	TW17	TW18	TW19	MW-16	MW-18	MW-19	MW-22	MW-22P	MW20	MW301	MW302	MW302A	MW303	MW304	MW304A	MW305	MW306	MW306A	MW307	MW-307A	MW308	MW309
Top of Casing Elevation (feet amsl)	636.67	657.36	656.78	698.17	698.46	741.33	686.19	686.42	691.40	691.58	658.38	646.06	656.82	659.59	659.15	659.05	700.26	771.09	716.07	702.55	702.17	662.29	641.61	638.40	638.93	656.27	636.43	638.60	633.87	637.48	639.56	643.06	642.96	637.89	638.27
Screen Length (ft)	20	10	10	10	10	10	10	10	15	5	15	15	15	15	15	15	15	15	15	15	5	10	10	10	5	10	10	5	10	10	5	10	5	10	10
Top of Well Screen Elevation (ft)	626.50	620.50	600.00	650.00	630.00	656.00	657.96	646.94	657.70	627.98	649.48	636.96	640.82	649.39	650.55	648.95	662.18	669.23	651.69	665.27	625.14	648.79	624.01	626.90	594.93	637.97	630.43	593.60	627.87	621.48	589.56	633.06	597.96	627.89	626.27
Measurement Date																																			
May 11, 2001	632.77	628.53	629.29	653.61	654.82	663.12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
March 8, 2002	627.95	620.21	620.94	650.57	651.80	661.71	653.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 19, 2004	NM	NM	NM	648.80	650.05	653.27	648.03	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 26, 2004	NM	NM	NM	652.89	654.15	664.29	652.09	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
August 23, 2004	NM	NM	NM	652.15	653.38	662.65	650.04	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
November 18, 2004	NM	NM	NM	650.81	652.04	663.88	648.18	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 5, 2005	NM	NM	NM	650.42	651.67	661.80	647.77	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 19, 2006	NM	NM	NM	650.43	651.66	661.78	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 30, 2007	NM	NM	NM	650.21	651.43	661.69	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 16, 2008	NM	NM	NM	653.99	655.24	664.55	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 3, 2009	NM	NM	NM	655.72	656.95	666.16	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 21, 2010	NM	NM	NM	652.27	653.51	663.08	DRY	646.41	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 4, 2011	NM	NM	NM	653.51	654.75	663.84	DRY	646.58	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 25, 2012	NM	NM	NM	651.77	653.03	662.83	DRY	646.53	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 17, 2012	627.33	620.03	NM[2]	650.73	651.97	662.10	AB	646.16	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 19-20, 2013	627.03	620.03	621.26	650.72	651.96	662.13	AB	645.42	650.31	NI	643.72	641.93	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 1, 2013	627.80	620.68	621.79	652.24	653.46	664.16	AB	646.21	651.71	NI	644.61	641.36	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 1, 2013	631.57	625.88	626.68	661.13	662.31	673.12	AB	648.73	653.66	NI	648.43	642.43	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 29, 2014	629.84	NM	NM	654.17	655.43	664.86	AB	646.96	651.62	651.33	645.97	641.95	633.83	648.74	647.26	648.08	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 29, 2014	629.75	624.37	624.50	653.53	653.81	664.30	AB	646.53	651.05	650.73	645.39	641.43	633.61	648.14	646.55	646.96	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 20, 2015	628.16	620.09	620.78	652.00	653.24	663.30	AB	645.93	650.32	650.05	643.73	642.02	633.85	647.79	646.35	646.97	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
December 10, 2015	NM	NM	NM	NM	NM	662.28	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	648.27	623.54	627.88	NI	638.79	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 28, 2016	627.50	620.26	620.83	651.55	652.79	662.80	AB	645.96	650.05	650.00	643.56	641.56	634.71	647.78	NM[5]	646.80	NI	NI	NI	NI	NI	648.61	623.45	627.24	NI	638.15	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 20, 2016	NM	NM	NM	NM	NM	663.21	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	649.86	624.76	628.60	NI	639.33	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 27, 2016	NM	NM	NM	NM	NM	670.82	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	651.32	624.97	628.35	NI	638.65	NI	NI	NI	NI	NI	NI	NI	NI	NI
January 18, 2017	NM	NM	NM	NM	NM	666.28	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.18	624.09	627.32	NI	638.10	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 19-21, 2017	629.39	622.04	622.02	658.84	660.00	669.82	AB	648.24	653.68	653.40	647.61	643.01	634.50	649.87	649.03	649.01	660.45	669.88	652.12	668.38	667.45	651.71	624.70	628.98	NI	639.20	NI	NI	NI	NI	NI	NI	NI	NI	NI
June 19-20, 2017	NM	NM	NM	NM	NM	670.65	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.22	624.89	627.75	NI	638.77	NI	NI	NI	NI	NI	NI	NI	NI	NI
August 15, 2017	NM	NM	NM	NM	NM	670.61	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	649.58	624.09	627.28	NI	637.86	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 16, 2017	NM	NM	NM	NM	NM	669.58	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.81	625.70	628.75	NI	638.79	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 16-17, 2018	628.63	620.82	617.50	AB	AB	667.64	AB	647.07	652.25	651.90	646.36	642.61	634.07	648.77	648.49	648.23	NM	NM	NM	NM	NM	650.77	624.29	628.98	NI	638.62	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 26, 2018	628.67	620.86	617.63	AB	AB	667.96	AB	647.47	651.75	652.54	646.38	645.46	634.14	648.99	648.35	648.00	656.61	667.79	650.19	666.28	665.17	651.18	624.56	628.75	NI	638.57	NI	NI	NI	NI	NI	NI	NI	NI	NI
June 4, 2018	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	624.62	628.27	NI	638.81	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 8, 2018	NM	NM	NM	AB	AB	664.71	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	625.73	628.59	NI	637.32	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 15-16, 2019	630.95	632.16	628.40	AB	AB	672.78	AB	648.69	654.35	653.99	649.45	643.08	633.71	649.73	648.47	648.10	NM	672.64	654.55	671.05	669.22	652.57	629.19	629.99	NI	638.22	NI	NI	NI	NI	NI	NI	NI	NI	NI
June 20, 2019	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NM	623.61	NI	629.12	623.05	NI	NI	NI	NI	NI
October 2, 2019	NM	NM	NM	AB	AB	675.54	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	652.64	626.54	630.04	NI	638.03	623.79	NI	629.77	622.47	NI	NI	NI	NI	NI
December 5, 2019	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NM	NM	NI	NM	620.60	NI	NI	NI	NI	NI
February 5, 2020	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NM	NM	NI	NM	620.83	NI	NI	NI	NI	NI
May 20-21, 2020	629.38	620.61	621.38	AB	AB	674.47	AB	648.17	654.45	654.04	647.94	643.23	633.80	648.82	648.86	649.40	661.08	674.36	656.06	672.16	670.46	650.20	624.46	627.68	623.19	637.98	621.57	624.88	627.24	620.43	620.40	NI	NI	NI	NI
July 6, 2020	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	624.20	NM	NM	625.76	NM	621.66	NI	NI	NI	NI	NI
August 19-21, 2020	NM	NM	NM	AB	AB	674.64	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.88	625.02	627.53	623.52	638.22	621.75	NM	626.98	620.37	620.63	NI	NI	NI	NI
October 19-20, 2020	628.69	620.38	621.22	AB	AB	673.37	AB	647.71	653.94	653.57	647.50	642.96	633.44	649.67	648.76	648.14	660.42	673.35	654.95	671.21	669.55	649.50	624.42	627.14	623.03	636.96	621.40	624.41	626.54	619.92	620.17	NI	NI	NI	NI
February 23, 2021	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	625.04	NM	619.76	NM	NI	NI	NI	NI
April 7-9, 2021	628.84	620.55	621.36	AB	AB	671.08	AB	647.97	652.31	652.92	647.39	642.92	634.38	649.58	648.86	648.21	659.59	670.95	652.86	669.02	667.74	650.79	624.02	627.87	623.12	638.07	621.46	624.31	627.02	620.03	620.14	NI	NI	NI	NI
July 12-13, 2021	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	624.40	627.89	622.77	637.70	621.23	623.87	626.79	619.83	620.00	630.95	625.27	621.00	621.59
August 13, 2021	627.92	620.87	621.58	NM	NM	669.47	NM	647.22	652.57	652.31	646.79	NM	631.59	649.26	648.79	648.21	658.98	669.17	651.25	667.85	666.63	651.19	623.92	628.46	623.12	636.67	621.57	624.11	627.14	620.38	620.82	630.01	625.48	621.44	622.02
September 23, 2021	627.54	620.48	621.38	AB	AB	668.88	NM	647.28	652.46	652.12	646.53	642.79	632.44	649.12	648.65	647.96	658.72	668.58	650.77	667.12	665.96	650.46	624.33	627.65	622.85	637.62	621.20	623.74	626.44	619.95	620.28	631.74	625.28	621.09	621.92
October 25-27, 2021	627.51	620.48	621.19	AB	AB	668.14	AB	646.82	652.10	651.79	645.58	642.68	635.44	649.00	648.61	647.90	658.32	667.79	650.24	666.48	665.37	649.34	627.00	628.86	623.10	638.68	621.29	623.87	626.41	619.91	620.17	634.90	626.25	620.90	621.68
Bottom of Well Elevation (ft)	606.50	610.50	590.00	640.47	620.36	646.03	647.59	636.94	642.70	622.98	634.48	621.96	625.82	634.39	635.55	633.95	647.18	654.23	636.69	650.27	620.14	638.79	614.01	616.90	589.93	627.97	620.43	588.60	617.87	611.48	584.56	623.06	592.96	617.89	616.27

Notes: NM = not measured NI = not installed AB = abandoned

1. The groundwater elevations recorded for MW11 on 2/19/04, 11/18/04, and 5/05/05 are not considered reliable due to a minimal quantity of water observed in the well. The actual water table elevation could be lower than the reported value.
2. MW3 could not be located during this sampling event.
3. Repairs were completed at MW3 in July 2013. Elevations calculated for February, April, and July 2013 are estimates based on the old top of casing elevation (657.36 feet amsl). MW3 was re-surveyed on June 3, 2014.
4. MW1 was repaired in April 2013. Groundwater elevations measured before this date are calculated using the old top of casing elevation (637.60 ft amsl).
5. TW18 was damaged and could not be accessed for a water level measurement in April 2016. The well was repaired in July 2016.

Created by: MDB Date: 8/9/2013
Last revision by: RM Date: 12/21/2021
Checked by: JAO Date: 12/28/2021

I:\25221070.00\Deliverables\2021 Federal Annual Report\Tables\[Table 3 - GW Elevation Summary Table.xls]levels

Table 4A. Horizontal Gradients and Flow Velocity
Lansing Generating Station
SCS Engineers Project #25221070.00

	North				
Sampling Dates	**h1 (ft)**	**h2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**V (ft/d)**
April 7-9, 2021: Shallow	647.39	635.00	896	0.014	1.0
October 25-27, 2021: Shallow	645.00	628.86	220	0.073	5.6
April 7-9, 2021: Deep	624.31	621.00	956	0.003	0.26
October 25-27, 2021: Deep	626.25	621.00	908	0.006	0.44

Well	**K Values (cm/sec)**	**K Values (ft/d)**
MW-6	N/A	N/A
MW-301	1.75E-03	5.0
MW-302	3.50E-03	9.9
MW-302A	2.03E-02	57
MW-303	2.19E-02	62
MW-304	1.68E-02	48
MW-304A	2.55E-03	7.2
MW-305	3.38E-03	9.6
MW-306	4.46E-02	126
MW-306A	3.04E-02	86
MW-307	4.03E-02	114
MW-307A	9.66E-03	27
Geometric Mean	1.1E-02	30

Assumed Porosity, n
0.40

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 Date: 12/29/2020
Last revision by: MDB Date: 1/10/2022
Checked by: RM Date: 1/11/2022

Table 4B. Vertical Gradients
Lansing Generating Station / SCS Engineers Project #25221070.00
January - December 2021

Vertical Hydraulic Gradients	MW302/MW302A		MW304/MW304A		MW306/MW306A		MW307/MW307A	
Shallow Well	MW302		MW304		MW306		MW307	
Screen midpoint[2] (feet amsl)	621.90		625.43		616.48		628.06	
Deep Well	MW302A		MW304A		MW306A		MW307A	
Screen midpoint (feet amsl)	592.43		591.10		587.06		595.46	
Measurement Date	**Distance between midpoints[2] (ft)**	**Vertical Gradient (ft/ft)**	**Distance between midpoints[2] (ft)**	**Vertical Gradient (ft/ft)**	**Distance between midpoints[2] (ft)**	**Vertical Gradient (ft/ft)**	**Distance between midpoints[2] (ft)**	**Vertical Gradient (ft/ft)**
February 23, 2021	NM	NM	NM	NM	NM	NM	NI	NI
April 7-9, 2021	29.5	-0.161	29.8	0.095	28.7	0.004	NI	NI
July 12-13, 2021	29.5	-0.174	29.7	0.089	28.6	0.006	31.5	-0.180
August 13, 2021	29.5	-0.181	29.9	0.085	28.9	0.015	31.1	-0.146
September 23, 2021	29.5	-0.163	29.7	0.085	28.7	0.012	31.9	-0.202
October 25-27, 2021	29.5	-0.195	29.8	0.087	28.6	0.009	33.5	-0.258

Notes:
1: A positive vertical gradient indicates upward groundwater flow. A negative gradient indicates downward flow.
2: MW-304, MW-306, and MW-307 are water table wells, and their screens were not fully submerged during all 2021 sampling events. The effective screen midpoint for a water table well is calculated for each sampling event as the midpoint between the water table elevation and the screen bottom elevation, and this value is used to calculate Distance Between Midpoints.
NI: Not Installed
NM: Not Measured

Created by:	TK	Date:	10/23/2020
Last revision by:	RM	Date:	12/17/2021
Checked by:	JAO	Date:	12/28/2021

Table 5. 2021 Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25221070.00

Parameter Name	UPL Method	UPL	GPS	Background Well		Compliance Wells				Delineation Well		Compliance Well		Delineation Wells					
				MW-6		MW-301		MW-302		MW-302A		MW-303		MW-304		MW-304A			
				4/7/2021	10/26/2021	4/8/2021	10/26/2021	4/9/2021	10/27/2021	4/8/2021	10/27/2021	4/9/2021	10/26/2021	4/9/2021	10/26/2021	2/23/2021	4/9/2021	7/12/2021	10/26/2021
Appendix III																			
Boron, ug/L	P*	100		<58	64 J	160	260	460	630	170	140	120	170	64 J	<58	--	1,400	--	1,300
Calcium, mg/L	P	73.9		71	72	58	68	120	120	75	75	47	49	69	71	--	43	--	35
Chloride, mg/L	P	8.52		7.0	6.8	18	17	11	14	6.7	6.9	21	25	6.5	6.9	--	13	--	15
Fluoride, mg/L	P*	0.2		0.34 J	<0.28	0.38 J, F1	<0.28	0.31 J	1.3	<0.28	<0.28	0.52	<0.28	<0.28	<0.28	--	0.53	--	<0.28
Field pH, Std. Units	P	7.9		7.39	7.70	8.04	8.11	7.08	6.89	7.25	7.15	8.00	7.45	7.27	7.29	8.01	7.78	8.09	7.94
Sulfate, mg/L	P	29.4		23	25	27 F1	49	<2.5	<2.5	45	50	25	28	15	18	--	77	--	91
Total Dissolved Solids, mg/L	P	386.7		290	240	240	210	470	450	330	280	210	150	290	200	--	300	--	240
Appendix IV		**UPL**	**GPS**																
Antimony, ug/L	NP*	0.037	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, ug/L	P*	0.37	10	<0.75	<0.75	5.0	7.1	33	51	<0.75	<0.75	1.5 J	2.2	<0.75	<0.75	--	0.78 J	--	<0.75
Barium, ug/L	P	48.5	2,000	49 B	47	140 B	160	630 B	680	51 B	48	170 B	240	43 B	44	--	36.0 B	--	26
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
Cadmium, ug/L	DQ	DQ	5	<0.051	<0.051	0.060 J	<0.051	0.060 J	0.076 J	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	--	0.096 J	--	<0.051
Chromium, ug/L	P	1.20	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	--	1.6 J	--	<1.1
Cobalt, ug/L	NP*	0.34	6	<0.091	<0.19	0.11 J	0.23 J	1.00	1.1	<0.091	<0.19	<0.091	<0.19	<0.091	0.22 J	--	0.88	--	<0.19
Fluoride, mg/L	P*	0.2	4	0.34 J	<0.28	0.38 J, F1	<0.28	0.31 J	1.3	<0.28	<0.28	0.52	<0.28	<0.28	<0.28	--	0.53	--	<0.28
Lead, ug/L	NP*	0.13	15	<0.21	<0.21	<0.21	0.37 J	<0.21	1.0	<0.21	0.22 J	<0.21	<0.21	<0.21	0.23 J	--	1.1	--	0.37 J
Lithium, ug/L	NP*	3	40	<2.5	<2.5	7.1 J	6.7 J	<2.5	<2.5	<2.5	<2.5	3.5 J	11	<2.5	<2.5	--	<2.5	--	<2.5
Mercury, ug/L	DQ	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, ug/L	P*	0.37	100	<1.3	<1.3	6.8	6.2	1.7 J	1.4 J	<1.3	<1.3	4.8	7.1	<1.3	<1.3	120	110	100	120
Selenium, ug/L	P*	0.72	50	<0.96	<0.96	<0.96	<0.96	1.2 J	<0.96	1.2 J	1.0 J	1.1 J	<0.96	<0.96	<0.96	--	<0.96	--	<0.96
Thallium, ug/L	NP*	0.29	2	<0.26	<0.26	<0.26	<0.26	2.5 B	0.31 J	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	--	<0.26	--	<0.26
Radium 226/228 Combined, pCI/L	P	1.88	5	0.359	0.779	0.244	0.814	1.57	1.59	0.714	1.01	0.243	0.359	0.497	0.870	--	0.468	--	0.698
Additonal Parameters - Selection of Remedy																			
Arsenic, dissolved[#], ug/L	UPL or GPS not applicable			--	<0.75	--	6.8	33	48	--	<0.75	--	2.2	--	<0.75	--	--	--	<0.75
Iron, dissolved,[#] ug/L				49 J	<36	320	430	33,000	33,000	440	38 J	320	69 J	<36	67 J	--	<36	--	<36
Iron, ug/L				<36	<36	740	640	36,000	35,000	47 J	41 J	<36	38 J	37 J	<36	--	580	--	<36
Magnesium, ug/L				36,000	35,000	19,000	18,000	41,000	39,000	37,000	35,000	18,000	16,000	33,000	32,000	--	18,000	--	15000
Manganese, dissolved, ug/L[#]				5.1 J	<4.4	650	530	2,400	2,600	59	<4.4	66	38	10	<4.4	--	6.2 J	--	<4.4
Manganese, ug/L				<4.4	<4.4	670	530	2,500	2,700	4.5 J	<4.4	30	39	5.9 J	<4.4	--	54	--	<4.4
Molybdenum, dissolved,ug/L[#]				--	--	--	--	--	--	--	--	--	--	--	--	140	120	--	120
Potassium, ug/L				1,100	1,100	2,600	3,700	3,200	4,300	1,000	1,000	1,500	2,800	1,200	1,300	--	710	--	650
Sodium, ug/L				4,600	4,500	13,000	13,000	16,000	18,000	7,000	6,300	13,000	15,000	4,900	4,000	--	58,000	--	55000
Total Alkalinity, mg/L				310	380	220	260	540	550	300	300	170	220	300	370	--	180	--	210
Carbonate Alkalinity, mg/L				<4.4	<4.6	<4.6	<4.6	<4.6	<4.6	<4.2	<4.6	<3.8	<4.6	<4.2	<4.6	--	<4.6	--	<4.6
Bicarbonate Alkalinity, mg/L				310	380	220	260	540	550	300	300	170	220	300	370	--	180	--	210

See Page 3 for abbreviations and notes.

Table 5. 2021 Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25221070.00

Parameter Name	UPL Method	UPL	GPS	Delineation Wells													
				MW-305		MW-306				MW-306A		MW-307			MW-307A		
				4/9/2021	10/27/2021	2/23/2021	4/9/2021	7/12/2021	10/27/2021	4/9/2021	10/27/2021	7/12/2021	8/13/2021	10/27/2021	7/12/2021	8/13/2021	10/27/2021
Appendix III																	
Boron, ug/L	P*	100		140	200	--	650	--	580	280	240	220	250	280	370	380	300
Calcium, mg/L	P	73.9		79	79	--	290	--	210	78	80	55	47	38	67	62	70
Chloride, mg/L	P	8.52		4.8 J	6.6	--	33	--	34	7.2	7.7	15.0	16	17.0	6.8	7.2	8.1
Fluoride, mg/L	P*	0.2		<0.28	<0.28	--	<0.28	--	<0.28	<0.28	<0.28	<0.28	<0.28 F1	<0.28	<0.28	<0.28	<0.28
Field pH, Std. Units	P	7.9		7.17	7.29	6.87	6.85	7.51	6.86	7.21	7.34	8.25	7.86	8.11	7.83	7.35	7.29
Sulfate, mg/L	P	29.4		29	14	--	240	--	95	39	42	44	42 F1	70	30	32	33
Total Dissolved Solids, mg/L	P	386.7		300	260	--	1,300	--	960	350	280	210	230	130	280	290	230
Appendix IV		**UPL**	**GPS**														
Antimony, ug/L	NP*	0.037	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
Arsenic, ug/L	P*	0.37	10	1.7 J	3.9	9	8.0	8.2	8.6	<0.75	<0.75	2.1	2.4	2.5	<0.75	0.76 J	1.3 J
Barium, ug/L	P	48.5	2,000	150 B	200	--	280 B	--	320	62.0 B	59	310	300	240	120	120	130
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
Cadmium, ug/L	DQ	DQ	5	<0.051	<0.051	--	<0.051	--	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051
Chromium, ug/L	P	1.20	100	<1.1	<1.1	--	1.3 J	--	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt, ug/L	NP*	0.34	6	0.29 J	<0.19	--	0.35 J	--	0.30 J	0.17 J	0.21 J	0.15 J	0.15 J	<0.19	0.54	0.57	0.77
Fluoride, mg/L	P*	0.2	4	<0.28	<0.28	--	<0.28	--	<0.28	<0.28	<0.28	<0.28	<0.28 F1	<0.28	<0.28	<0.28	<0.28
Lead, ug/L	NP*	0.13	15	<0.21	0.29 J	--	<0.21	--	1.1	<0.21	0.32 J	<0.21	<0.21	<0.21	<0.21	<0.21	0.21 J
Lithium, ug/L	NP*	3	40	<2.5	<2.5	--	24	--	22	<2.5	<2.5	13	13	12	<2.5	<2.5	<2.5
Mercury, ug/L	DQ	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
Molybdenum, ug/L	P*	0.37	100	<1.3	<1.3	--	<1.3	--	<1.3	<1.3	<1.3	5.5	7.2	12	6.8	6.6	6.3
Selenium, ug/L	P*	0.72	50	1.4 J	<0.96	--	<0.96	--	<0.96	<0.96	0.99 J	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96
Thallium, ug/L	NP*	0.29	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
Radium 226/228 Combined, pCI/L	P	1.88	5	0.474	1.43	--	1.09	--	2.10	0.408	0.682	0.499	1.91	0.743	0.509	0.258	0.957
Additonal Parameters - Selection of Remedy																	
Arsenic, dissolved[#], ug/L	UPL or GPS not applicable			--	3.7	8.8	7.8	--	8.4	--	<0.75	2.0		2.6	<0.75		1.4 J
Iron, dissolved,[#] ug/L				3,700	6,900	--	41,000	--	33,000	1,600	1,500	110		110	<36		170
Iron, ug/L				5,900	7,300	--	44,000	--	33,000	1,800	1,800	140		95 J	<36		160
Magnesium, ug/L				25,000	30,000	--	50,000	--	36,000	35,000	33,000	17,000		12,000	33,000		33,000
Manganese, dissolved, ug/L[#]				1,100	1,400	--	5,300	--	4,100	1,100	1,000	300		240	600		720
Manganese, ug/L				1,200	1,500	--	5,500	--	4,100	1,100	1,000	310		230	620		720
Molybdenum, dissolved,ug/L[#]				--	--	--	--	--	--	--	--	5.2		--	7.3		--
Potassium, ug/L				1,300	1,600	--	6,100	--	6200	1,200	1,200	3,600		2,600	3,000		2,500
Sodium, ug/L				5,900	6,700	--	98,000	--	140000	10,000	9,800	13,000		11,000	16,000		14,000
Total Alkalinity, mg/L				280	330	--	880	--	880	320	330	170		86	310		310
Carbonate Alkalinity, mg/L				<4.6	<2.3	--	<4.6	--	<4.6	<4.6	<4.6	<4.1		<2.3	<4.2		<4.6
Bicarbonate Alkalinity, mg/L				280	330	--	880	--	880	320	330	170		86	310		310

See Page 3 for abbreviations and notes.

Table 5. 2021 Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25221070.00

4.4	Blue highlighted cell indicates the compliance well result exceeds the UPL (background) and the LOQ.
30.8	Yellow highlighted cell indicates the compliance well result exceeds the GPS.
17.0	Grayscale indicates additional parameters sampled for selection of remedy and evaluation of MNA.

Abbreviations:

UPL = Upper Prediction Limit
-- = Not Analyzed
µg/L = micrograms per liter
mg/L = milligrams per liter
LOD = Limit of Detection
LOQ = Limit of Quantitation
P = Parametric UPL with 1-of-2 retesting
DQ = Double Quantification Rule (not detected in background)
NP = Nonparametric UPL (highest background value)
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

Notes:

1. An individual result above the UPL or GPS does not constitute a statistically significant increase (SSI) above background or statistically significant increase above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (US EPA) Maximum Contamination Level (MCL), if established; otherwise, the value from 40 CFR 257.95(h)(2) is used.
3. Interwell UPLs calculated based on results from background well MW-6.

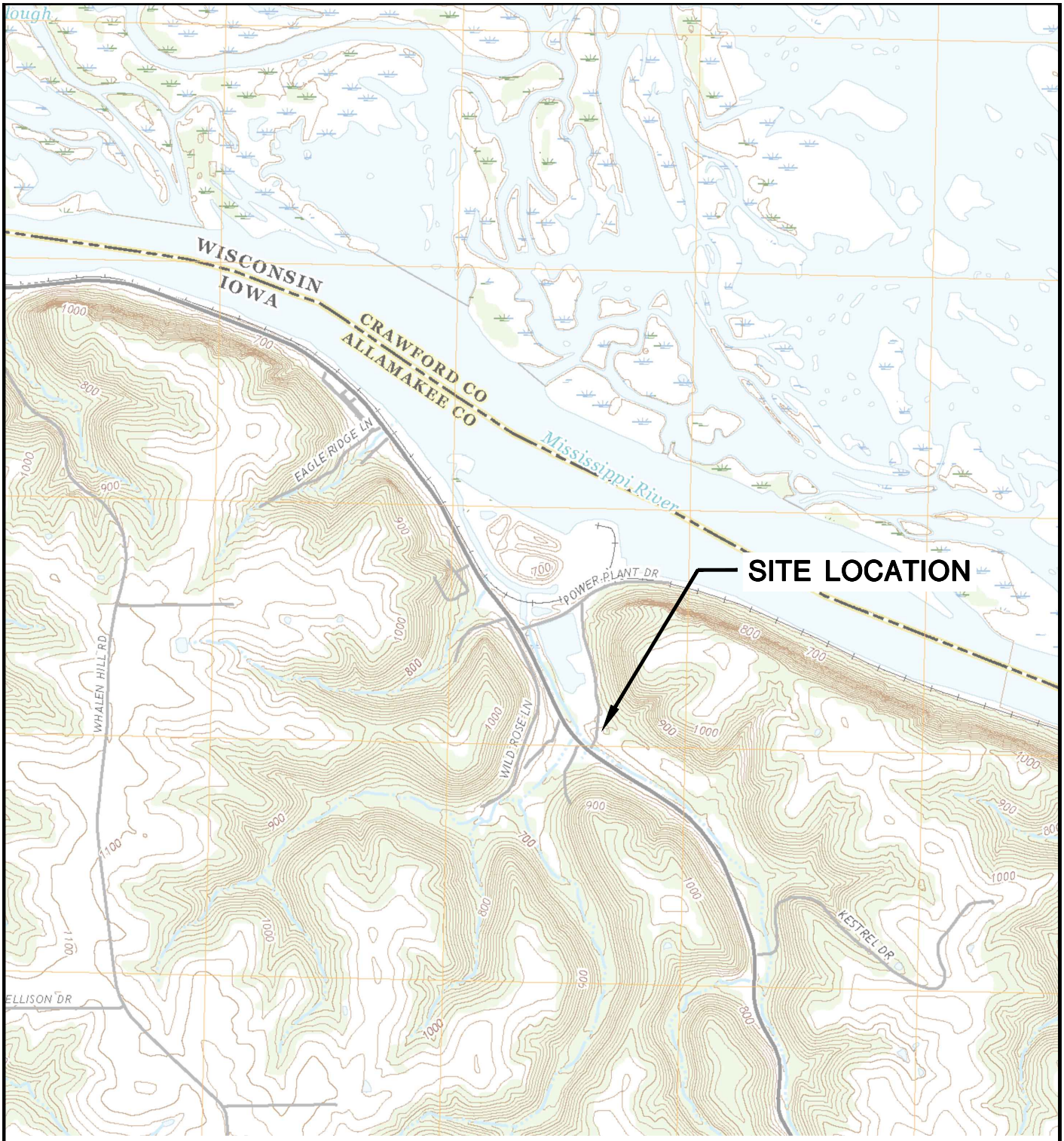
Created by:	NDK	Date:	4/10/2021
Last revision by:	RM	Date:	12/21/2021
Checked by:	JAO	Date:	12/28/2021
Proj Mgr QA/QC:	TK	Date:	1/9/2022

Table 6. 2021 Groundwater Field Data Summary
Lansing Generating Station / SCS Engineers Project #25221070.00

Well	Sample Date	Groundwater Elevation (feet)	Field Temperature (deg C)	Field pH (Std. Units)	Oxygen, Dissolved (mg/L)	Field Specific Conductance (umhos/cm)	Field Oxidation Potential (mV)	Turbidity (NTU)
MW-301	4/8/2021	624.02	11.5	8.04	0.27	461	-10.1	0.00
	10/26/2021	627.00	16.1	8.11	0.10	534	-159.7	0.81
MW-302	4/9/2021	627.87	7.5	7.08	0.03	1043	-171.2	3.15
	10/27/2021	628.86	15.7	6.89	1.07	1075	-128.1	3.35
MW-302A	4/9/2021	623.12	11.1	7.25	7.88	597	104.7	0.86
	10/27/2021	623.10	12.0	7.15	7.27	627	159.1	0.00
MW-303	4/8/2021	638.07	3.7	8.00	2.03	425	78.4	0.00
	10/26/2021	638.68	24.8	7.45	0.17	452	125.8	0.65
MW-304	4/9/2021	621.46	8.8	7.27	8.69	520	160.3	0.00
	10/26/2021	621.29	12.1	7.29	8.32	562.3	171.3	0.00
MW-304A	2/23/2021	625.04	9.1	8.01	0.39	534	44.9	116.6
	4/9/2021	624.31	10.1	7.78	0.41	533	151.6	165.2
	7/12/2021	623.87	13.8	8.09	0.48	543.1	80.3	36.09
	10/26/2021	623.87	13.4	7.94	2.53	526.8	157.1	2.78
MW-305	4/9/2021	627.02	7.1	7.17	2.10	574	-25.8	14.88
	10/27/2021	626.41	16.3	7.29	0.08	643	-128.5	0.27
MW-306	2/23/2021	619.76	13.6	6.87	0.12	2,055	-127.2	3.11
	4/9/2021	620.03	12.6	6.85	0.05	1,994	-134.2	0.09
	7/12/2021	619.83	14.40	7.51	0.37	2,006	-128.3	0.13
	10/27/2021	619.91	16.6	6.86	0.11	1,778	-126.3	2.72
MW-306A	4/9/2021	620.14	14.2	7.21	1.68	669	-8.5	0.01
	10/27/2021	620.17	14.6	7.34	1.23	663	78.8	0.59
MW-307	7/12/2021	630.95	15.20	8.25	0.47	449.6	-40.6	0.00
	8/12/2021	630.01	17.4	7.86	0.17	437	-17.5	0.00
	10/27/2021	634.90	16.4	8.11	0.93	361.2	-123.4	0.00
MW-307A	7/12/2021	625.27	13.20	7.83	0.27	615.60	73.1	0.00
	8/12/2021	625.48	12.5	7.35	0.17	612.3	54.3	0.00
	10/27/2021	626.25	12.9	7.29	1.39	625.4	47.7	0.00
MW-6	4/7/2021	671.08	10.0	7.39	9.06	599	186.2	0.00
	10/26/2021	668.14	9.9	7.70	9.34	601	136.2	0.00

Created by: RM Date: 12/23/2020
Last revision by: RM Date: 12/21/2021
Checked by: JAO Date: 12/28/2021

Figures



N

LANSING QUADRANGLE
IOWA–ALLAMAKEE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'

CLIENT	INTERSTATE POWER AND LIGHT 2320 POWER PLANT DRIVE LANSING, IA 52151-9733	SITE	ALLIANT ENERGY LANSING GENERATING STATION LANSING, IOWA

SITE LOCATION MAP

PROJECT NO.	25219070.00	DRAWN BY:	BSS
DRAWN:	11/27/2019	CHECKED BY:	MDB
REVISED:	11/27/2019	APPROVED BY:	TK 01/30/2020

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

FIGURE
1

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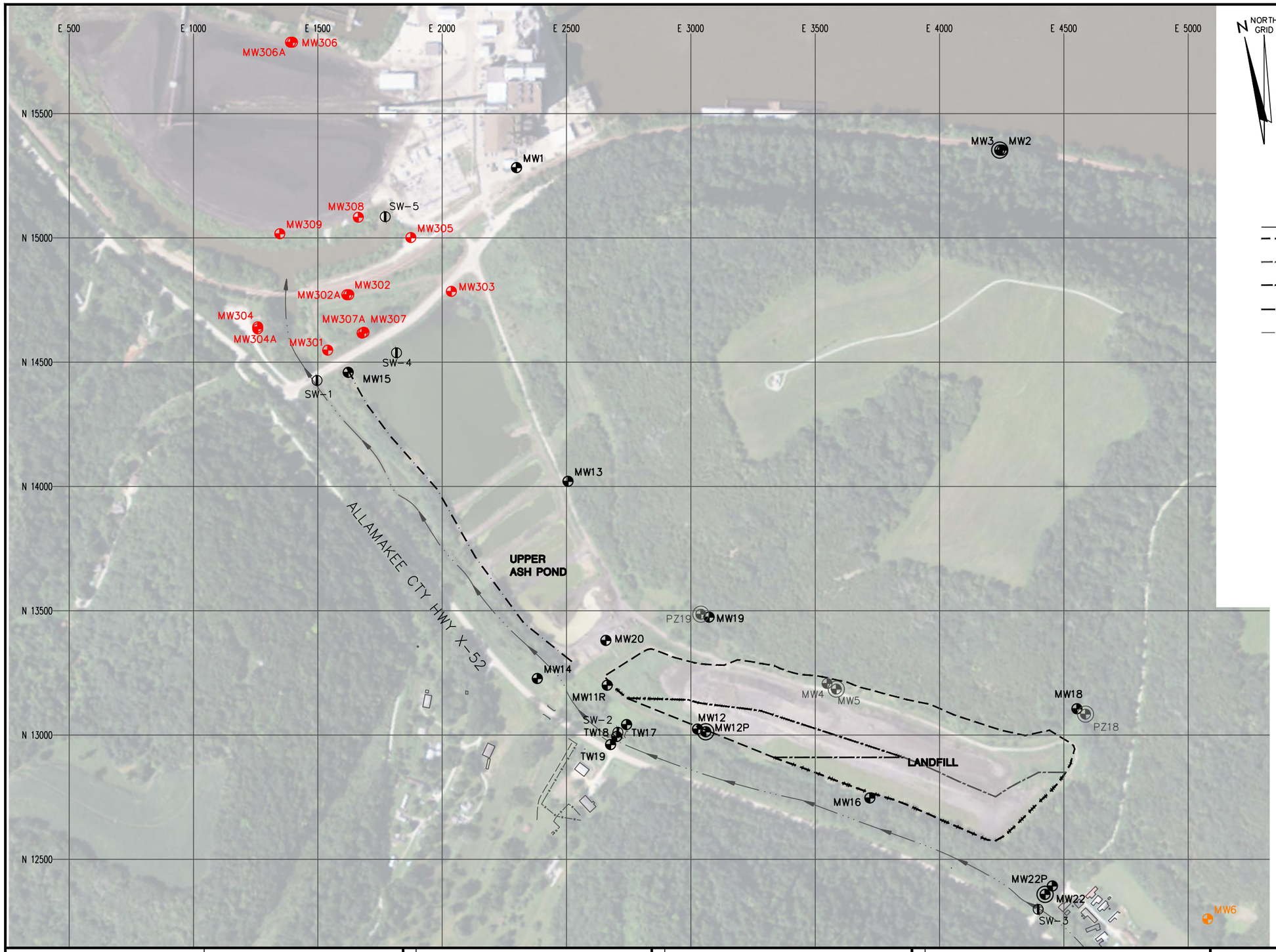

NORTH GRID

400 0 400

SCALE: 1" = 400'

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL

NOTES:

1. 2011 AERIAL PHOTOGRAPH FROM THE USDA-FSA AERIAL PHOTOGRAPHY FIELD OFFICE.
2. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
3. MONITORING WELLS MW20, MW301, MW302, AND MW303 WERE INSTALLED BY CASCADE DRILLING IN NOVEMBER 2015.
4. MONITORING WELLS MW304, MW305, AND MW306 WERE INSTALLED BY ROBERTS ENVIRONMENTAL DRILLING IN MAY 2019.
5. MONITORING WELLS MW302A, MW304A, AND MW306A WERE INSTALLED BY CASCADE DRILLING IN DECEMBER 2019.
6. MONITORING WELLS MW307, MW307A, MW308, AND MW309 WERE INSTALLED BY CASCADE DRILLING IN JUNE 2021.
7. MW6 IS SAMPLED UNDER BOTH THE STATE AND CCR RULE MONITORING PROGRAMS.
8. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

PROJECT NO.	25221070.00	DRAWN BY:	BSS/KP
DRAWN:	11/27/2019	CHECKED BY:	MDB
REVISED:	01/20/2022	APPROVED BY:	TK 01/28/2022

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

SITE PLAN AND MONITORING WELL LOCATIONS

FIGURE 2

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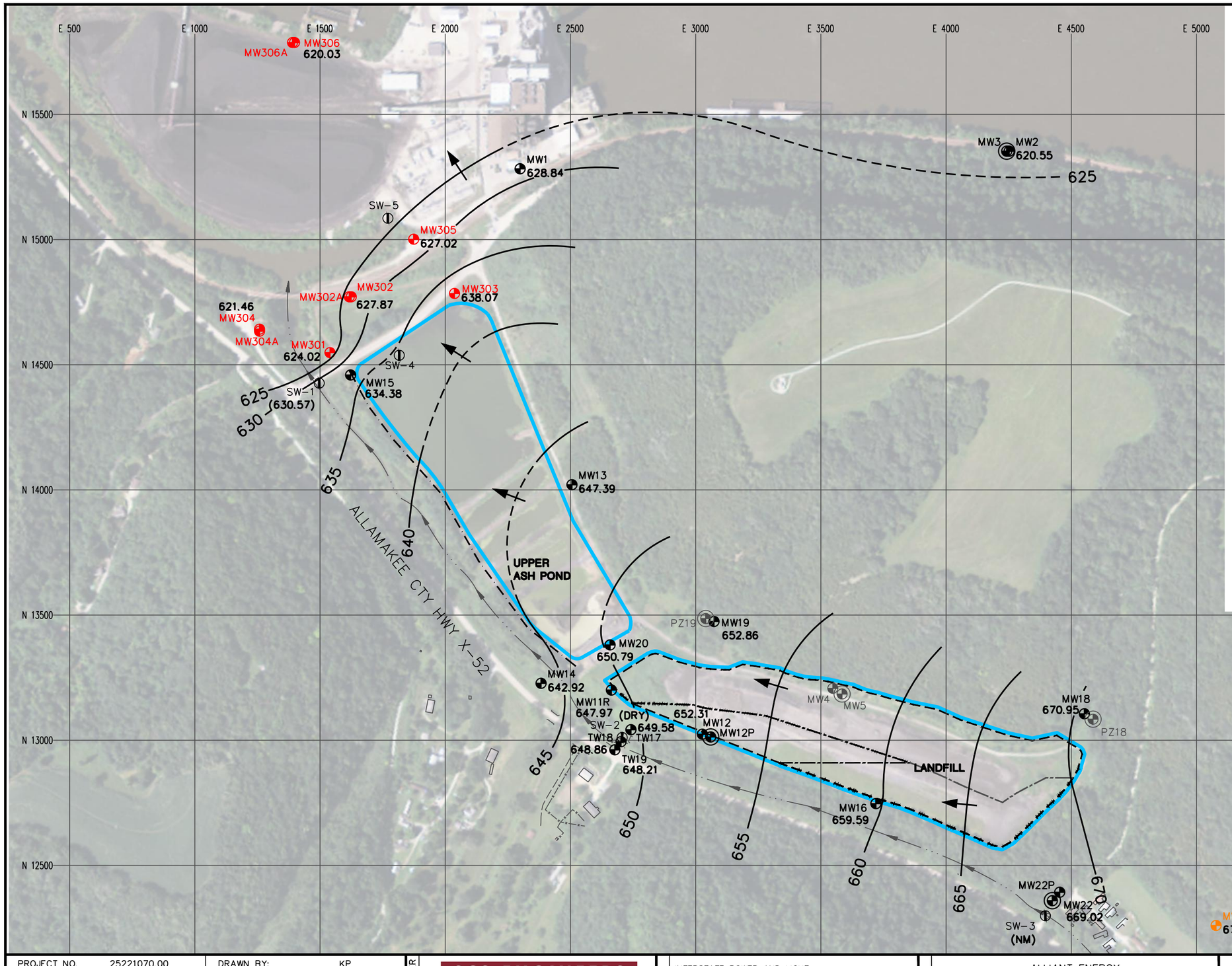

NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	CCR UNITS
(630.57)	SURFACE WATER ELEVATION
(NM)	NOT MEASURED
629.38	WATER TABLE ELEVATION
	WATER TABLE CONTOUR (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	05/26/2021	CHECKED BY:	MDB
REVISED:	01/20/2022	APPROVED BY:	TK 01/28/2022

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

WATER TABLE MAP
APRIL 7-9, 2021

FIGURE 3

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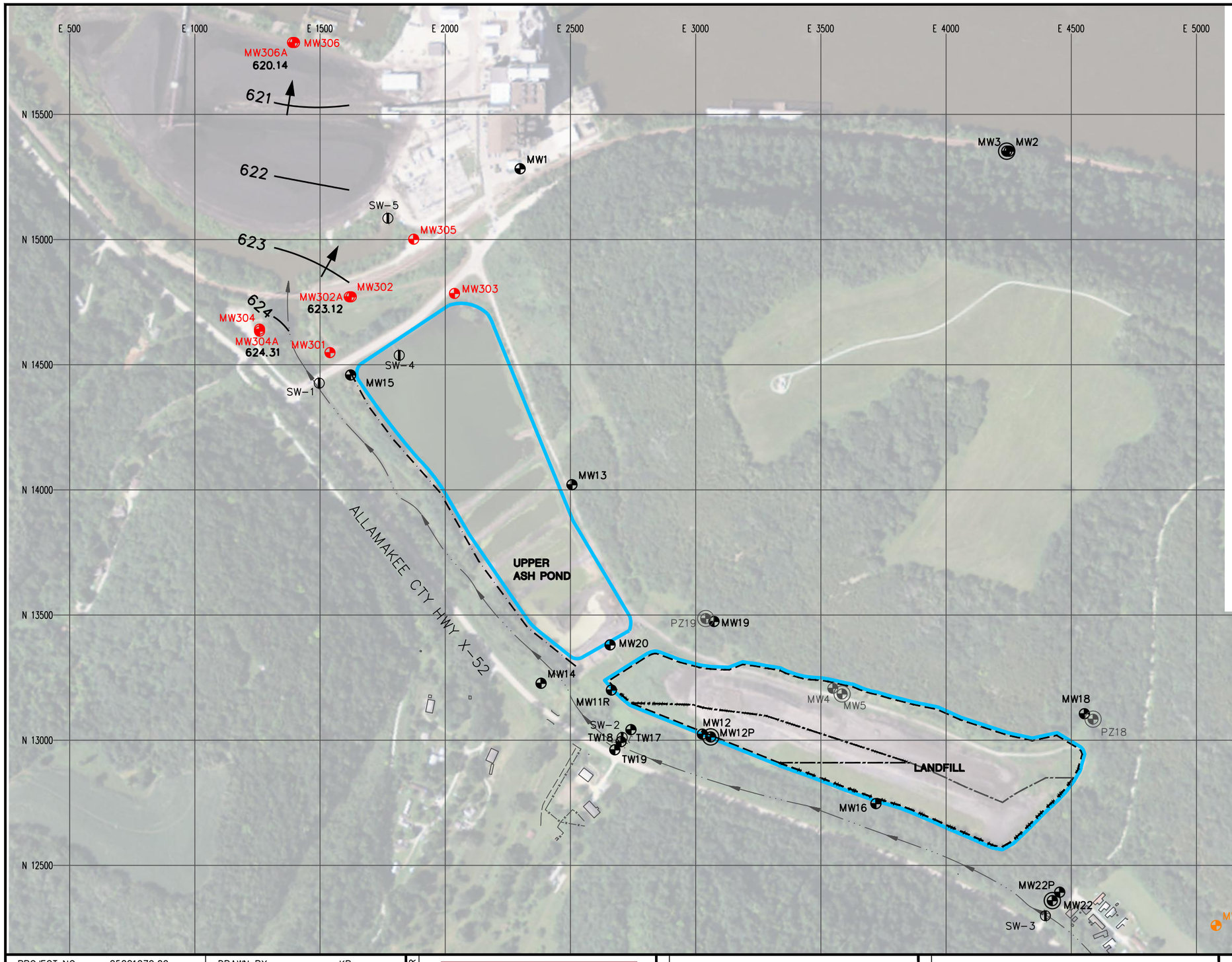

NORTH
GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW–1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	CCR UNITS
629.38	POTENTIOMETRIC SURFACE ELEVATION
	POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.
3. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	05/26/2021	CHECKED BY:	MDB
REVISED:	01/07/2022	APPROVED BY:	TK 01/28/2022

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718–6751
PHONE: (608) 224–2830

CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151–9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

POTENTIOMETRIC SURFACE MAP
APRIL 7–9, 2021

FIGURE
4

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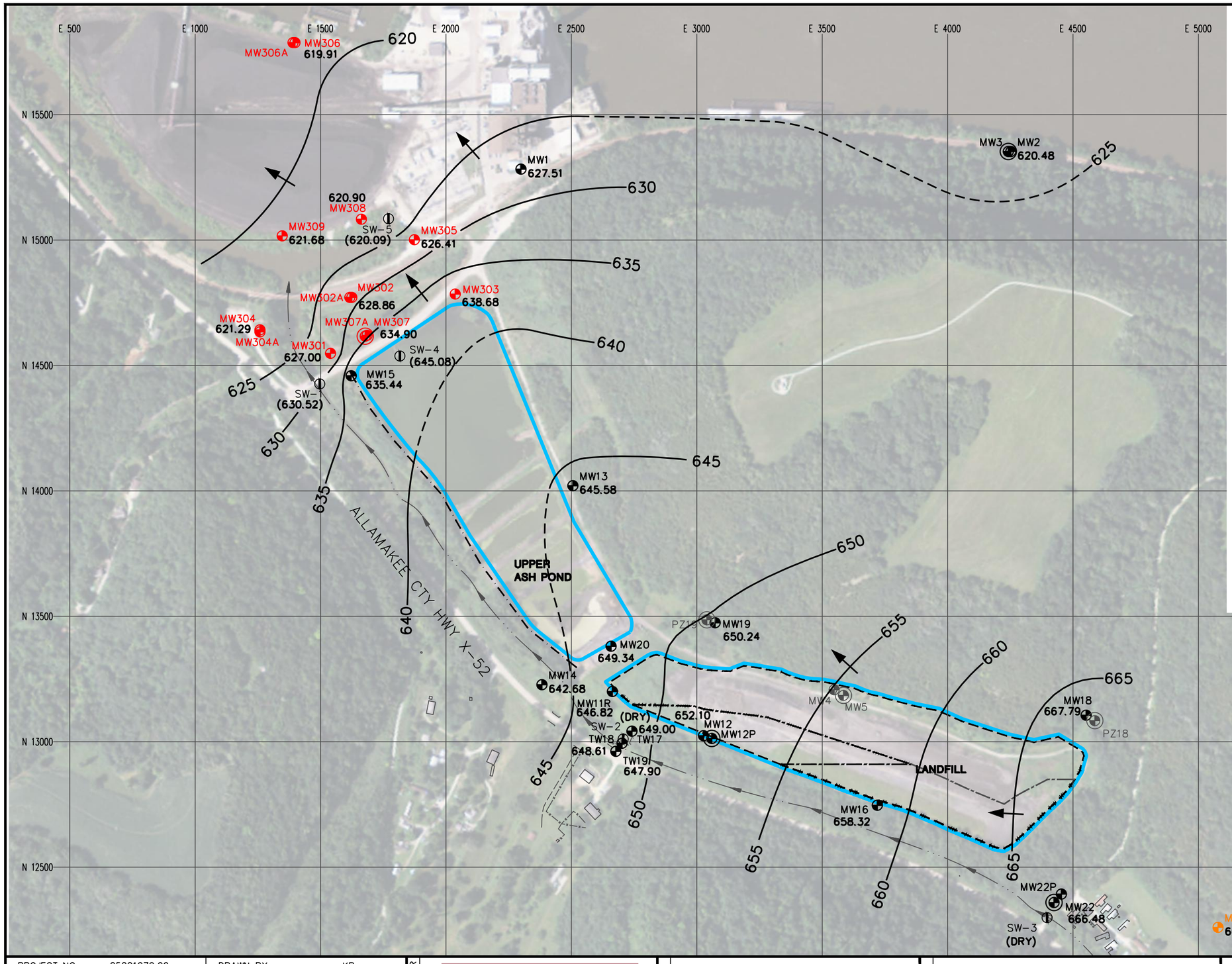

NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	CCR UNITS
(630.61)	SURFACE WATER ELEVATION
627.92	WATER TABLE ELEVATION
	WATER TABLE CONTOUR (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.
3. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	01/05/2022	CHECKED BY:	MDB
REVISED:	01/20/2022	APPROVED BY:	TK 01/28/2022

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT

INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE

ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

WATER TABLE MAP
OCTOBER 25-27, 2021

FIGURE
5

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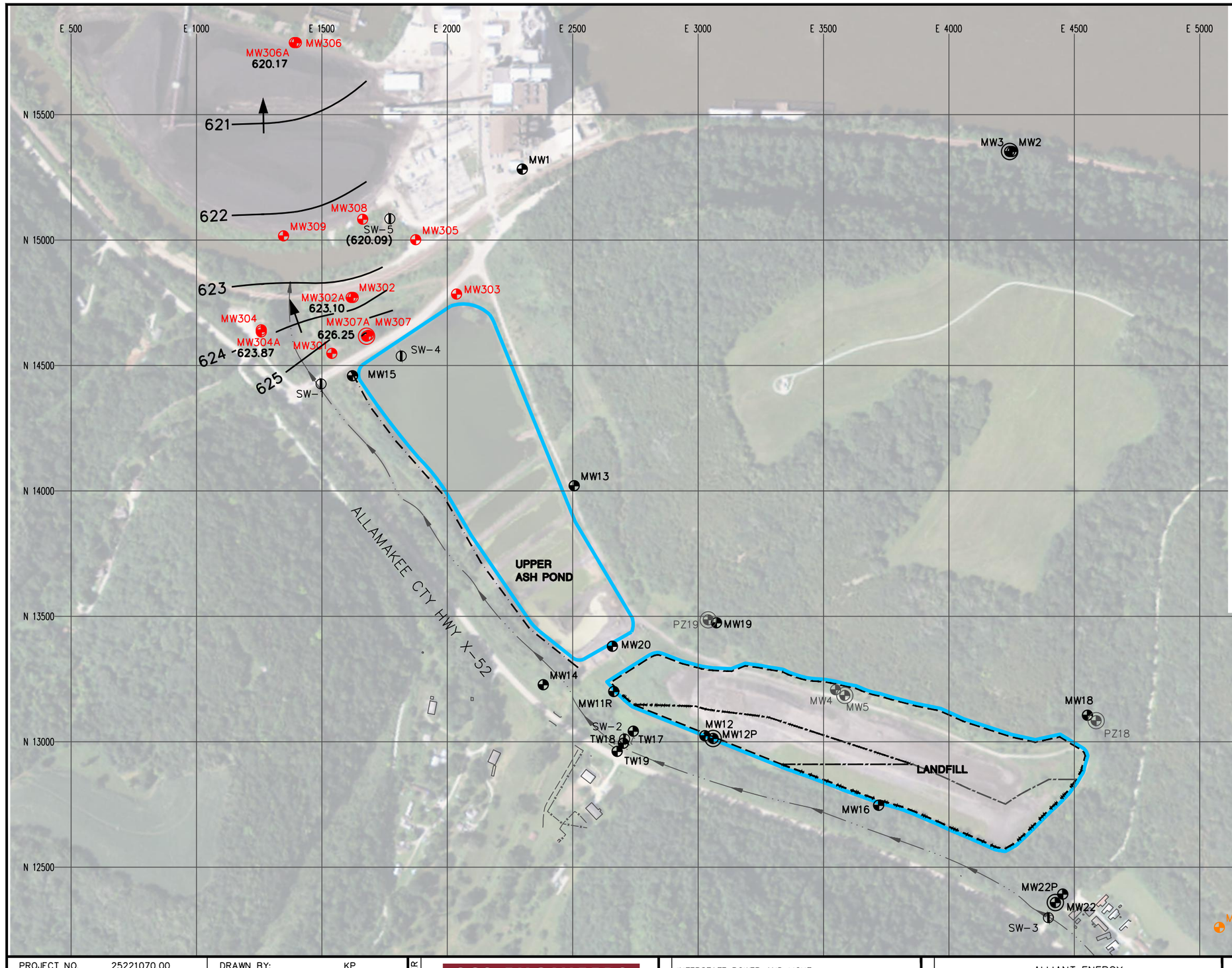

NORTH GRID

LEGEND

- APPROVED LIMITS OF WASTE
- LIMITS OF PHASE 1 FINAL COVER
- LIMITS OF PHASE 2 FINAL COVER
- SLURRY WALL
- EXISTING STREAM
- SW-1 EXISTING STAFF GAUGE
- MW17 EXISTING MONITORING WELL
- MW12P EXISTING PIEZOMETER
- MW4 ABANDONED MONITORING WELL
- MW5 ABANDONED PIEZOMETER
- MW301 CCR MONITORING WELL
- MW6 CCR BACKGROUND MONITORING WELL
- CCR UNITS
- 620.82 POTENTIOMETRIC SURFACE ELEVATION
- POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.
3. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	01/05/2022	CHECKED BY:	MDB
REVISED:	01/07/2022	APPROVED BY:	TK 01/28/2022

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

POTENTIOMETRIC SURFACE MAP
OCTOBER 25-27, 2021

FIGURE 6

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Appendix A

Regional Hydrogeologic Information

Table LAN-3 Regional Hydrogeologic Stratigraphy
Lansing Generating Station / SCS Engineers Project #25215053

Strategic Unit			Hydrogeologic Units	Type of Rock	Hydrologic Conditions	Thickness Range (ft)	Age of Rocks*
Quaternary		Recent and Pleistocene deposits	Surficial aquifers-Alluvium, Drift, Buried-channel	Sand and gravel interbedded with silt and clay	Mostly unconfined local aquifers, some artesian, small-to-large yields	0 – 305	0 – 2.8 million years (m.y.)
Devonian	Yellow Spring Group (Gp)	Lime Creek Formation (Fm)	Confining layers	Shale, some dolostone	Non-aquifer	0 – 50	365 – 405 m.y.
	Cedar Valley Gp	Lithograph City Fm Coralville Fm Little Cedar Fm	Silurian-Devonian aquifer	Limestone and dolostone, thin shales	Major aquifer, mostly artesian, moderate-to-large yields	0 – 400	
	Wapsipinicon Gp	Pinicon Ridge Fm Spillville Fm		Dolostone and limestone			
Silurian		Scotch Grove Fm Hopkinton Fm Blanding Fm Tete des Morts Fm		Dolostone, locally with much chert, local shale as cavern fillings			405 – 425 m.y.
Ordovician	Maquoketa Fm	Brainard Member Fort Atkinson Member Clermont Member Elgin Member	Maquoketa Fm, confining beds	Shale and dolostone, some chert	Non-aquifer to local aquifer, small-to-moderate yields	0 – 300	425 – 455 m.y.
			Fort Atkinson – Elgin aquifer				
	Galena Gp	Dubuque Fm Wise Lake Fm Dunleith Fm Decorah Fm	Galena aquifer	Limestone and dolostone, minor chert, shale at base and locally in upper part	Local aquifer, confined and unconfined, small-to-moderate yields	0 – 240	455 – 460 m.y.
		Platteville Fm Glenwood Fm	Decorah-Platteville-Glenwood confining beds	Limestone and shale	Non-aquifer	0 – 50	
		St. Peter Sandstone Prairie du Chien Gr	Cambrian-Ordovician aquifer	Sandstone	Major aquifer, mostly artesian, large yields	0 – 580	460 – 500 m.y.
				Dolostone, minor sandstone and chert			500 – 503 m.y.
Cambrian		Jordan Sandstone		Sandstone, dolomitic			
		St. Lawrence Fm Lone Rock (Franconia) Fm	Cambrian confining beds	Dolostone, silty	Non-aquifer	0 – 400	503 – 508 m.y.
				Fine, sandstone, siltstone, shale, and minor dolostone			
		Wenowoc (incl Ironton-Galesville sandstone) Fm Eau Claire Fm Mt. Simon Sandstone	Dresbach aquifer	Sandstone	Artesian aquifer, large yields	0 – 1,950	508 – 515 m.y.
				Fine sandstone, siltstone, and shale			
				Sandstone			
Pre-C		Undifferentiated crystalline rocks	Unknown	Igneous and metamorphic rocks	Unknown	Unknown	570 m.y. – > 2 billion years

*Age determinations as used on COSUNA charts published by AAPG-USGS

Source: "Water Resources of Southeast Iowa," Iowa Geologic Survey Water Atlas No. 4.

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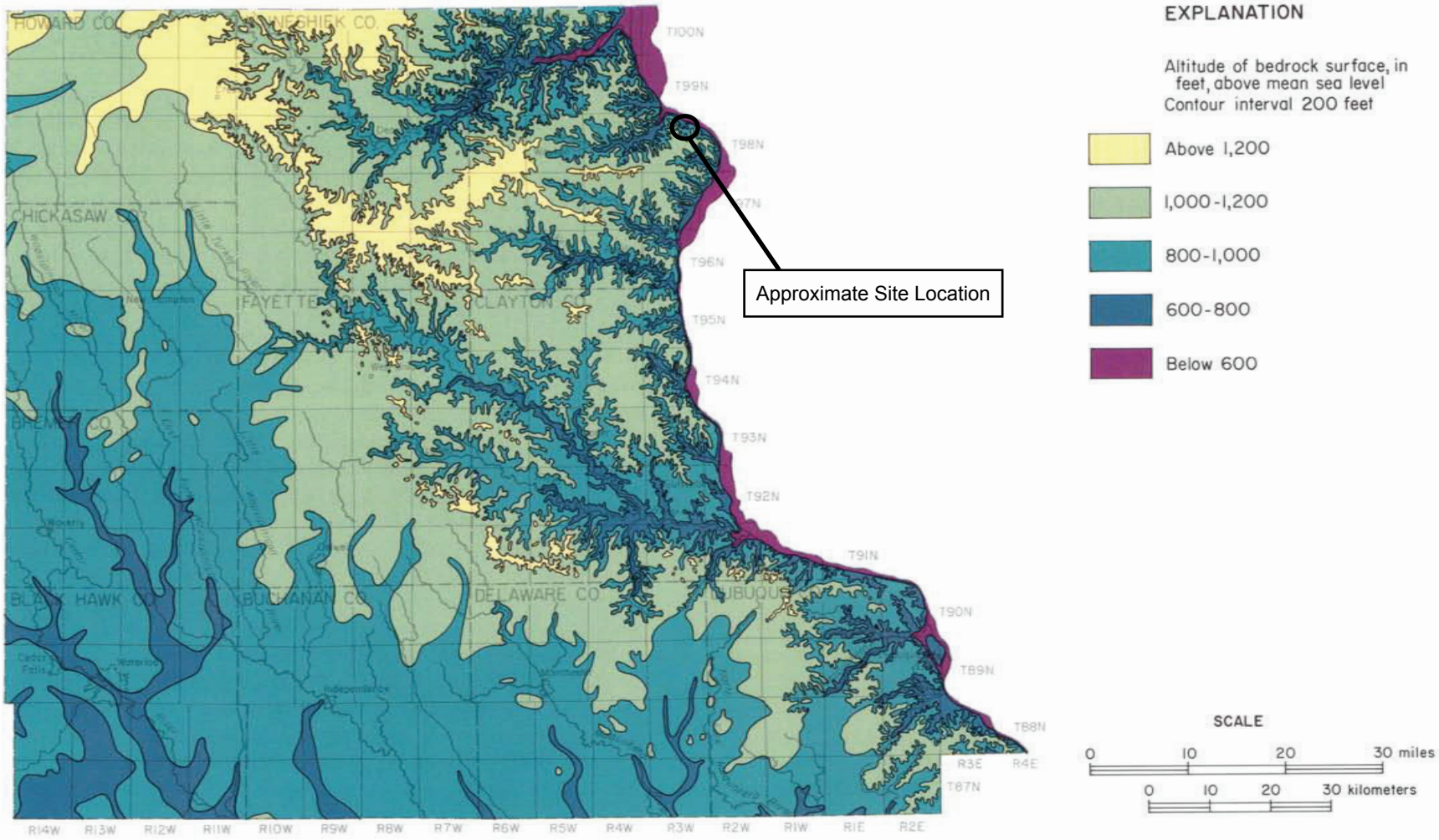


Figure 30. Altitude and configuration of the bedrock surface

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

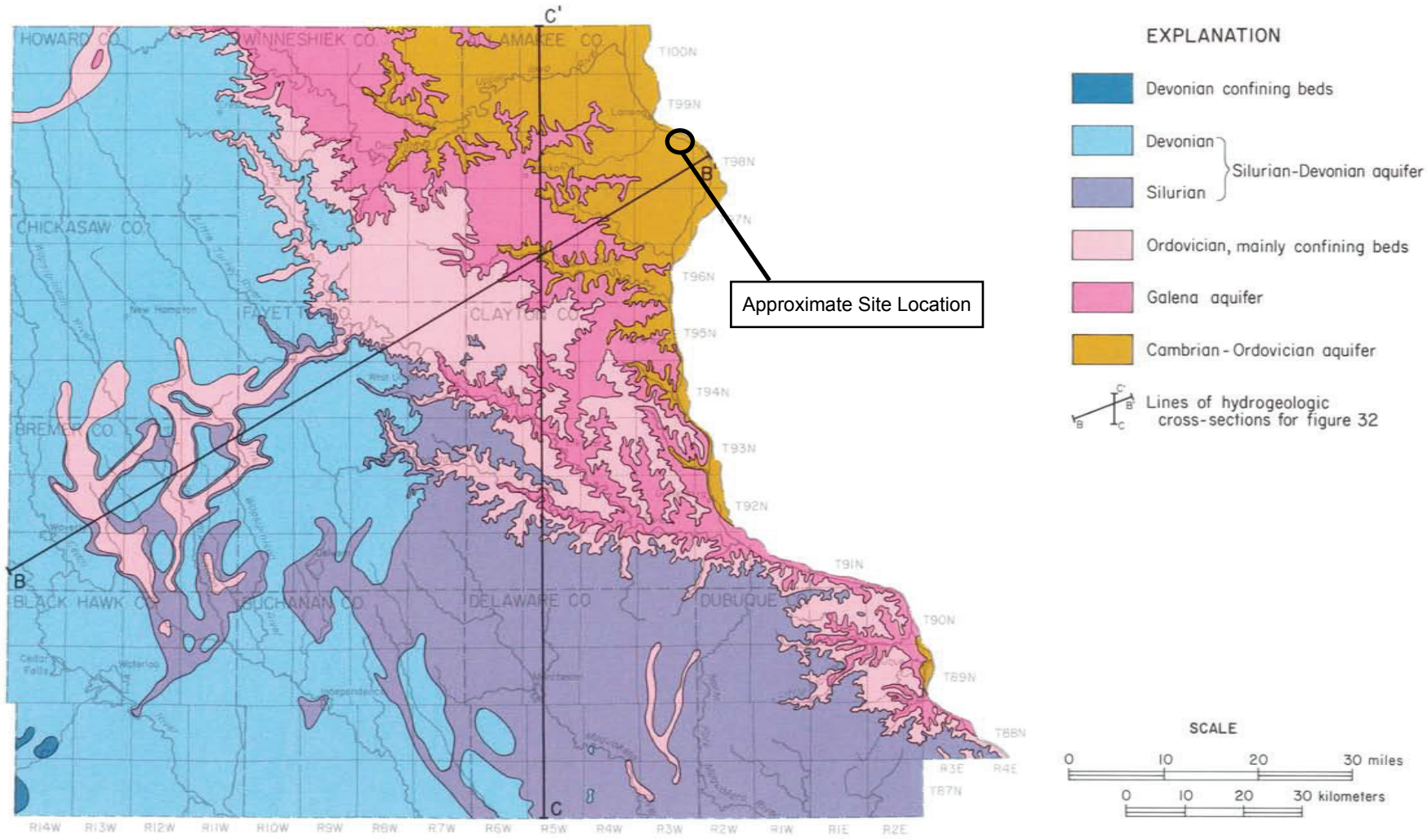


Figure 31. Bedrock hydrogeologic map

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

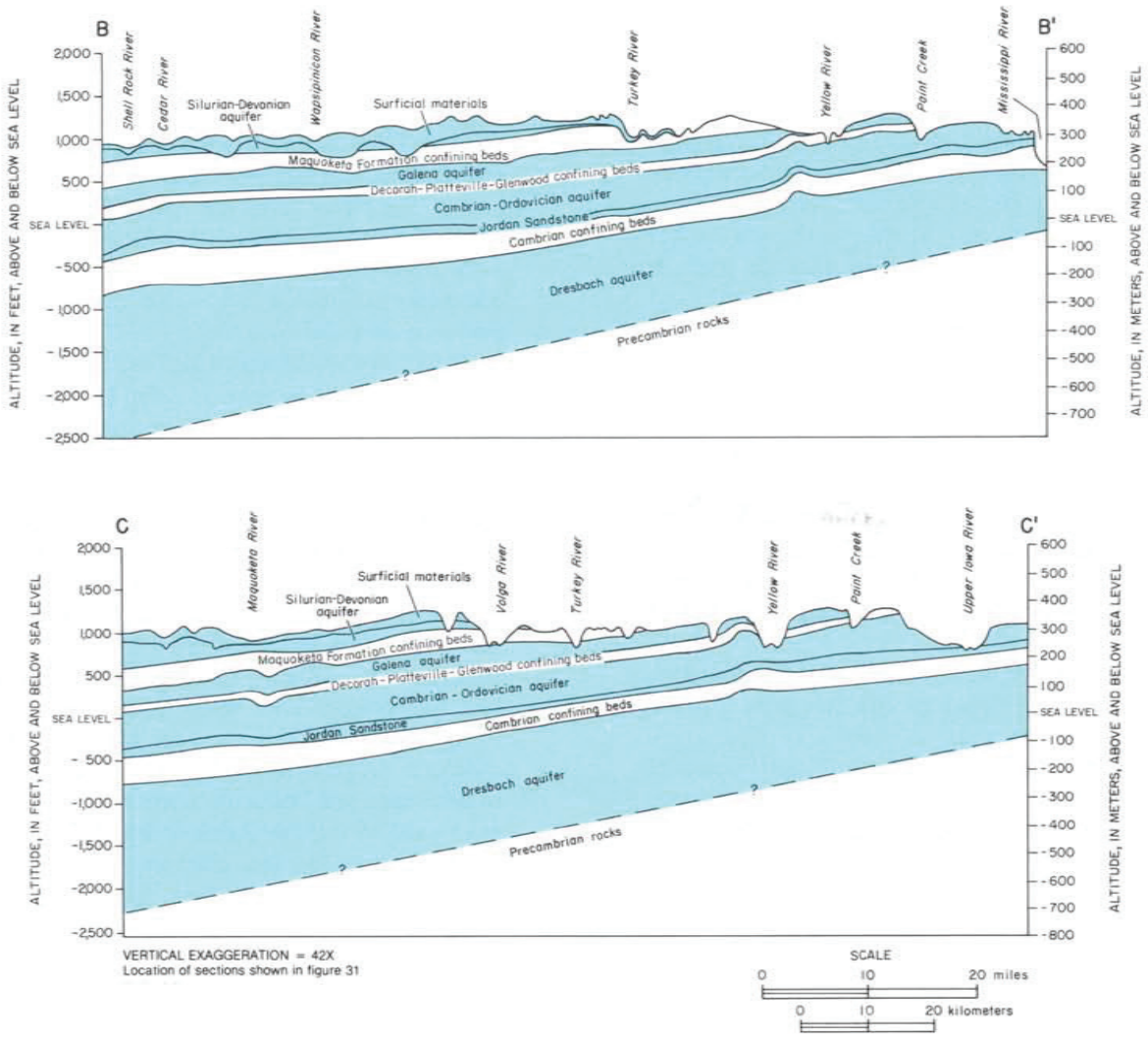


Figure 32. Hydrogeologic cross-sections

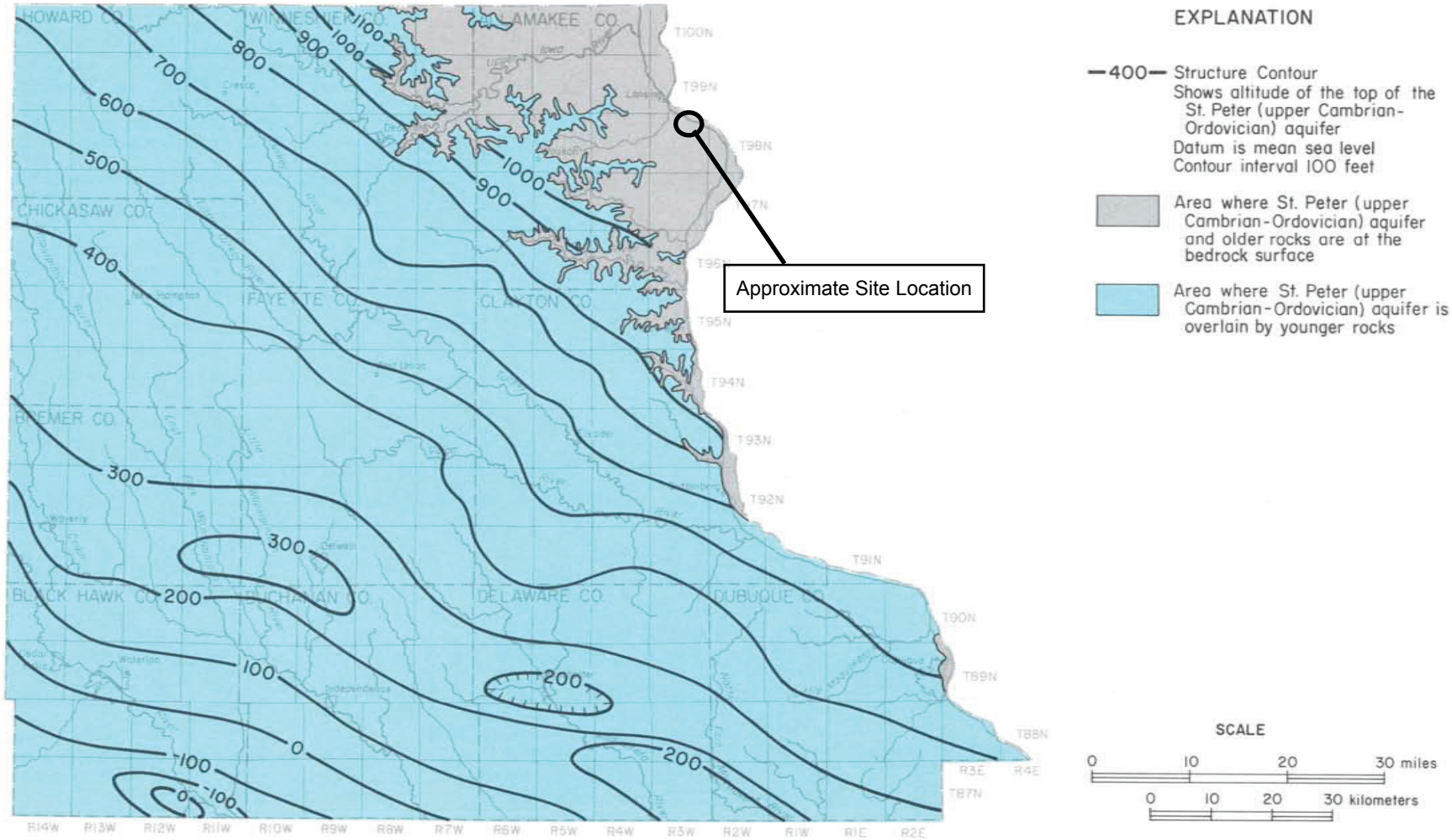


Figure 38. Altitude of the top of the St. Peter (upper Cambrian-Ordovician) aquifer

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

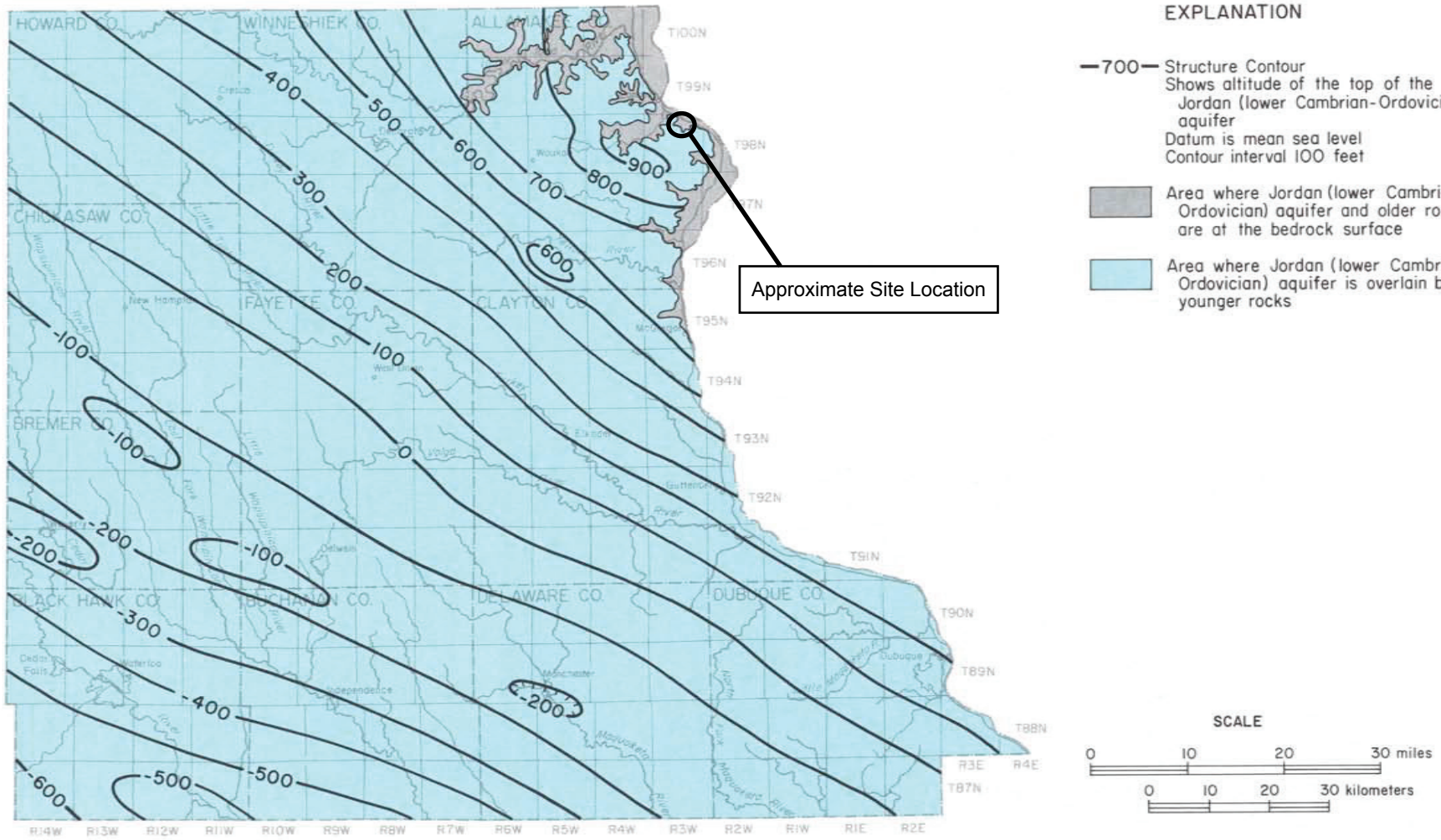


Figure 39. Altitude of the top of the Jordan (lower Cambrian-Ordovician) aquifer

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

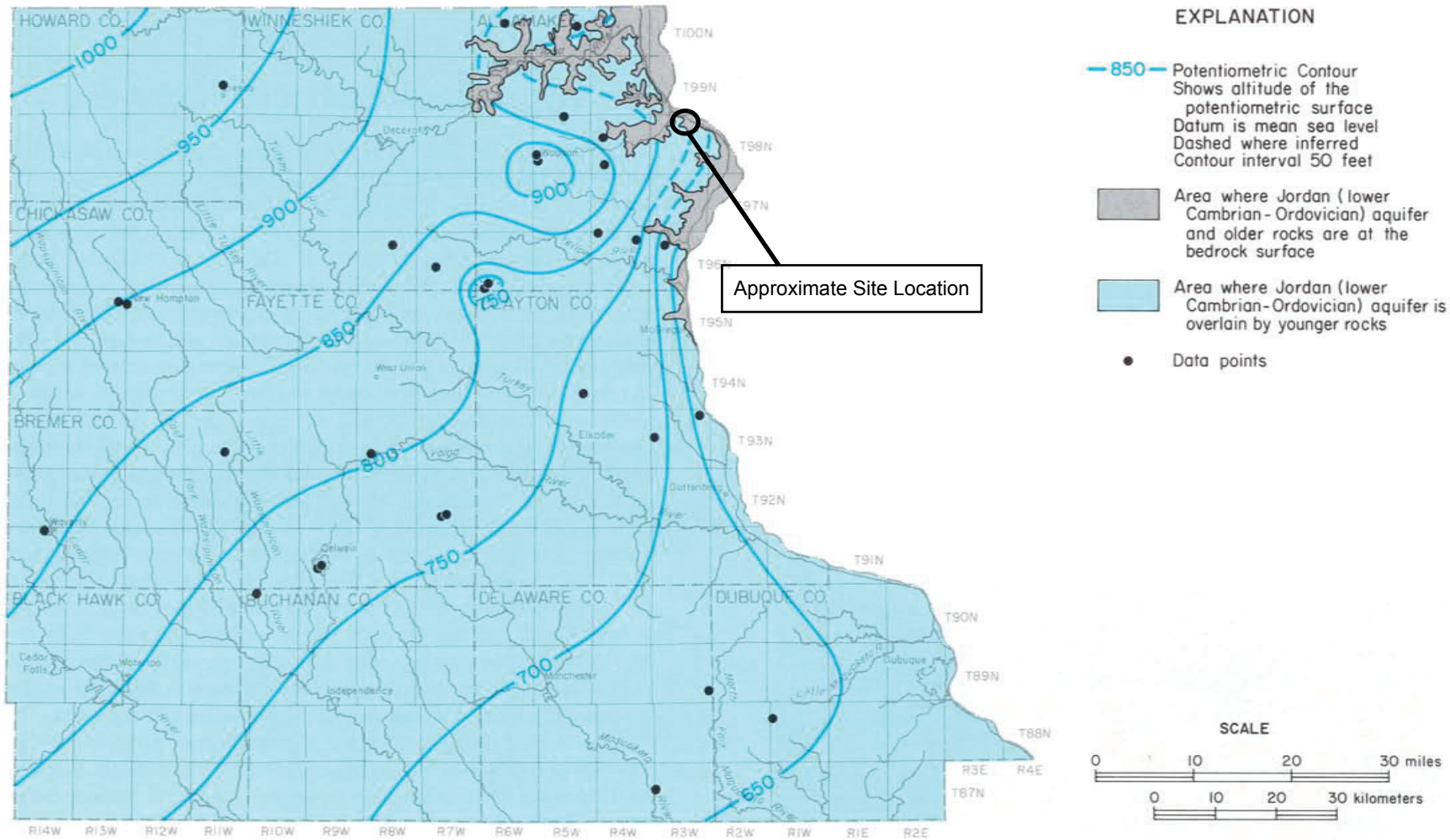


Figure 56. Potentiometric surface of the Jordan (lower Cambrian-Ordovician) aquifer

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

Appendix B

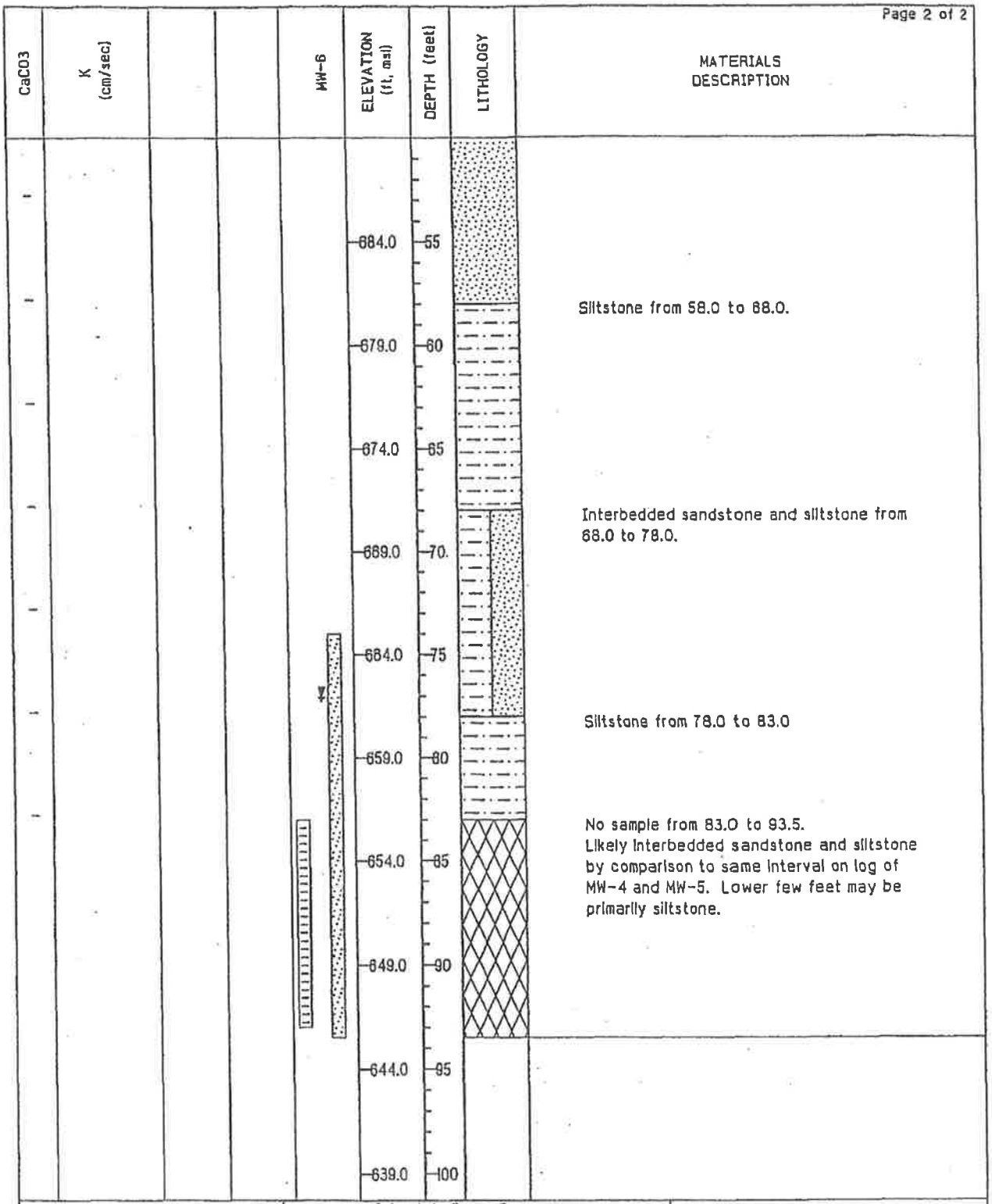
Boring Logs and Well Construction Documentation

CaCO3	K (cm/sec)			MW-6	ELEVATION (ft, msl)	DEPTH (feet)	LITHOLOGY	MATERIALS DESCRIPTION
					734.0	5		0.0 to 6.0 SILT Topsoil developed in silt from 0.0 to 1.5. Topsoil is dark brown. Clayey silt, trace sand is loess or colluvium (slopewash) derived from loess. Medium brown, changing gradually to yellow brown below 5.0.
					729.0	10		6.0 to 37.0 TALUS Light brown sandy silt with dolomite chunks.
					724.0	15		
					719.0	20		
					714.0	25		
					709.0	30		
					704.0	35		
					699.0	40		37.0 to 93.5 INTERBEDDED SANDSTONE AND SILTSTONE Sandstone is fine-grained, with quartz silt matrix, glauconitic. Siltsone contains minor amount of very fine quartz sand and glauconite. Sandstone is laminated light greenish gray with creamy color. Siltstone is light greenish gray. Sandstone from 37.0 to 58.0.
					694.0	45		
					689.0	50		

Howard R. Green Company
CONSULTING ENGINEERS

PROJECT Interstate Power Company
PROJECT NUMBER 717680-J
SURFACE ELEVATION 739.3 Feet MSL
TOTAL DEPTH OF HOLE 93.5 Feet

LOG OF MW-6
LOCATION Lansing, Iowa
GEOLOGIST Barbara Torney



Howard R. Green Company
CONSULTING ENGINEERS

PROJECT Interstate Power Company
PROJECT NUMBER 717680-J
SURFACE ELEVATION 739.3 Feet MSL
TOTAL DEPTH OF HOLE 93.5 Feet

LOG OF MW-6

LOCATION Lansing, Iowa
GEOLOGIST Barbara Torney

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL- Lansing Generating Station SCS#: 25215135.70		B-301

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mueller Cascade Drilling	11/2/2015	11/2/2015	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-301	Feet	639.4 Feet	8.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,744 N, 5,541,108 E S/C/N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W

Lat ___° ___' ___"
Long ___° ___' ___"

Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

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	Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0–4.5	POORLY GRADED SAND, medium grained, very dark gray brown (10YR 3/2).	SP									
S1	23	10 31 38 48	3							M				
S2	24	32 47 50	4.5–7	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/4).	SP-SM					M				
S3	22	18 33 47 43	7–9.5	POORLY GRADED SAND WITH SILT AND GRAVEL, medium grained sand, large grained gravel, dark yellowish brown (10YR 3/6).	SP-SM					M				
S4	24	36 46 50	9.5–15	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/6).						S				Water @ 10 ft bgs
S5	22	13 9 7 10	13		SP-SM					S				

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

Signature	Firm	
[signature]	SCS Engineers 2830 Dairy Drive Madison, WI 53718	Tel: 608-224-2830 Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-301

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S6	20	3 2 4	16	SILT, black (10YR 3/1).	ML					S				
			17											
S7	24	2 2 2 2	18	SILT WITH SAND, black (10YR 3/1).	ML					S				
			19											
S8	24	2 2 4	20	POORLY GRADED SAND WITH SILT, black (10YR 3/1).	SP-SM					S				
			21											
			22											
S9	24	2 9 12 14	23	SILT, dark olive gray (5Y 3/2).	ML					S				
			24											
			25											
			26	End of Boring at 26 ft bgs.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL- Lansing Generating Station SCS#: 25215135.70		B-302

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mueller Cascade Drilling	11/4/2015	11/4/2015	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-302	Feet	635.9 Feet	8.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,929 N, 5,541,179 E S/C/N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, medium grained, dark grayish brown (10YR 4/2).										
S1	24	6 14 17 19	2 3 4		SP					M				
S2	24	26 45 50	5 6	SANDY SILT, trace small gravel, black (10YR 3/1).						M				
S3	24	12 13 10 8	7 8 9							M				
S4	11	9 11 13 12	10 11	Large gravel	ML					S				Saturation @ 11 ft bgs
S5	8	32 23 30 36	12 13 14	Large gravel						S				
			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 53718

Tel: 608-224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-302

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S6	24	5 5 6 8	16	SANDY SILT, trace small gravel, black (10YR 3/1). *(continued)*	ML					S				
			17											
S7	18		18	Silt, Black (10YR 3/1).	ML					S				
			19											
			20	End of Boring at 20 ft bgs.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL - Lansing Generating Station SCS#: 25218221.00		MW-302A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	12/16/2019	12/17/2019	Rotosonic

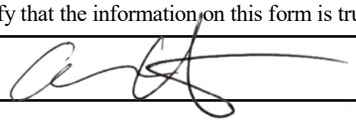
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			13.01 Feet	636.2 Feet	6 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3957930.08 N, 5541186.04 E S / C / N
SW 1/4 of NW 1/4 of Section 02 , T 98 N, R 03 W
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–8	Hydrovac to 9' to check for utilities.										
S1	46"		9–10	POORLY GRADED SAND with silt, clay and trace gravel, dark gray.	SP					W				
			11–12	SILT, gray, trace gravel.	ML									
S2	39"		13–15	SILTY GRAVEL WITH SAND, gray, sand is fine to medium grained, gravel is subangular to angular.	GM					W				
			16											

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:

Boring Number MW-302A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			17	SILTY GRAVEL WITH SAND, gray, sand is fine to medium grained, gravel is subangular to angular. *(continued)*	GM									
			18	SILT, dark gray, trace roots.										
			19											
			20		ML									
S3	48"		21							W				
			22	LEAN CLAY, dark gray, roots.										
			23											
			24											
			25		CL									
S4	40"		26	Same but dark brown.						W				
			27											
			28											
			29	SILTY SAND, gray to dark gray, fine to medium grained.										
			30		SM									
			31	LEAN CLAY, tan with yellow to brown mottling and gray layers, trace silt.										
S5	48"		32		CL					W				
			33	LEAN CLAY, reddish brown, massive, very dense.										
			34											
			35		CL									
			36	LEAN CLAY, gray.										
S6	48"		37							W				
			38		CL									
			39	POORLY GRADED SAND, brown, fine to medium grain, trace gravel.										
			40											
			41		SP									
S7	48"		42	Same with trace shells						W				

Boring Number MW-302A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			43	POORLY GRADED SAND, brown, fine to medium grained, trace gravel. *(continued)*	SP									
			44	SILTY GRAVEL, light brown, subangular.	GM									
			45											
			46	LEAN CLAY, mostly light brown, trace gray, trace silt.										
S8	48"		47		CL					W				
			48											
			49	SILTY GRAVEL WITH SAND, light brown, gravel is subangular.	GM									
			50	End of boring at 50 feet.										

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL- Lansing Generating Station SCS#: 25215135.70		B-303

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mueller Cascade Drilling	11/2/2015	11/2/2015	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-303	Feet	653.9 Feet	8.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,857 N, 5,541,622 E S/C/N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	SILTY SAND, very dark gray (5Y 3/1).	SM									
S1	24	5 16 17 24	3	POORLY GRADED SAND, medium grained, dark grayish brown (10 YR 4/2).	SP					M				
S2	24	11 8 10	6							M				
S3	24	11 38 50	8	POORLY GRADED SAND , medium grained, grayish brown (2.5Y 5/2).						M				
S4	18	16 35 50	11		SP					M				
S5	16	27 50 50	13							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 53718

Tel: 608-224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-303

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S6	0	38 50	16	POORLY GRADED SAND , medium grained, grayish brown (2.5Y 5/2). *(continued)*						M				Rock in Spoon
			17		SP									
S7	18	17 25 40 47	18							S				Saturation @17 ft bgs.
			19											
			20	POORLY GRADED SAND, medium grained, very dark gray (5Y 3/1).										
S8	17	37 48 44	21							S				
			22											
S9	18	11 24 26 27	23		SP					S				
			24											
			25											
S10	24	37 50	26							S				
			27	End of Boring at 27 ft bgs.										

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL Lansing Generating Station SCS#: 25218221.00		MW304

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Eric Wetzel Roberts Environmental Drilling, Inc.	5/15/2019	5/15/2019	4.25" HSA

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW304	623.61 Feet MSL	635.5 Feet MSL	8.5 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,893 N, 5,540,876 E S/C/N
SE 1/4 of NE 1/4 of Section 3, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	12	3 6 3 3	1–2	SILT, mottled, (10YR 3/2), some black coal looking material.	ML					M				
	18	1 2 2 1	3–4	LEAN CLAY, (10YR 4/3), soft, some organic material.	CL					W				
	12	2 2 3 2	5–6	SILT, (10YR 2/2), uniform, trace fine sand and clay.	ML					M				
	18	1 1 3 2	7–8							W				
	18	1 2 1 1	9–10	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial).	SP					W				
	12	0 0 1 1	11–12							W				
	12	0 0 1 1	13–14							W				
			15											

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

Signature for Zach Watson
Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718
Tel:
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW304

Sample: Number and Type	Sample: 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
		0 0 1 1	16	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial). *(continued)*						W				
			17	Same as above but more coarse, (2.5YR 5/4), trace silt.	SP									
		2 5 6 6	18							W				
			19											
			20	End of Boring at 20 feet.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL - Lansing Generating Station SCS#: 25218221.00		MW-304A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	12/18/2019	12/19/2019	Rotosonic

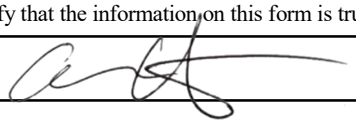
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			10.7 Feet	635.6 Feet	6 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3957884.99 N, 5540876.5 E S / C / N
SE 1/4 of NE 1/4 of Section 03 , T 98 N, R 03 W
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovac to 9' to check for utilities.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	SILT, grayish brown, toots and sticks.	ML									
			11	POORLY GRADED SAND WITH SILT AND GRAVEL, fine to medium grained, reddish brown.										
S1	49"		12		SP-SM					W				
			13											
			14	POORLY GRADED SAND, reddish brown, fine to medium grained.										
			15		SP									
			16											

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:

Boring Number MW-304A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			17	POORLY GRADED SAND, reddish brown, fine to medium grained. *(continued)*										
S2	21"		18							W				
			19		SP									
			20	Same but light brown, mostly fine grained.										
			21											
			22											
S3	59"		23							W				
				SANDY SILT, brown, fine grained.										
			24											
			25											
			26		ML									
			27											
S4	24"		28							W				
			29											
			30	SILTY SAND, light brown, fine grained.										
			31											
			32											
S5	30"		33		SM					W				
			34											
			35											
			36	POORLY GRADED SAND, light brown, fine to medium grained.										
			37											
S6	57"		38							W				
			39		SP									
			40											
			41											
				POORLY GRADED SAND, orange, fine grained.	SP									
			42	SANDY SILT WITH GRAVEL, sand is fine grained.	ML									

Boring Number MW-304A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S7	54"		43 44	SANDY SILT WITH GRAVEL, sand is fine grained.*(continued)*	ML					W				
S8	9"		45 46	POORLY GRADED SAND, light brown, fine grain, trace coarse grained.	SP					W				
S9	48"		47 48 49 50 51	SANDY SILT WITH GRAVEL, light brown with trace yellow, fine grained. End of boring at 51 feet.	ML					W				

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL Lansing Generating Station SCS#: 25218221.00		MW305

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Eric Wetzel Roberts Environmental Drilling, Inc.	5/16/2019	5/16/2019	4.25" HSA

Unique Well No	DNR Well ID No	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW305	629.12 Feet MSL	631.8 Feet MSL	8.5 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,109 N, 5,541,533 E S/C/N
SE 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 9.5 feet.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	FAT CLAY, dark greenish gray, (GLEY 13/10Y), soft, trace red sand, wood pieces and roots.										
	24	1 1 1 1	11							W				
			12		CH									
	24	0 0 0 2	13							W				
			14	Sand seams at 13.5 and 14.5 feet.										
			15											

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

Signature for Zach Watson

Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718

Tel:
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW305

Sample									Soil Properties					
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	Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				FAT CLAY, dark greenish gray, (GLEY 13/10Y), soft, trace red sand, wood pieces and roots. *(continued)*	CH					W				
			16	End of Boring at 16 feet.										

SCS ENGINEERS
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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL Lansing Generating Station SCS#: 25218221.00		MW306

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Eric Wetzel Roberts Environmental Drilling, Inc.	5/16/2019	5/16/2019	4.25" HSA

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW306	623.05 Feet MSL	636.7 Feet MSL	8.5 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,977 N, 5,541,203 E S/C/N
NE 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–15	Hydrovaced to 12 feet.										
	12	1 2 4 3	12–13	POORLY GRADED SAND, medium to coarse, rusty in color, (10YR 4/6), trace fine silt.	SP					W				

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

Signature for Brad Watson

Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718

Tel:
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW306

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	18	1 2 2 4	16	POORLY GRADED SAND, medium to coarse, rusty in color, (10YR 4/6), trace fine silt. *(continued)* Same as above but gray, (10YR 4/2).						W				
	18	1 1 2 2	17							W				
			18											
	18		19							W				
			20		SP									
	18		21							W				
			22											
	18	3 1 2 2	23							W				
			24											
	18	2 1 3 2	25							W				
			26	End of Boring at 26 feet.										

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL - Lansing Generating Station SCS#: 25218221.00		MW-306A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	12/17/2019	12/18/2019	Rotosonic

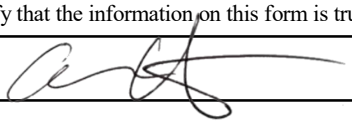
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			16.3 Feet	636.7 Feet	6 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3958980.99 N, 5541196.46 E S / C / N
NE 1/4 of NW 1/4 of Section 02, T 98 N, R 03 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			1	Hydrovac to 9' to check for utilities.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	POORLY GRADED SAND, reddish brown, trace shells, medium grained.										
			11											
			12											
S1	52"		13		SP					W				
			14											
			15											
			16											

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:

Boring Number MW-306A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			17	POORLY GRADED SAND, reddish brown, trace shells, medium grained. *(continued)*										
S2	56"		18		SP					W				
			19											
			20	POORLY GRADED SAND, gray, fine to medium grained, trace coarse grained and shells.										
			21											
			22											
S3	57"		23							W				
			24											
			25	Same, mostly medium grained with fine grained.										
			26											
			27											
S4	54"		28							W				
			29											
			30	Same, fine to medium grained with trace coarse grained.	SP									
			31											
			32											
S5	58"		33							W				
			34											
			35	Same with shell fragments.										
			36											
			37											
S6	53"		38							W				
			39											
			40											
			41	LEAN CLAY, dark gray, massive, very dense with roots and sticks.										
			42		CL									

Boring Number MW-306A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S7	58"		43	LEAN CLAY, dark gray, massive, very dense with roots and sticks. *(continued)*	CL					W				
			44	POORLY GRADED SAND, gray to dark gray, fine grained, trace coarse grain with shell fragments.										
			45											
			46											
			47		SP									
S8	52"		48							W				
			49											
			50	POORLY GRADED SAND, light gray, fine to medium grained.										
			51		SP									
			52	POORLY GRADED SAND, reddish tan, fine to medium grained with shell fragments.										
S9	58"		53							W				
			54		SP									
			55											
			56	End of boring at 56 feet.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-307

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		628.5 Feet	640.70 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,777 N, 5,541,269 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 2.56 "
Long -91 ° 10 ' 9.97 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–15	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
S1	60		10–15	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 4" layer of gray sand (10YR 5/1), shells and subroundd gravel.	SP					W				

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above , shells still present with more gray sand.	SP									
			17											
S2	60		18	SILT, dark gray to black (5Y 2.5/2), with trace very fine grained sand and gravel/cobbles.	ML				0.75	W/M				
			19											
			20	Same as above but gray (5Y 4/1).										
S3	12		21							W/M				
				End of boring at 21' below ground surface.										
				Well placed from 20' with 10' screen at 20 to 10'.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-307A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		622.8 Feet	640.60 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,775 N, 5,541,261 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 2.54 "
Long -91 ° 10 ' 10.08 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–9	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
S1	60		10–15	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 8" layer of gray sand (10YR 5/1) with trace shells and sub-rounded gravel.	SP					M/W				

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S2	48		16–20		SP					W				
			20	SILT, dark gray, dark gray to black, (5Y 2.5/2) with fine grained sand and trace gravel.										
S3	60		21–25		ML				1.5-2.5	M				
			25	LEAN CLAY, black (5Y 2.5/1), soft.										
S4	60		26–30						0.75	W				
			30	Same as above but very soft with trace fine to medium grained sand.	CL									
S5	60		31–35						0.0	M/W				
			35	POORLY GRADED GRAVEL WITH SAND, fine to coarse gravel, sub-rounded to sub-angular, sand is fine to coarse grained, dark brownish gray (2.5Y 4/2) with trace silt.										
S6	24		36–40		GP				0.0	W				

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			41		GP									
			41	SILT, dark gray (5Y 3/1), with trace sand, gravel and cobbles.	ML									
S7	56		42	WELL GRADED SAND, fine to medium grained, yellow (2.Y 7/6) with gravel and pieces of shell.	SW				0.0	W				
			43	SILT, dark gray (5Y 4/1) and transitions to olive brown (2.5Y 4/4), very soft.	ML									
			44											
			45	POORLY GRADED SAND, fine to medium grained, light olive brown (2.5Y 5/4) with trace silt.	SP									
			46											
			47	SANDY SILT, light olive brown (2.5Y 5/3), very soft, sand is fine to medium grained.	ML									
			48	SILTY SAND, fine to coarse grained, olive yellow (2.5Y 6/8).	SM									
S8	70		49	POORLY GRADED GRAVEL WITH SAND AND SILT, coarse gravel, sand and silt are light olive brown (2.5Y 5/4), sand is fine to coarse grained.	GP-GM				0.0	W				
			50	SANDY SILT WITH GRAVEL, gray to dark gray (2.5Y 4/1), sand is fine to coarse grained, gravel is coarse, sub-rounded with trace cobbles, very soft.	ML									
			51											
			52	End of boring at 52' below ground surface.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-308

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		618.8 Feet	635.70 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,236 N, 5,541,333 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 7.07 "
Long -91 ° 10 ' 8.94 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			1	Hydrovaced to 8 feet below ground surface and blind drilled the from 8 to 10'.										Blind drilled 2 ft of slough from 8 to 10' bgs.
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	WELL SORTED SAND, fine to coarse grained, very dark grayish brown (10YR 3/2).	SW									
			11	SILT, gray to dark gray (2.5Y 3/2) with sticks, roots, and trace sand throughout, very soft.										
			12											
S1	60		13		ML				0.0	W				
			14											
			15											

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-308

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above but with trace roots, no sticks, and pockets of sand, very sort.										
			17											
S2	60		18		ML				0.0	W				
			19											
			20	Same as above but very trace roots.										
S3	40		21	SANDY SILT, gray to dark gray, (2.5Y 3/2), no visible roots, very soft.	ML				0.0	W				slough in hole, actual recovery was ~2"
			22	End of boring at 22' below ground surface.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-309

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/23/2021	6/23/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		619.4 Feet	636.10 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,229 N, 5,541,010 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43° 20' 7.10"
Long -91° 10' 13.31"
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 8' below ground surface.										
			1	Hole collapsed to 6' bgs.										
			2											
			3											
			4											
			5											
			6	WELL GRADED SAND, fine to coarse grained, grayish brown to brown (10YR 4/3) with trace coal (slough).										
S1	20		7		SP									Slough from 6 to 10 feet.
			8											
			9											
			10	SILT, dark gray to black (5Y 2.5/1) with trace roots, 4" layer of black organic soil with trace gravel and sticks.										
			11											
			12		ML-OL									
S2	60		13											
			14	SILTY SAND WITH GRAVEL, fine to coarse grained, gray to dark gray (5Y 4/1), gravel is										
			15		SM									

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-309

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	sub-rounded. SILT, dark gray (5Y 3/1), with roots and trace sticks, very soft.										
			17											
S3	60		18		ML									
			19											
			20	SANDY SILT, very dark gray (5Y 3/1) with roots, trace gravel and peices of limestone at bottom of sample, sand is fine to medium grain.										
			21											
			22											
S4	60		23		ML									
			24											
			25	End of boring at 25' below ground surface. Well placed from 22' with 10' screen at 22 to 12'.										

Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL-Lansing Generating Station Permit No.:

Well or Piezometer No: MW-301

Dates Started: 11/2/15 Date Completed: 11/2/15

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft):

Specify corner of site: NW

Distance & direction along boundary: 540' SE

Distance & direction from boundary to wall: 230' NE

Elevations (± 0.01 ft MSL):

Ground Surface: 639.35

Top of protective casing: 642.18

Top of well casing: 641.61

Benchmark elevation: 622.86, NAVD 1988 datum

Benchmark description: CP 300, iron rod in concrete

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Cascade Drilling
301 Alderson St.
Schofield, WI 54476

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: None

Bore Hole Diameter: 8"

Soil Sampling Method: Spoon

Depth of Boring: 26

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 15 ft

Outside casing diameter: 2.40"

Inside casing diameter: 2"

Casing joint type: threaded

Casing/screen joint type: threaded

Screen material: PVC

Screen opening size: .010

Screen length: 10 ft

Depth of well: 25 ft

Filter Pack:

Material: Red Flint

Grain size: #40

Volume: 300 lbs

Seal (minimum 3 ft length above filter pack):

Material: 3/8" bentonite chips

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design:

Material of protective casing: Steel 6"

Material of grout between protective casing and well casing: sand

Protective cap:

Material: steel

Vented: ☒ Yes ☐ No Locking: ☐ Yes ☐ No

Well Cap:

Material: PVC

Vented: ☐ Yes ☒ No

D. GROUNDWATER MEASURMENT (± 0.01 ft below top of inner well casing)

Water level: 17.63 Stabilization Time: 2 hrs.

Well development method: Surged and pumped. Turbidity reduced but not eliminated.

Average depth of frostline: 4 ft.

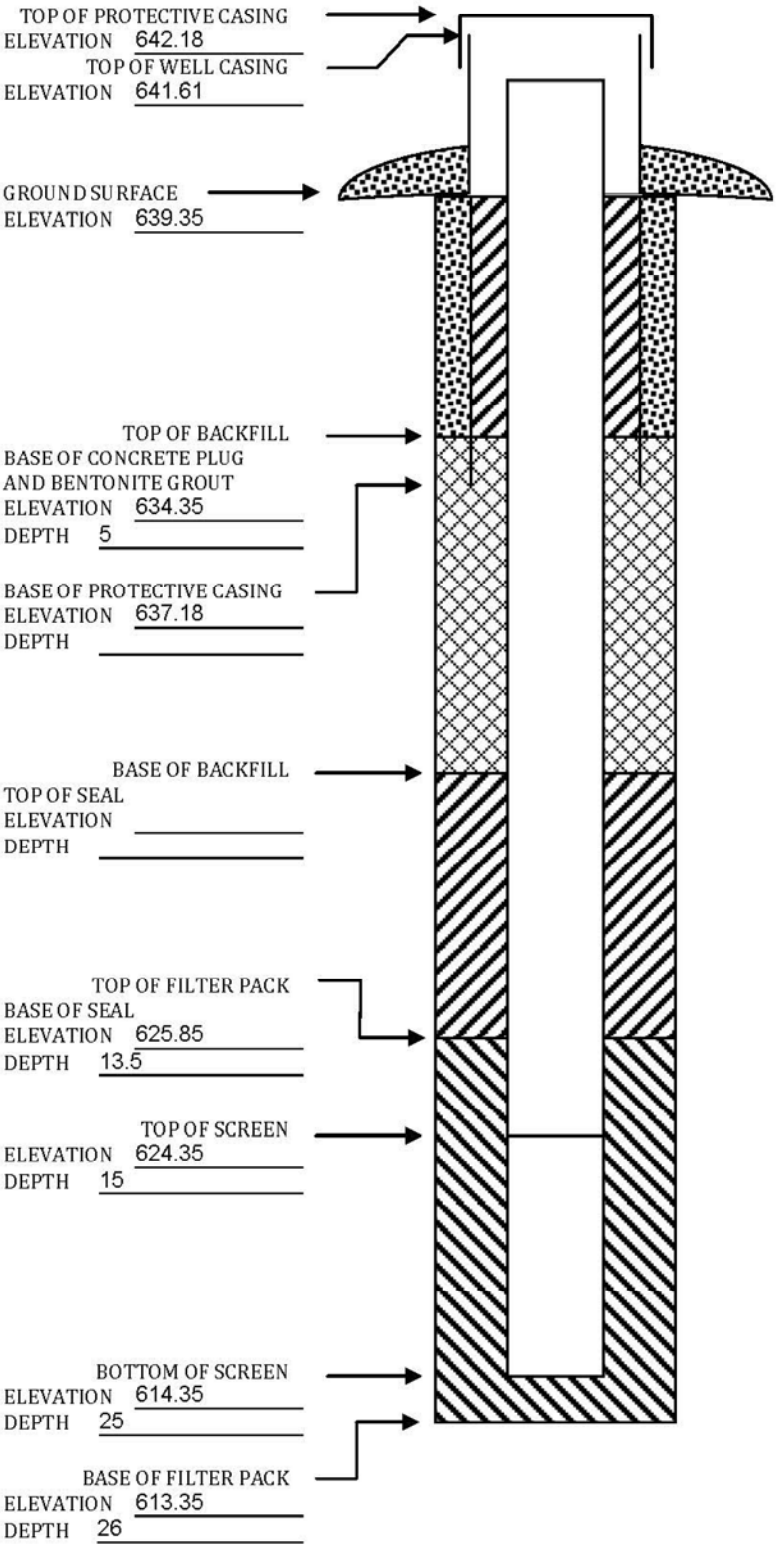
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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.)



Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL-Lansing Generating Station Permit No.:

Well or Piezometer No: MW-302

Dates Started: 11/4/15 Date Completed: 11/4/15

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft):

Specify corner of site: NW

Distance & direction along boundary: 465' SE

Distance & direction from boundary to wall: 405' NE

Elevations (± 0.01 ft MSL):

Ground Surface: 635.85

Top of protective casing: 638.72

Top of well casing: 638.40

Benchmark elevation: 633.86, NAVD 1988 datum

Benchmark description: CP 300, iron rod in concrete

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Cascade Drilling
301 Alderson St.
Schofield, WI 54476

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: None

Bore Hole Diameter: 8"

Soil Sampling Method: Spoon

Depth of Boring: 20 ft

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 9'

Outside casing diameter: 2.40"

Inside casing diameter: 2"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: .01"

Screen length: 10'

Depth of well: 19'

Filter Pack:

Material: Red Flint

Grain size: #40

Volume: 120 lbs

Seal (minimum 3 ft length above filter pack):

Material: 3/8" hole plug

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design:

Material of protective casing: Steel 6"

Material of grout between protective casing and well casing: sand

Protective cap:

Material: steel

Vented: ☒ Yes ☐ No Locking: ☐ Yes ☐ No

Well Cap:

Material: PVC

Vented: ☐ Yes ☒ No

D. GROUNDWATER MEASURMENT (± 0.01 ft below top of inner well casing)

Water level: 9.95 Stabilization Time: 2 hrs.

Well development method: Surged and pumped. Turbidity reduced but not removed.

Average depth of frostline: 4 ft.

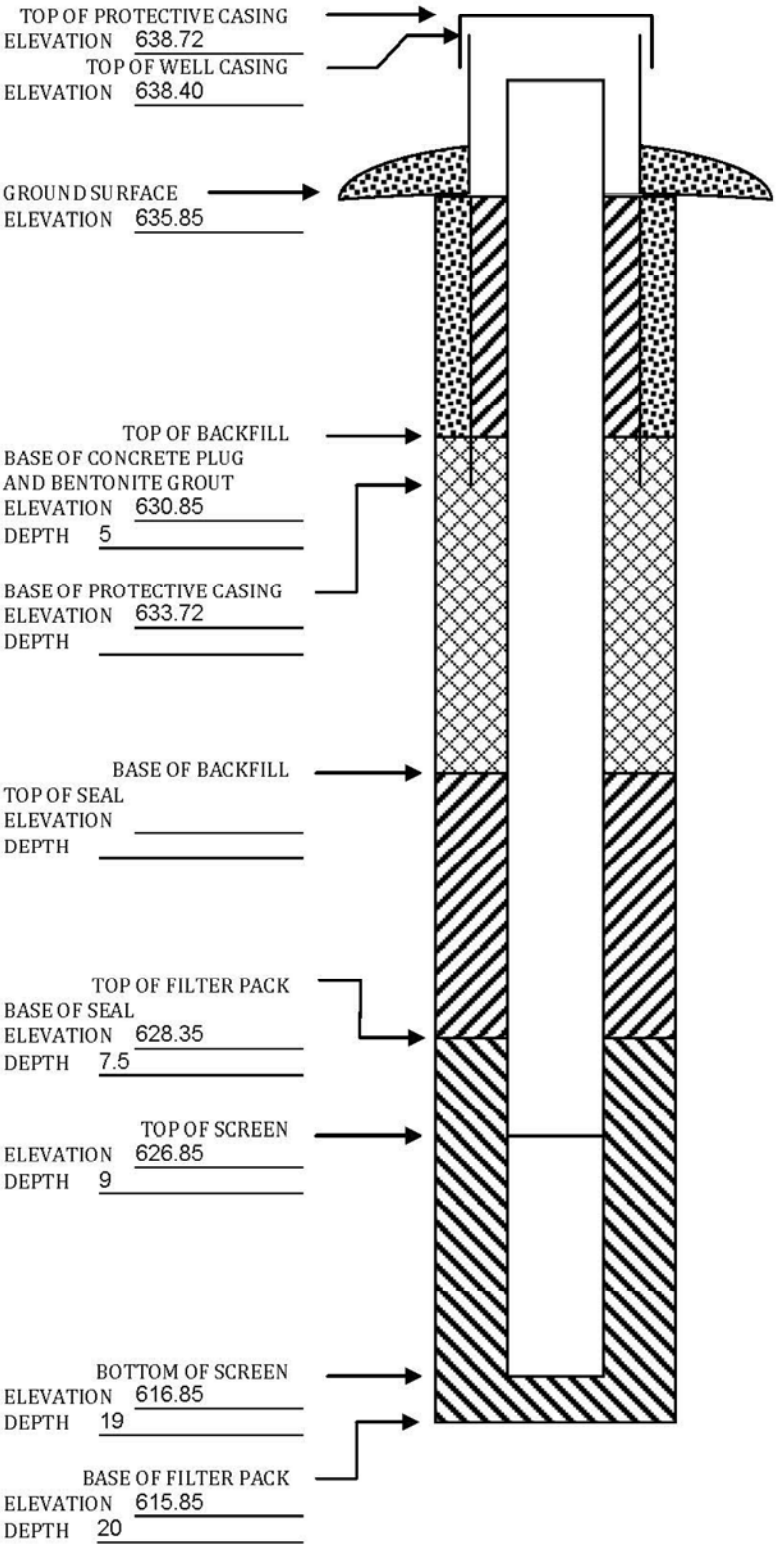
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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: IPL - Lansing Generating Station Permit No.:

Well or Piezometer No.: MW-302A Dates Started: 12/16/2019 Date Completed: 12/19/2019

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

Specify corner of site: NW Distance and direction along boundary: 375 E

Distance and direction from boundary to surface monitoring well: 0 S

Elevation (+0.01 ft. MSL)

Ground Surface: 636.2' Top of protective casing: 638.93'

Top of well casing: 638.68' Benchmark elevation: 653.26'

Benchmark description: Brass cap in PCC walkway to weir structure on north side of entrance road

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

Address: 301 Alderson St. City, State, Zip Code: Schofield, WI. 54476

Name of driller: Paul Dickinson

Drilling method: Rotosonic Drilling fluid: Water Bore Hole diameter: 6"

Soil sampling method: Sample bag Depth of boring: 50'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC

Length of casing: 52.45'

Outside casing diameter: 2.4"

Inside casing diameter: 2.04"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 5'

Depth of Well: 49'

Filter Pack:

Material: Filter Sand

Grain Size: #40 red flint, topped with #7

Volume: 2 cu. ft.

Seal (minimum 3 ft. length above filter pack):

Material: Bentonite Chips

Placement method: Poured

Volume: 2 cu. ft.

Backfill (if different from seal):

Material: Bentonite grout

Placement method: Pumped

Volume: 60 gal.

Surface seal design: Protop

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand

Protective cap: 6" Royer cap

Material: Aluminum

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic and rubber

Vented?: ☐ Y ☒ N

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

Water level: 15.88' **Stabilization time**: < 1 minute

Well development method: Surged and pumped

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

Signature: [signature] **Certification #**: 9361 **Date**: 12-19-2019

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

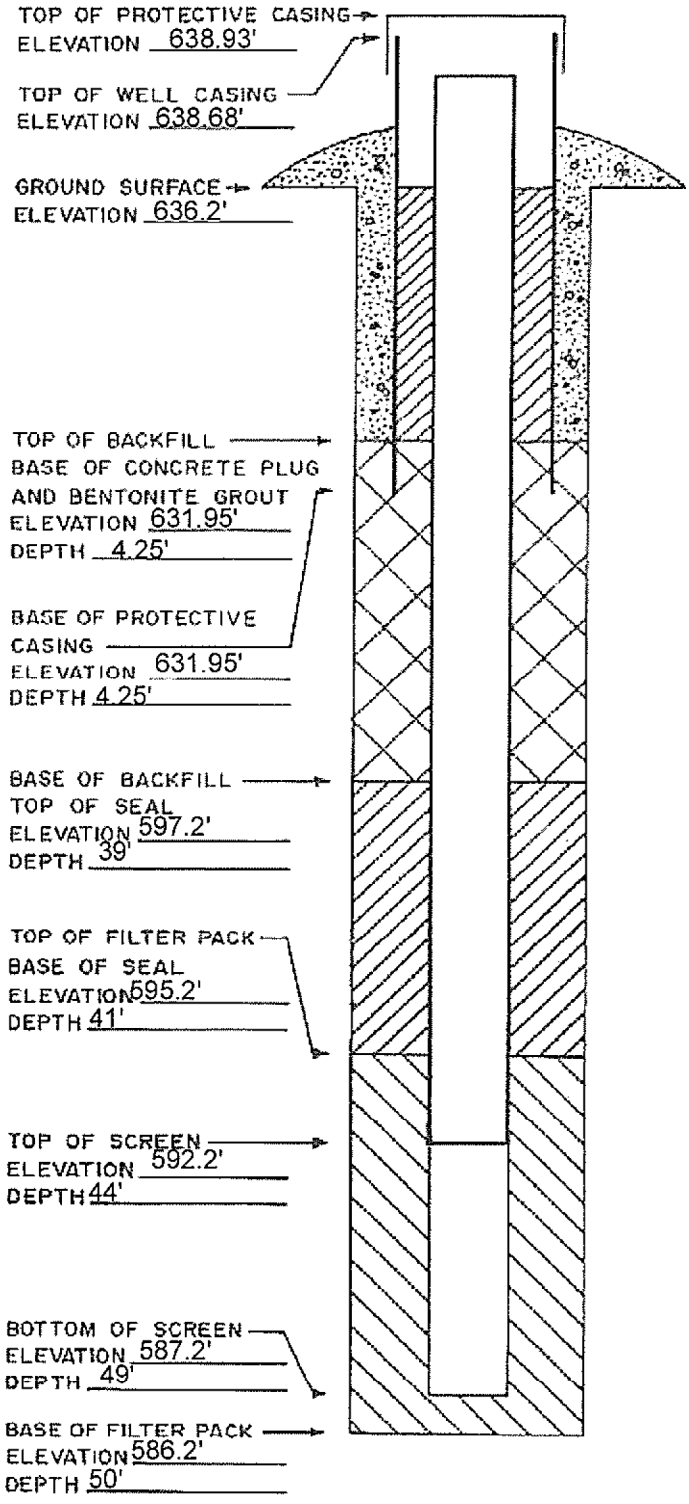
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL-Lansing Generating Station Permit No.:

Well or Piezometer No: MW-303

Dates Started: 11/3/15 Date Completed: 11/4/15

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft):

Specify corner of site: NW

Distance & direction along boundary: 730' SE

Distance & direction from boundary to wall: 760' NE

Elevations (± 0.01 ft MSL):

Ground Surface: 653.85

Top of protective casing: 656.74

Top of well casing: 656.27

Benchmark elevation: 633.86, NAVD 1988 datum

Benchmark description: CP 300, iron rod in concrete

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Cascade Drilling
301 Alderson St
Schofield, WI 54476

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: None

Bore Hole Diameter: 8"

Soil Sampling Method: Spoon

Depth of Boring: 27 feet

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 16

Outside casing diameter: 2.40"

Inside casing diameter: 2"

Casing joint type: threaded

Casing/screen joint type: threaded

Screen material: PVC

Screen opening size: .01"

Screen length: 10'

Depth of well: 26'

Filter Pack:

Material: Red Flint

Grain size: #40

Volume: 250 lbs

Seal (minimum 3 ft length above filter pack):

Material: 3/8" bentonite chips

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design:

Material of protective casing: Steel 6"

Material of grout between protective casing and well casing: sand

Protective cap:

Material: steel

Vented: ☒ Yes ☐ No Locking: ☐ Yes ☐ No

Well Cap:

Material: PVC

Vented: ☐ Yes ☒ No

D. GROUNDWATER MEASURMENT (± 0.01 ft below top of inner well casing)

Water level: 16.35 Stabilization Time: < 1 hr.

Well development method: Surged and pumped to reduce turbidity

Average depth of frostline: 4'

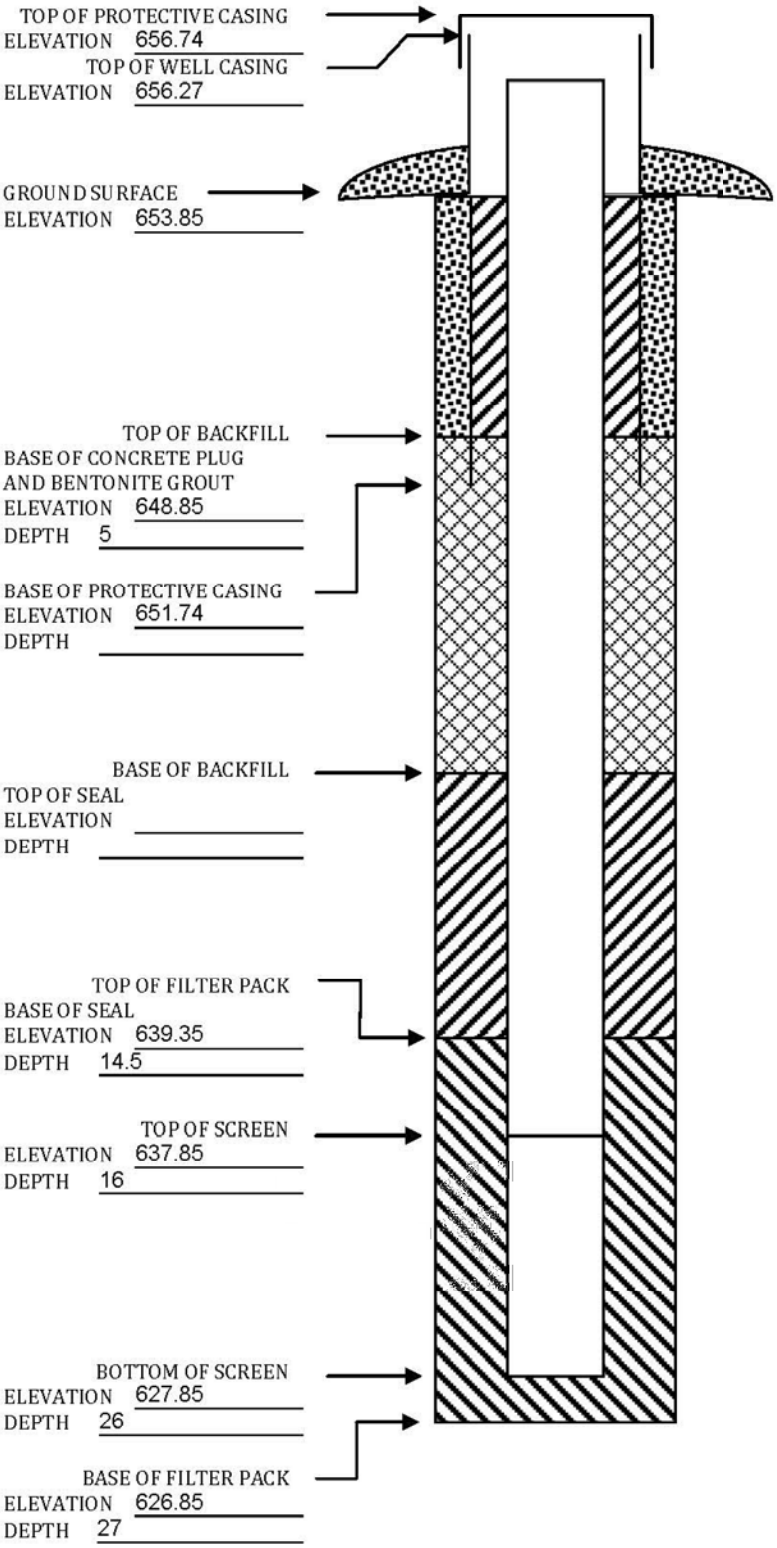
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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: IPL - Lansing Generating Station — Permit No.:

Well or Piezometer No.: MW304 — Dates Started: 5/15/2019 — Date Completed: 5/15/2019

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

Specify corner of site: NW — Distance and direction along boundary: 1,340 S

Distance and direction from boundary to surface monitoring well: 10 E

Elevation (+0.01 ft. MSL):

Ground Surface: 635.47 — Top of protective casing: 636.68

Top of well casing: 636.43 — Benchmark elevation: 653.26

Benchmark description: Brass cap in PCC walkway to weir structure on north side of entrance road

B. SOIL BORING INFORMATION

Construction Company Name: Roberts Environmental Drilling Inc.

Address: 1107 South Mulberry Street — City, State, Zip Code: Millstadt, IL, 62260

Name of driller: Eric Wetzel

Drilling method: 4 1/4" HSA — Drilling fluid: None — Bore Hole diameter: 8.5"

Soil sampling method: Split Spoon — Depth of boring: 22'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 20.26'

Outside casing diameter: 2.4"

Inside casing diameter: 2.0"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 10'

Depth of Well: 20'

Filter Pack:

Material: Filter Sand

Grain Size:

Volume: 19.4 cubic feet

Seal (minimum 3 ft. length above filter pack):

Material: Bentonite

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design: Concrete

Material of protective casing: Steel

Material of grout between protective casing and well casing: Bentonite chips

Protective cap:

Material: Steel

Vented?: ☒ Y ☐ N — Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic

Vented?: ☒ Y ☐ N

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

Water level: 13.21' — **Stabilization time:** <1 hour

Well development method: Surged & pumped to reduce 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 #:** 11509 **Date:** 8/8/2019

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

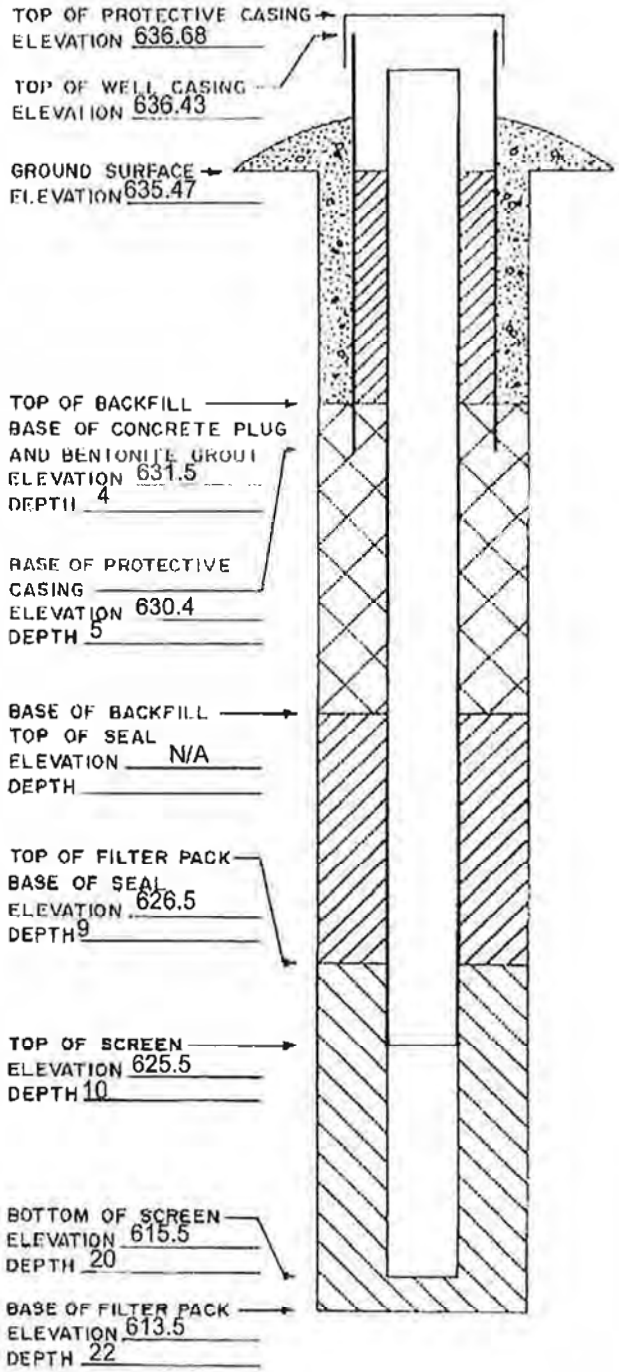
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL - Lansing Generating Station | Permit No.:

Well or Piezometer No.: MW-304A | Dates Started: 12/18/2019 | Date Completed: 12/19/2019

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

Specify corner of site: NW | Distance and direction along boundary: 1340 S

Distance and direction from boundary to surface monitoring well: 10 E

Elevation (+0.01 ft. MSL)

Ground Surface: 635.6 | Top of protective casing: 638.6

Top of well casing: 638.36 | Benchmark elevation: 653.26

Benchmark description: Brass cap in PCC walkway to weir structure on north side of entrance road

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

Address: 301 Alderson St. | City, State, Zip Code: Schofield, WI. 54476

Name of driller: Paul Dickinson

Drilling method: Rotosonic | Drilling fluid: Water | Bore Hole diameter: 6"

Soil sampling method: Sample bag | Depth of boring: 51'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 80 PVC

Length of casing: 52.45'

Outside casing diameter: 2.4"

Inside casing diameter: 1.939"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 5'

Depth of Well: 50'

Filter Pack:

- Material: Filter Sand
- Grain Size: #40 red flint, topped with #7
- Volume: 1.5cu. ft.

Seal (minimum 3 ft. length above filter pack):

- Material: Bentonite Chips

Placement method: Poured

Volume: 2 cu. ft.

Backfill (if different from seal):

- Material: Bentonite grout
- Placement method: Pumped
- Volume: 60 gal.

Surface seal design: Protop

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand

Protective cap: 6" Royer cap

- Material: Aluminum
- Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Well cap:

- Material: Plastic and rubber
- Vented?: ☐ Y ☒ N

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

Water level: 13.35' | **Stabilization time:** >1hr

Well development method: Surged and pumped

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

Signature: [signature] | **Certification #:** 7361 | **Date:** 12-19-2019

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

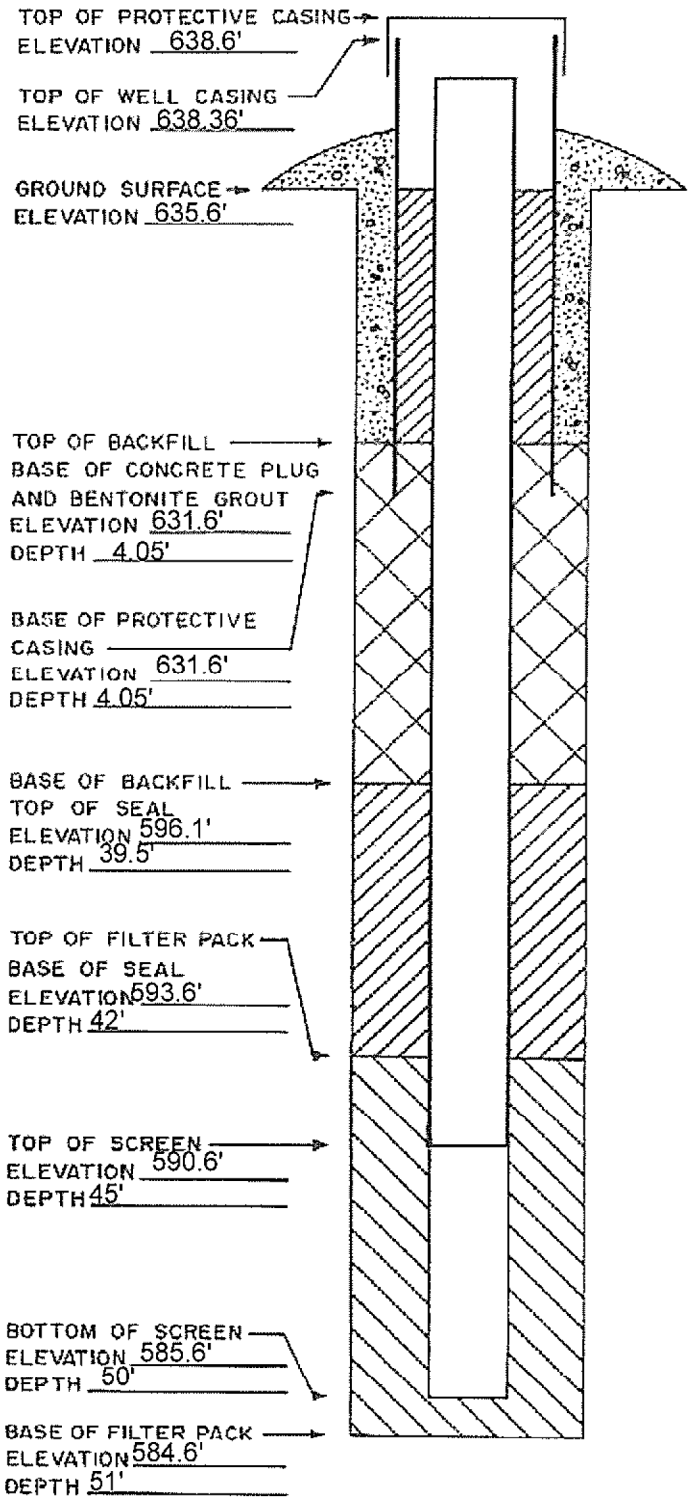
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL - Lansing Generating Station Permit No.:

Well or Piezometer No.: MW305 Dates Started: 5/16/2019 Date Completed: 5/16/2019

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

Specify corner of site: NW Distance and direction along boundary: 1,125 S

Distance and direction from boundary to surface monitoring well: 630 E

Elevation (+0.01 ft. MSL):

Ground Surface: 631.75 Top of protective casing: 634.32

Top of well casing: 633.87 Benchmark elevation: 653.26

Benchmark description: Brass cap in PCC walkway to weir structure on north side of entrance road

B. SOIL BORING INFORMATION

Construction Company Name: Roberts Environmental Drilling Inc.

Address: 1107 South Mulberry Street City, State, Zip Code: Millstadt, IL, 62260

Name of driller: Eric Wetzel

Drilling method: 4 1/4" HSA Drilling fluid: Bore Hole diameter: 8.5"

Soil sampling method: Split Spoon Depth of boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 5'

Outside casing diameter: 2.4"

Inside casing diameter: 2.0"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 10'

Depth of Well: 14.5'

Filter Pack:

Material: Filter Sand

Grain Size:

Volume: 23 bags

Seal (minimum 3 ft. length above filter pack):

Material: Bentonite

Placement method: Gravity

Volume: 2.7 cubic ft

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design: Concrete

Material of protective casing: Steel

Material of grout between protective casing and well casing: Bentonite chips

Protective cap:

Material: steel

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic

Vented?: ☒ Y ☐ N

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

Water level: 12.13' **Stabilization time:** < 1 hr

Well development method: Surged and pumped to remove turbidity

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

Signature: [signature] **Certification #:** 11509 **Date:** 8/8/2019

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

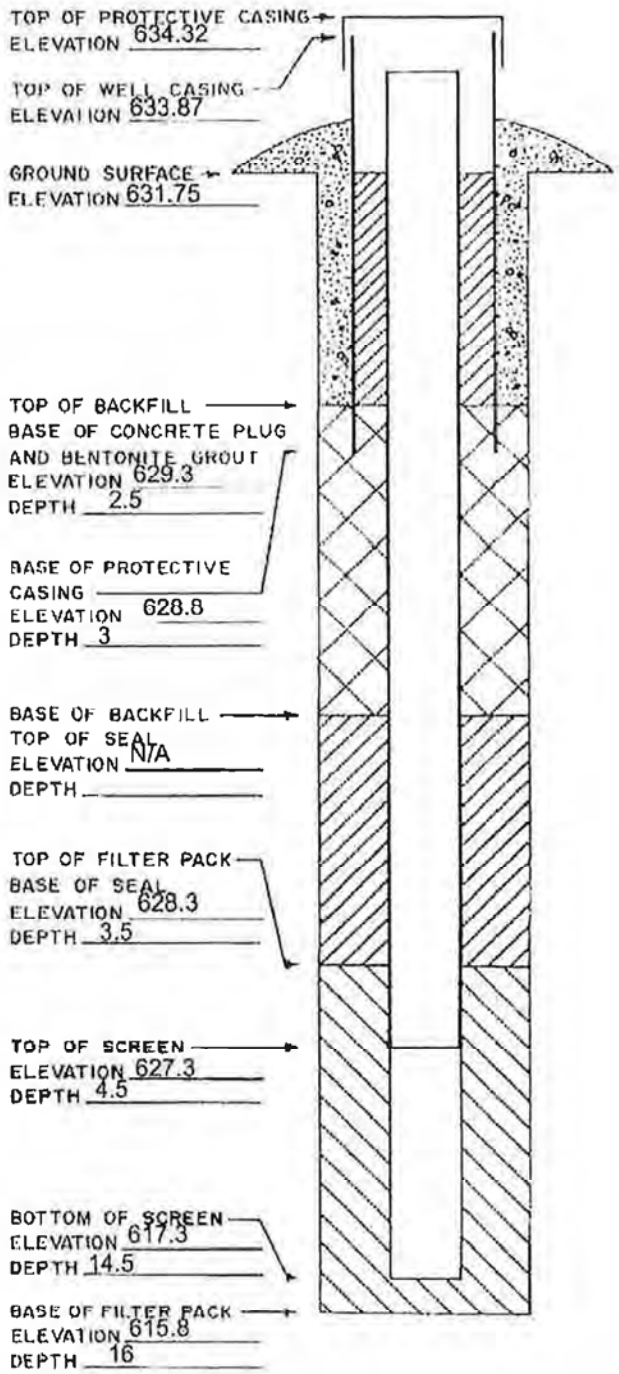
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL - Lansing Generating Station Permit No.:

Well or Piezometer No.: MW306 Dates Started: 5/16/2019 Date Completed: 5/16/2019

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

Specify corner of site: NW Distance and direction along boundary: 420 SE

Distance and direction from boundary to surface monitoring well: 60 SW

Elevation (+0.01 ft. MSL):

Ground Surface: 636.74 Top of protective casing: 637.71

Top of well casing: 637.48 Benchmark elevation: 653.26

Benchmark description: Brass cap in PCC walkway to weir structure on north side of entrance road

B. SOIL BORING INFORMATION

Construction Company Name: Roberts Environmental Drilling Inc.

Address: 1107 South Mulberry Street City, State, Zip Code: Millstadt, IL, 62260

Name of driller: Eric Wetzel

Drilling method: 4 1/4" HSA Drilling fluid: Bore Hole diameter: 8.5"

Soil sampling method: Split Spoon Depth of boring: 26'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 26'

Outside casing diameter: 2.4"

Inside casing diameter: 2.0"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 10'

Depth of Well: 25'

Filter Pack:

Material: Filter Sand

Grain Size:

Volume: 37 cubic feet

Seal (minimum 3 ft. length above filter pack):

Material: Bentonite

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design: Concrete

Material of protective casing: Steel

Material of grout between protective casing and well casing: Bentonite chips

Protective cap:

Material: Steel

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic

Vented?: ☒ Y ☐ N

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

Water level: 13.11' **Stabilization time**: <1 hr

Well development method: Surged and pumped to reduce turbidity

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

Signature: **Certification #**: 11509 **Date**: 8/8/2019

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

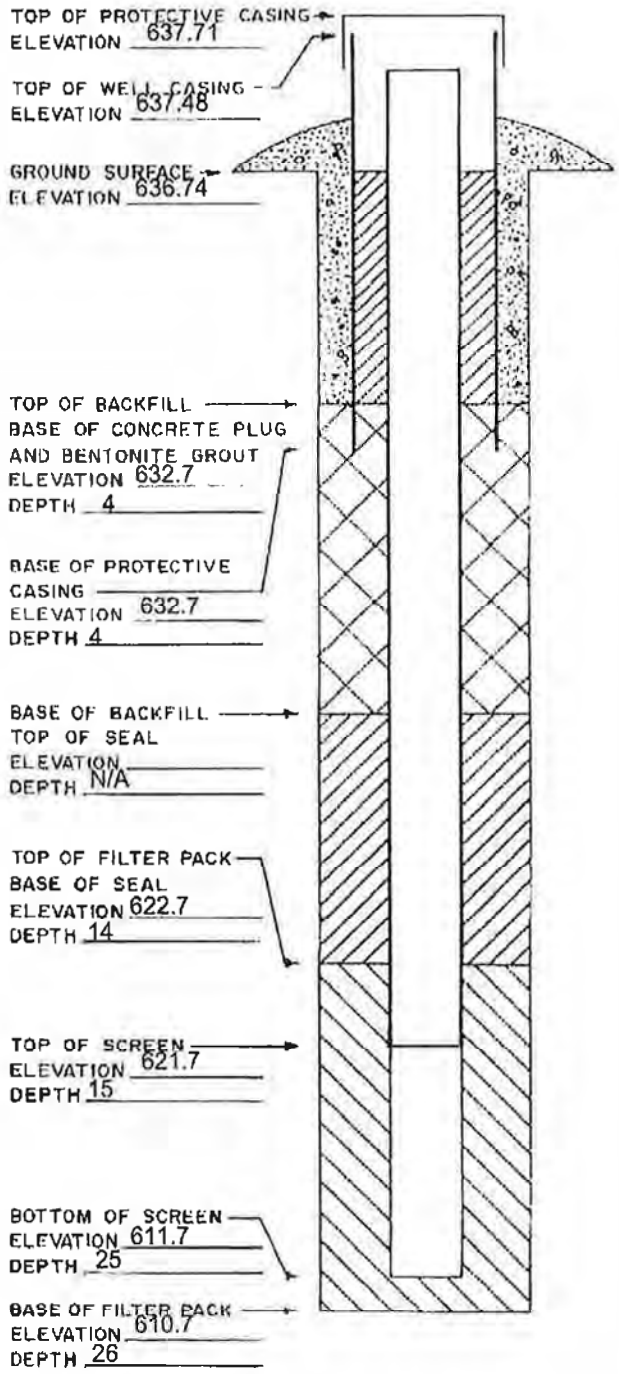
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL - Lansing Generating Station Permit No.:

Well or Piezometer No.: MW-306A Dates Started: 5/17/2019 Date Completed: 12/19/2019

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

Specify corner of site: NW Distance and direction along boundary: 420 SE

Distance and direction from boundary to surface monitoring well: 60 SW

Elevation (+0.01 ft. MSL):

Ground Surface: 636.7 Top of protective casing: 639.56

Top of well casing: 639.33 Benchmark elevation: 653.26

Benchmark description: Brass cap in PCC walkway to weir structure on north side of entrance road

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

Address: 301 Alderson St. City, State, Zip Code: Schofield, WI. 54476

Name of driller: Paul Dickinson

Drilling method: Rotosonic Drilling fluid: Water Bore Hole diameter: 6"

Soil sampling method: Sample bag Depth of boring: 56'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 80 PVC

Length of casing: 58.06'

Outside casing diameter: 2.4"

Inside casing diameter: 1.939"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 5'

Depth of Well: 55'

Filter Pack:

Material: Filter Sand

Grain Size: #40 red flint, topped with #7

Volume: 1.5cu. ft.

Seal (minimum 3 ft. length above filter pack):

Material: Bentonite Chips

Placement method: Poured

Volume: 2 cu. ft.

Backfill (if different from seal):

Material: Bentonite grout

Placement method: Pumped

Volume: 60 gal.

Surface seal design: Protop

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand

Protective cap: 6" Royer cap

Material: Aluminum

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic and rubber

Vented?: ☐ Y ☒ N

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

Water level: 19.56' **Stabilization time**: < 1 minute

Well development method: Surged and pumped

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

Signature: [signature] **Certification #**: 9361 **Date**: 12-19-2019

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

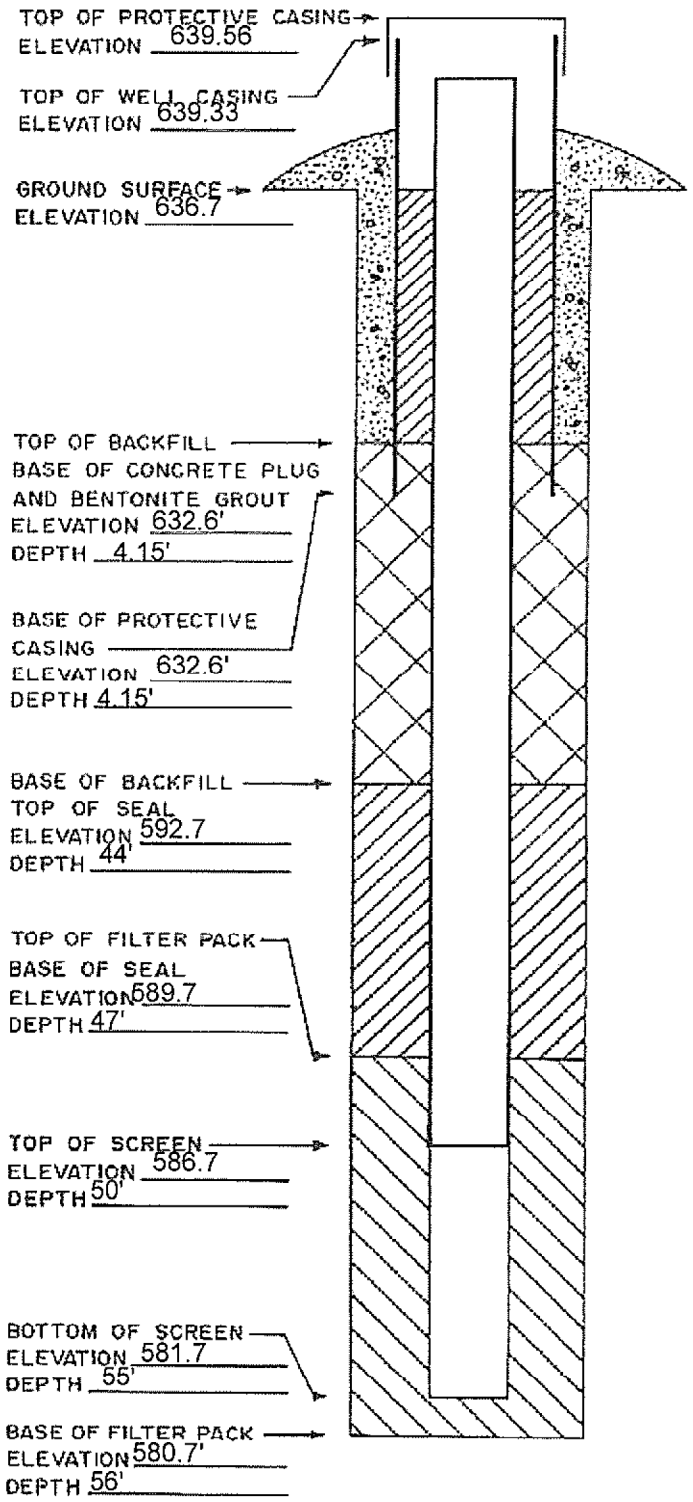
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-307

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		628.5 Feet	640.70 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,777 N, 5,541,269 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 2.56 "
Long -91 ° 10 ' 9.97 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–15	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
S1	60		10–15	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 4" layer of gray sand (10YR 5/1), shells and subroundd gravel.	SP					W				

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above , shells still present with more gray sand.	SP									
			17											
S2	60		18	SILT, dark gray to black (5Y 2.5/2), with trace very fine grained sand and gravel/cobbles.	ML				0.75	W/M				
			19											
			20	Same as above but gray (5Y 4/1).										
S3	12		21							W/M				
				End of boring at 21' below ground surface.										
				Well placed from 20' with 10' screen at 20 to 10'.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-307A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		622.8 Feet	640.60 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,775 N, 5,541,261 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 2.54 "
Long -91 ° 10 ' 10.08 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–9	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
S1	60		10–15	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 8" layer of gray sand (10YR 5/1) with trace shells and sub-rounded gravel.	SP					M/W				

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S2	48		16–20		SP					W				
			20	SILT, dark gray, dark gray to black, (5Y 2.5/2) with fine grained sand and trace gravel.										
S3	60		21–25		ML				1.5-2.5	M				
			25	LEAN CLAY, black (5Y 2.5/1), soft.										
S4	60		26–30						0.75	W				
			30	Same as above but very soft with trace fine to medium grained sand.	CL									
S5	60		31–35						0.0	M/W				
			35	POORLY GRADED GRAVEL WITH SAND, fine to coarse gravel, sub-rounded to sub-angular, sand is fine to coarse grained, dark brownish gray (2.5Y 4/2) with trace silt.										
S6	24		36–40		GP				0.0	W				

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			41		GP									
			41	SILT, dark gray (5Y 3/1), with trace sand, gravel and cobbles.	ML									
S7	56		42	WELL GRADED SAND, fine to medium grained, yellow (2.Y 7/6) with gravel and pieces of shell.	SW				0.0	W				
			43	SILT, dark gray (5Y 4/1) and transitions to olive brown (2.5Y 4/4), very soft.	ML									
			44											
			45	POORLY GRADED SAND, fine to medium grained, light olive brown (2.5Y 5/4) with trace silt.	SP									
			46											
			47	SANDY SILT, light olive brown (2.5Y 5/3), very soft, sand is fine to medium grained.	ML									
			48	SILTY SAND, fine to coarse grained, olive yellow (2.5Y 6/8).	SM									
S8	70		49	POORLY GRADED GRAVEL WITH SAND AND SILT, coarse gravel, sand and silt are light olive brown (2.5Y 5/4), sand is fine to coarse grained.	GP-GM				0.0	W				
			50	SANDY SILT WITH GRAVEL, gray to dark gray (2.5Y 4/1), sand is fine to coarse grained, gravel is coarse, sub-rounded with trace cobbles, very soft.	ML									
			51											
			52	End of boring at 52' below ground surface.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-308

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		618.8 Feet	635.70 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,236 N, 5,541,333 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 7.07 "
Long -91 ° 10 ' 8.94 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			1	Hydrovaced to 8 feet below ground surface and blind drilled the from 8 to 10'.										Blind drilled 2 ft of slough from 8 to 10' bgs.
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	WELL SORTED SAND, fine to coarse grained, very dark grayish brown (10YR 3/2).	SW									
			11	SILT, gray to dark gray (2.5Y 3/2) with sticks, roots, and trace sand throughout, very soft.										
			12											
S1	60		13		ML				0.0	W				
			14											
			15											

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-308

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above but with trace roots, no sticks, and pockets of sand, very sort.										
			17											
S2	60		18		ML				0.0	W				
			19											
			20	Same as above but very trace roots.										
S3	40		21	SANDY SILT, gray to dark gray, (2.5Y 3/2), no visible roots, very soft.	ML				0.0	W				slough in hole, actual recovery was ~2"
			22	End of boring at 22' below ground surface.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-309

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/23/2021	6/23/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		619.4 Feet	636.10 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,229 N, 5,541,010 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43° 20' 7.10"
Long -91° 10' 13.31"
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 8' below ground surface.										
			1	Hole collapsed to 6' bgs.										
			2											
			3											
			4											
			5											
			6	WELL GRADED SAND, fine to coarse grained, grayish brown to brown (10YR 4/3) with trace coal (slough).										
S1	20		7		SP									Slough from 6 to 10 feet.
			8											
			9											
			10	SILT, dark gray to black (5Y 2.5/1) with trace roots, 4" layer of black organic soil with trace gravel and sticks.										
			11											
			12		ML-OL									
S2	60		13											
			14	SILTY SAND WITH GRAVEL, fine to coarse grained, gray to dark gray (5Y 4/1), gravel is										
			15		SM									

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-309

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	sub-rounded. SILT, dark gray (5Y 3/1), with roots and trace sticks, very soft.										
			17											
S3	60		18		ML									
			19											
			20	SANDY SILT, very dark gray (5Y 3/1) with roots, trace gravel and peices of limestone at bottom of sample, sand is fine to medium grain.										
			21											
			22											
S4	60		23		ML									
			24											
			25	End of boring at 25' below ground surface. Well placed from 22' with 10' screen at 22 to 12'.										

Appendix C

Laboratory Reports

Appendix C1

February 2021 Supplemental Sampling Event

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-201196-1
Client Project/Site: Alliant-Lansing 25221070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
3/8/2021 4:19:28 PM
Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

Designee for

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

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Job ID: 310-201196-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-201196-1

Comments
No additional comments.

Receipt
The samples were received on 2/26/2021 1:00 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 0.2º C.

Metals
Method 3010A: The reference method requires samples to be preserved to a pH of <2. The following sample was received with insufficient preservation at a pH of >2: MW-306 Filtered (310-201196-2). The sample(s) was preserved to the appropriate pH in the laboratory.

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: Alliant-Lansing 25221070

Job ID: 310-201196-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-201196-1	MW-306 Unfiltered	Water	02/23/21 13:55	02/26/21 13:00	
310-201196-2	MW-306 Filtered	Water	02/23/21 13:55	02/26/21 13:00	
310-201196-3	MW-304A Unfiltered	Water	02/23/21 15:50	02/26/21 13:00	
310-201196-4	MW-304A Filtered	Water	02/23/21 15:50	02/26/21 13:00	
310-201196-5	Field Blank	Water	02/23/21 00:00	02/26/21 13:00	

Detection Summary

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Client Sample ID: MW-306 Unfiltered — Lab Sample ID: 310-201196-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.0		2.0	0.75	ug/L	1		6020A	Total/NA
Ground Water Elevation	619.76				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-127.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.12				mg/L	1		Field Sampling	Total/NA
pH, Field	6.87				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	2055				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.11				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306 Filtered — Lab Sample ID: 310-201196-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.8		2.0	0.75	ug/L	1		6020A	Dissolved

Client Sample ID: MW-304A Unfiltered — Lab Sample ID: 310-201196-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	120		2.0	1.3	ug/L	1		6020A	Total/NA
Ground Water Elevation	625.04				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	44.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.39				mg/L	1		Field Sampling	Total/NA
pH, Field	8.01				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	534				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	116.6				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A Filtered — Lab Sample ID: 310-201196-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	140		2.0	1.3	ug/L	1		6020A	Dissolved

Client Sample ID: Field Blank — Lab Sample ID: 310-201196-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Client Sample ID: MW-306 Unfiltered

Lab Sample ID: 310-201196-1

Date Collected: 02/23/21 13:55

Matrix: Water

Date Received: 02/26/21 13:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.0		2.0	0.75	ug/L		03/04/21 09:00	03/05/21 13:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	619.76				ft			02/23/21 13:55	1
Oxidation Reduction Potential	-127.2				millivolts			02/23/21 13:55	1
Oxygen, Dissolved, Client Supplied	0.12				mg/L			02/23/21 13:55	1
pH, Field	6.87				SU			02/23/21 13:55	1
Specific Conductance, Field	2055				umhos/cm			02/23/21 13:55	1
Temperature, Field	13.6				Degrees C			02/23/21 13:55	1
Turbidity, Field	3.11				NTU			02/23/21 13:55	1

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Client Sample ID: MW-306 Filtered

Date Collected: 02/23/21 13:55
Date Received: 02/26/21 13:00

Lab Sample ID: 310-201196-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.8		2.0	0.75	ug/L		03/04/21 09:00	03/05/21 13:59	1

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Client Sample ID: MW-304A Unfiltered

Lab Sample ID: 310-201196-3

Date Collected: 02/23/21 15:50

Matrix: Water

Date Received: 02/26/21 13:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	120		2.0	1.3	ug/L		03/04/21 09:00	03/05/21 14:02	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	625.04				ft			02/23/21 15:50	1
Oxidation Reduction Potential	44.9				millivolts			02/23/21 15:50	1
Oxygen, Dissolved, Client Supplied	0.39				mg/L			02/23/21 15:50	1
pH, Field	8.01				SU			02/23/21 15:50	1
Specific Conductance, Field	534				umhos/cm			02/23/21 15:50	1
Temperature, Field	9.1				Degrees C			02/23/21 15:50	1
Turbidity, Field	116.6				NTU			02/23/21 15:50	1

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Client Sample ID: MW-304A Filtered

Lab Sample ID: 310-201196-4

Date Collected: 02/23/21 15:50
Matrix: Water
Date Received: 02/26/21 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	140		2.0	1.3	ug/L		03/04/21 09:00	03/05/21 14:04	1

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Client Sample ID: Field Blank
Date Collected: 02/23/21 00:00
Date Received: 02/26/21 13:00

Lab Sample ID: 310-201196-5
Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		03/04/21 09:00	03/05/21 14:17	1
Molybdenum	<1.3		2.0	1.3	ug/L		03/04/21 09:00	03/05/21 14:17	1

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

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-308526/1-A
Matrix: Water
Analysis Batch: 308879

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	<1.3		2.0	1.3	ug/L		03/04/21 09:00	03/05/21 13:44	1
Arsenic	<0.75		2.0	0.75	ug/L		03/04/21 09:00	03/05/21 13:44	1

Lab Sample ID: LCS 310-308526/2-A
Matrix: Water
Analysis Batch: 308879

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308526

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Molybdenum			200	198		ug/L		99	80 - 120		
Arsenic			200	206		ug/L		103	80 - 120		

Lab Sample ID: 310-201196-1 MS
Matrix: Water
Analysis Batch: 308879

Client Sample ID: MW-306 Unfiltered
Prep Type: Total/NA
Prep Batch: 308526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Molybdenum	<1.3		200	217		ug/L		108	75 - 125		
Arsenic	9.0		200	222		ug/L		106	75 - 125		

Lab Sample ID: 310-201196-1 MSD
Matrix: Water
Analysis Batch: 308879

Client Sample ID: MW-306 Unfiltered
Prep Type: Total/NA
Prep Batch: 308526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	<1.3		200	215		ug/L		107	75 - 125	1	20
Arsenic	9.0		200	220		ug/L		106	75 - 125	1	20

QC Association Summary

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Metals

Prep Batch: 308526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-201196-1	MW-306 Unfiltered	Total/NA	Water	3010A	
310-201196-2	MW-306 Filtered	Dissolved	Water	3010A	
310-201196-3	MW-304A Unfiltered	Total/NA	Water	3010A	
310-201196-4	MW-304A Filtered	Dissolved	Water	3010A	
310-201196-5	Field Blank	Total/NA	Water	3010A	
MB 310-308526/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-308526/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-201196-1 MS	MW-306 Unfiltered	Total/NA	Water	3010A	
310-201196-1 MSD	MW-306 Unfiltered	Total/NA	Water	3010A	

Analysis Batch: 308879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-201196-1	MW-306 Unfiltered	Total/NA	Water	6020A	308526
310-201196-2	MW-306 Filtered	Dissolved	Water	6020A	308526
310-201196-3	MW-304A Unfiltered	Total/NA	Water	6020A	308526
310-201196-4	MW-304A Filtered	Dissolved	Water	6020A	308526
310-201196-5	Field Blank	Total/NA	Water	6020A	308526
MB 310-308526/1-A	Method Blank	Total/NA	Water	6020A	308526
LCS 310-308526/2-A	Lab Control Sample	Total/NA	Water	6020A	308526
310-201196-1 MS	MW-306 Unfiltered	Total/NA	Water	6020A	308526
310-201196-1 MSD	MW-306 Unfiltered	Total/NA	Water	6020A	308526

Field Service / Mobile Lab

Analysis Batch: 308278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-201196-1	MW-306 Unfiltered	Total/NA	Water	Field Sampling	
310-201196-3	MW-304A Unfiltered	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Client Sample ID: MW-306 Unfiltered
Lab Sample ID: 310-201196-1
Date Collected: 02/23/21 13:55
Matrix: Water
Date Received: 02/26/21 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			308526	03/04/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	308879	03/05/21 13:49	SAD	TAL CF
Total/NA	Analysis	Field Sampling		1	308278	02/23/21 13:55	SLD	TAL CF

Client Sample ID: MW-306 Filtered
Lab Sample ID: 310-201196-2
Date Collected: 02/23/21 13:55
Matrix: Water
Date Received: 02/26/21 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			308526	03/04/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	308879	03/05/21 13:59	SAD	TAL CF

Client Sample ID: MW-304A Unfiltered
Lab Sample ID: 310-201196-3
Date Collected: 02/23/21 15:50
Matrix: Water
Date Received: 02/26/21 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			308526	03/04/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	308879	03/05/21 14:02	SAD	TAL CF
Total/NA	Analysis	Field Sampling		1	308278	02/23/21 15:50	SLD	TAL CF

Client Sample ID: MW-304A Filtered
Lab Sample ID: 310-201196-4
Date Collected: 02/23/21 15:50
Matrix: Water
Date Received: 02/26/21 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			308526	03/04/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	308879	03/05/21 14:04	SAD	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-201196-5
Date Collected: 02/23/21 00:00
Matrix: Water
Date Received: 02/26/21 13:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			308526	03/04/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	308879	03/05/21 14:17	SAD	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
Job ID: 310-201196-1
Project/Site: Alliant-Lansing 25221070

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

Method Summary

Client: SCS Engineers
Project/Site: Alliant-Lansing 25221070

Job ID: 310-201196-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

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

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310-201196 Chain of Custody

Cooler/Sample Receipt and Temperature l

Client Information

Client: SCS Engineers

City/State: CITY Madison STATE WI | Project: Alliant-Lansing

Receipt Information

Date/Time Received: DATE 4/26/24 TIME 1300 | Received By: AM

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: Q | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.2 | Corrected Temp (°C): 0.2

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing America

Client Information	Sampler: Paul A. Grover	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-58192-17093.1
Client Contact: ~~Tonten Buszka~~ Meg Blodgett	Phone: (608) 216-7362	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:

Address: ~~3450 Hickman Road, Suite 27~~ 2830 Dairy Dr.
City: ~~Clive~~ Madison
State, Zip: ~~IA, 50325~~ WI 53718
Phone: (608) 216-7362
Email: ~~tbuszka~~@scsengineers.com MBlodgett@SCS

Project Name: Alliant-Lansing 25221070
Site:

Due Date Requested:
TAT Requested (days):
Compliance Project: Δ Yes Δ No
PO #: 25221070
WO #:
Project #: 31011020
SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Arsenic	6020A - Molybdenum	6020A - Arsenic / Moly	Total Number of containers	Special Instructions/Note:
Preservation Code:							D	D	D		
MW-306 Unfiltered	2-23-21	13:55	G	Water	N		X				
MW-306 Filtered		13:55	G	Water	Y		X				
MW-304A Unfiltered		15:50	G	Water	N			X			
MW-304A Filtered		15:50	G	Water	Y			X			
Field Blank			G	Water	N				X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Paul A. Grover	2-24-21 18:00	SCS		2-24-21 (800)	
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-201196-1

Login Number: 201196

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	

Appendix C2

April 2021 Assessment Monitoring

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-204235-2
Client Project/Site: Lansing Gen Station, 25221070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
5/12/2021 8:20:03 AM

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

Table of Contents

Client: SCS Engineers
Job ID: 310-204235-2
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204235-2

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 10:15 AM. 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 0.6º C, 1.0º C, 1.6º C and 4.3º C.

RAD
Methods 903.0, 9315: radium 226 batch 160-506105 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 (310-204235-1), MW-302 (310-204235-2), MW-303 (310-204235-3), MW-304 (310-204235-4), MW-305 (310-204235-5), (LCS 160-506105/1-A), (LCSD 160-506105/2-A) and (MB 160-506105/23-A)

Methods 903.0, 9315: Radium 226 batch 160-506114 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 (310-204235-6), MW-302A (310-204235-7), MW-304A (310-204235-8), MW-306A (310-204235-9), MW-20 (310-204235-10), MW-6 (310-204235-11), Field Blank (310-204235-12), (LCS 160-506114/1-A), (LCSD 160-506114/2-A) and (MB 160-506114/23-A)

Methods 904.0, 9320: Radium-228 prep batch 160-506111: 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 (310-204235-1), MW-302 (310-204235-2), MW-303 (310-204235-3), MW-304 (310-204235-4), MW-305 (310-204235-5), (LCS 160-506111/1-A), (LCSD 160-506111/2-A) and (MB 160-506111/23-A)

Methods 904.0, 9320: Radium-228 Batch 506115 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 (310-204235-6), MW-302A (310-204235-7), MW-304A (310-204235-8), MW-306A (310-204235-9), MW-20 (310-204235-10), MW-6 (310-204235-11), Field Blank (310-204235-12), (LCS 160-506115/1-A), (LCSD 160-506115/2-A) and (MB 160-506115/23-A)

Method PrecSep_0: Radium 228 Prep batch 160-506111: The following samples were prepared at a reduced aliquot due to Matrix: MW-302 (310-204235-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium 228 Prep Batch 160-506111: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-301 (310-204235-1), MW-303 (310-204235-3), MW-304 (310-204235-4) and MW-305 (310-204235-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium 228 Prep batch 160-506115: The following samples were prepared at a reduced aliquot due to Matrix: MW-304A (310-204235-8). 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 160-506115: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-306 (310-204235-6), MW-302A (310-204235-7), MW-306A (310-204235-9), MW-20 (310-204235-10), MW-6 (310-204235-11) and Field Blank (310-204235-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium 228 Prep batch 160-506111: During the in-growth process, the following samples needed to be filtered due to

Job ID: 310-204235-2 (Continued)

Laboratory: Eurofins TestAmerica, Cedar Falls (Continued)

sediment present in the sample: MW-304 (310-204235-4). This is an indicator of matrix interference.

Method PrecSep_0: Radium 228 Prep Batch 160-506115: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-306 (310-204235-6), MW-302A (310-204235-7) and MW-304A (310-204235-8). This is an indicator of matrix interference.

Method PrecSep-21: Radium 226 Prep batch 160-506105: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-301 (310-204235-1), MW-303 (310-204235-3), MW-304 (310-204235-4) and MW-305 (310-204235-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-506105: The following samples were prepared at a reduced aliquot due to Matrix: MW-302 (310-204235-2). 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 160-506114: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-306 (310-204235-6), MW-302A (310-204235-7), MW-306A (310-204235-9), MW-20 (310-204235-10), MW-6 (310-204235-11) and Field Blank (310-204235-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-506114: The following samples were prepared at a reduced aliquot due to Matrix: MW-304A (310-204235-8). 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 160-506105: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-304 (310-204235-4). This is an indicator of matrix interference.

Method PrecSep-21: Radium 226 Prep Batch 160-506114: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-306 (310-204235-6), MW-302A (310-204235-7) and MW-304A (310-204235-8). 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: Lansing Gen Station, 25221070

Job ID: 310-204235-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204235-1	MW-301	Water	04/08/21 19:55	04/14/21 10:15	
310-204235-2	MW-302	Water	04/09/21 12:25	04/14/21 10:15	
310-204235-3	MW-303	Water	04/08/21 19:00	04/14/21 10:15	
310-204235-4	MW-304	Water	04/09/21 09:30	04/14/21 10:15	
310-204235-5	MW-305	Water	04/09/21 15:30	04/14/21 10:15	
310-204235-6	MW-306	Water	04/09/21 16:30	04/14/21 10:15	
310-204235-7	MW-302A	Water	04/09/21 13:25	04/14/21 10:15	
310-204235-8	MW-304A	Water	04/09/21 10:35	04/14/21 10:15	
310-204235-9	MW-306A	Water	04/09/21 17:15	04/14/21 10:15	
310-204235-10	MW-20	Water	04/08/21 17:30	04/14/21 10:15	
310-204235-11	MW-6	Water	04/07/21 08:15	04/14/21 10:15	
310-204235-12	Field Blank	Water	04/09/21 12:45	04/14/21 10:15	

Detection Summary

Client: SCS Engineers
Job ID: 310-204235-2
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-301 — Lab Sample ID: 310-204235-1

No Detections.

Client Sample ID: MW-302 — Lab Sample ID: 310-204235-2

No Detections.

Client Sample ID: MW-303 — Lab Sample ID: 310-204235-3

No Detections.

Client Sample ID: MW-304 — Lab Sample ID: 310-204235-4

No Detections.

Client Sample ID: MW-305 — Lab Sample ID: 310-204235-5

No Detections.

Client Sample ID: MW-306 — Lab Sample ID: 310-204235-6

No Detections.

Client Sample ID: MW-302A — Lab Sample ID: 310-204235-7

No Detections.

Client Sample ID: MW-304A — Lab Sample ID: 310-204235-8

No Detections.

Client Sample ID: MW-306A — Lab Sample ID: 310-204235-9

No Detections.

Client Sample ID: MW-20 — Lab Sample ID: 310-204235-10

No Detections.

Client Sample ID: MW-6 — Lab Sample ID: 310-204235-11

No Detections.

Client Sample ID: Field Blank — Lab Sample ID: 310-204235-12

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-301
Date Collected: 04/08/21 19:55
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-1
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	0.0913	U	0.0699	0.0704	1.00	0.100	pCi/L	04/19/21 09:13	05/11/21 09:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.8*		*40 - 110*	*04/19/21 09:13*	*05/11/21 09:54*	*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	0.153	U	0.241	0.242	1.00	0.407	pCi/L	04/19/21 09:59	04/30/21 12:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.8*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:25*	*1*
Y Carrier	*87.1*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:25*	*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	0.244	U	0.251	0.252	5.00	0.407	pCi/L		05/11/21 16:42	1

Client Sample ID: MW-302
Date Collected: 04/09/21 12:25
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-2
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	0.747		0.186	0.197	1.00	0.147	pCi/L	04/19/21 09:13	05/11/21 09:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.2*		*40 - 110*	*04/19/21 09:13*	*05/11/21 09:54*	*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	0.819		0.416	0.423	1.00	0.615	pCi/L	04/19/21 09:59	04/30/21 12:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.2*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*1*
Y Carrier	*85.6*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*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	1.57		0.456	0.467	5.00	0.615	pCi/L		05/11/21 16:42	1

Client Sample ID: MW-303
Lab Sample ID: 310-204235-3

Date Collected: 04/08/21 19:00
Matrix: Water

Date Received: 04/14/21 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	**0.125**		0.0762	0.0770	1.00	0.0981	pCi/L	04/19/21 09:13	05/11/21 09:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.4*		*40 - 110*	*04/19/21 09:13*	*05/11/21 09:54*	*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	0.118	U	0.250	0.251	1.00	0.430	pCi/L	04/19/21 09:59	04/30/21 12:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.4*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*1*
Y Carrier	*86.4*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*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	0.243	U	0.261	0.263	5.00	0.430	pCi/L		05/11/21 16:42	1

Client Sample ID: MW-304
Date Collected: 04/09/21 09:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-4
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	0.0825	U	0.0708	0.0712	1.00	0.106	pCi/L	04/19/21 09:13	05/11/21 09:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*40 - 110*	*04/19/21 09:13*	*05/11/21 09:54*	*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	0.415	U	0.340	0.342	1.00	0.543	pCi/L	04/19/21 09:59	04/30/21 12:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*1*
Y Carrier	*83.4*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*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	0.497	U	0.347	0.349	5.00	0.543	pCi/L		05/11/21 16:42	1

Client Sample ID: MW-305
Date Collected: 04/09/21 15:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-5
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	**0.301**		0.108	0.111	1.00	0.107	pCi/L	04/19/21 09:13	05/11/21 09:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.8*		*40 - 110*	*04/19/21 09:13*	*05/11/21 09:54*	*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	0.173	U	0.287	0.287	1.00	0.484	pCi/L	04/19/21 09:59	04/30/21 12:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.8*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*1*
Y Carrier	*87.1*		*40 - 110*	*04/19/21 09:59*	*04/30/21 12:26*	*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	0.307	0.308	5.00	0.484	pCi/L		05/11/21 16:42	1

Client Sample ID: MW-306
Lab Sample ID: 310-204235-6

Date Collected: 04/09/21 16:30
Matrix: Water
Date Received: 04/14/21 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	0.436		0.162	0.167	1.00	0.165	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.4*		*40 - 110*	*04/19/21 11:16*	*05/11/21 09:58*	*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	0.659		0.380	0.385	1.00	0.578	pCi/L	04/19/21 11:53	05/06/21 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.4*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*1*
Y Carrier	*86.4*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*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	1.09		0.413	0.420	5.00	0.578	pCi/L		05/11/21 23:07	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-2

Client Sample ID: MW-302A

Date Collected: 04/09/21 13:25
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-7

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	0.0760	U	0.0875	0.0877	1.00	0.142	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*40 - 110*	*04/19/21 11:16*	*05/11/21 09:58*	*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	**0.638**		0.290	0.296	1.00	0.417	pCi/L	04/19/21 11:53	05/06/21 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*1*
Y Carrier	*88.6*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*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	**0.714**		0.303	0.309	5.00	0.417	pCi/L		05/11/21 23:07	1

Client Sample ID: MW-304A
Lab Sample ID: 310-204235-8

Date Collected: 04/09/21 10:35
Matrix: Water

Date Received: 04/14/21 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	0.0845	U	0.165	0.165	1.00	0.297	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.6*		*40 - 110*	*04/19/21 11:16*	*05/11/21 09:58*	*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	0.384	U	0.567	0.568	1.00	0.952	pCi/L	04/19/21 11:53	05/06/21 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.6*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*1*
Y Carrier	*86.7*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*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	0.468	U	0.591	0.591	5.00	0.952	pCi/L		05/11/21 23:07	1

Client Sample ID: MW-306A
Lab Sample ID: 310-204235-9

Date Collected: 04/09/21 17:15
Matrix: Water
Date Received: 04/14/21 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	0.120	U	0.0981	0.0987	1.00	0.144	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*04/19/21 11:16*	*05/11/21 09:58*	*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	0.288	U	0.269	0.271	1.00	0.434	pCi/L	04/19/21 11:53	05/06/21 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*1*
Y Carrier	*88.2*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:23*	*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	0.408	U	0.286	0.288	5.00	0.434	pCi/L		05/11/21 23:07	1

Client Sample ID: MW-20
Date Collected: 04/08/21 17:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-10
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	**0.237**		0.118	0.120	1.00	0.146	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.2*		*40 - 110*	*04/19/21 11:16*	*05/11/21 09:58*	*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	0.121	U	0.249	0.249	1.00	0.425	pCi/L	04/19/21 11:53	05/06/21 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.2*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:24*	*1*
Y Carrier	*86.7*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:24*	*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	0.358	U	0.276	0.276	5.00	0.425	pCi/L		05/11/21 23:07	1

Client Sample ID: MW-6
Lab Sample ID: 310-204235-11

Date Collected: 04/07/21 08:15
Matrix: Water
Date Received: 04/14/21 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	0.109	U	0.102	0.102	1.00	0.158	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*04/19/21 11:16*	*05/11/21 09:58*	*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	0.249	U	0.263	0.264	1.00	0.430	pCi/L	04/19/21 11:53	05/06/21 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:24*	*1*
Y Carrier	*86.7*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:24*	*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	0.359	U	0.282	0.283	5.00	0.430	pCi/L		05/11/21 23:07	1

Client Sample ID: Field Blank
Lab Sample ID: 310-204235-12

Date Collected: 04/09/21 12:45
Matrix: Water

Date Received: 04/14/21 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	0.0421	U	0.0747	0.0747	1.00	0.133	pCi/L	04/19/21 11:16	05/11/21 09:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.6*		*40 - 110*	*04/19/21 11:16*	*05/11/21 09:58*	*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	-0.0664	U	0.249	0.249	1.00	0.458	pCi/L	04/19/21 11:53	05/06/21 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.6*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:24*	*1*
Y Carrier	*87.9*		*40 - 110*	*04/19/21 11:53*	*05/06/21 14:24*	*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	0.0421	U	0.260	0.260	5.00	0.458	pCi/L		05/11/21 23:07	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-204235-2
Project/Site: Lansing Gen Station, 25221070

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.
¤	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

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-506105/23-A
Matrix: Water
Analysis Batch: 509145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506105

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05985	U	0.0681	0.0683	1.00	0.110	pCi/L	04/19/21 09:13	05/11/21 09:54	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*04/19/21 09:13*	*05/11/21 09:54*	*1*

Lab Sample ID: LCS 160-506105/1-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506105

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.82		1.22	1.00	0.103	pCi/L	104	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.6*		*40 - 110*

Lab Sample ID: LCSD 160-506105/2-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506105

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	11.39		1.19	1.00	0.133	pCi/L	100	75 - 125	0.18	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*82.7*		*40 - 110*

Lab Sample ID: MB 160-506114/23-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506114

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.5137		0.153	0.159	1.00	0.137	pCi/L	04/19/21 11:16	05/11/21 17:27	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.0*		*40 - 110*	*04/19/21 11:16*	*05/11/21 17:27*	*1*

Lab Sample ID: LCS 160-506114/1-A
Matrix: Water
Analysis Batch: 509145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506114

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.48		1.23	1.00	0.141	pCi/L	101	75 - 125		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-506114/1-A
Matrix: Water
Analysis Batch: 509145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506114

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.0		40 - 110

Lab Sample ID: LCSD 160-506114/2-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506114

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	11.13		1.20	1.00	0.137	pCi/L	98	75 - 125	0.14	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	84.8		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-506111/23-A
Matrix: Water
Analysis Batch: 507850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506111

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.009545	U	0.213	0.213	1.00	0.387	pCi/L	04/19/21 09:59	04/30/21 12:26	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110	04/19/21 09:59	04/30/21 12:26	1
Y Carrier	88.2		40 - 110	04/19/21 09:59	04/30/21 12:26	1

Lab Sample ID: LCS 160-506111/1-A
Matrix: Water
Analysis Batch: 507859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506111

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.25	7.551		0.974	1.00	0.498	pCi/L	104	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.6		40 - 110
Y Carrier	83.0		40 - 110

Lab Sample ID: LCSD 160-506111/2-A
Matrix: Water
Analysis Batch: 507859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506111

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			7.25	7.826		0.984	1.00	0.452	pCi/L	108	75 - 125	0.14	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-506111/2-A
Matrix: Water
Analysis Batch: 507859

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506111

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	82.7		40 - 110
Y Carrier	85.2		40 - 110

Lab Sample ID: MB 160-506115/23-A
Matrix: Water
Analysis Batch: 508608

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506115

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1570	U	0.260	0.261	1.00	0.439	pCi/L	04/19/21 11:53	05/06/21 14:35	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110	04/19/21 11:53	05/06/21 14:35	1
Y Carrier	90.8		40 - 110	04/19/21 11:53	05/06/21 14:35	1

Lab Sample ID: LCS 160-506115/1-A
Matrix: Water
Analysis Batch: 508606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506115

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.23	7.498		0.959	1.00	0.480	pCi/L	104	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.0		40 - 110
Y Carrier	90.5		40 - 110

Lab Sample ID: LCSD 160-506115/2-A
Matrix: Water
Analysis Batch: 508606

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506115

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			7.23	7.543		0.952	1.00	0.441	pCi/L	104	75 - 125	0.02	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	84.8		40 - 110
Y Carrier	88.6		40 - 110

Rad

Prep Batch: 506105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	PrecSep-21	
310-204235-2	MW-302	Total/NA	Water	PrecSep-21	
310-204235-3	MW-303	Total/NA	Water	PrecSep-21	
310-204235-4	MW-304	Total/NA	Water	PrecSep-21	
310-204235-5	MW-305	Total/NA	Water	PrecSep-21	
MB 160-506105/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506105/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-506105/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 506111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	PrecSep_0	
310-204235-2	MW-302	Total/NA	Water	PrecSep_0	
310-204235-3	MW-303	Total/NA	Water	PrecSep_0	
310-204235-4	MW-304	Total/NA	Water	PrecSep_0	
310-204235-5	MW-305	Total/NA	Water	PrecSep_0	
MB 160-506111/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506111/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-506111/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 506114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-6	MW-306	Total/NA	Water	PrecSep-21	
310-204235-7	MW-302A	Total/NA	Water	PrecSep-21	
310-204235-8	MW-304A	Total/NA	Water	PrecSep-21	
310-204235-9	MW-306A	Total/NA	Water	PrecSep-21	
310-204235-10	MW-20	Total/NA	Water	PrecSep-21	
310-204235-11	MW-6	Total/NA	Water	PrecSep-21	
310-204235-12	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-506114/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506114/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-506114/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 506115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-6	MW-306	Total/NA	Water	PrecSep_0	
310-204235-7	MW-302A	Total/NA	Water	PrecSep_0	
310-204235-8	MW-304A	Total/NA	Water	PrecSep_0	
310-204235-9	MW-306A	Total/NA	Water	PrecSep_0	
310-204235-10	MW-20	Total/NA	Water	PrecSep_0	
310-204235-11	MW-6	Total/NA	Water	PrecSep_0	
310-204235-12	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-506115/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506115/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-506115/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-2
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-301
Lab Sample ID: 310-204235-1
Date Collected: 04/08/21 19:55
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506105	04/19/21 09:13	RBR	TAL SL
Total/NA	Analysis	903.0		1	509145	05/11/21 09:54	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506111	04/19/21 09:59	RBR	TAL SL
Total/NA	Analysis	904.0		1	507850	04/30/21 12:25	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509273	05/11/21 16:42	SCB	TAL SL

Client Sample ID: MW-302
Lab Sample ID: 310-204235-2
Date Collected: 04/09/21 12:25
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506105	04/19/21 09:13	RBR	TAL SL
Total/NA	Analysis	903.0		1	509145	05/11/21 09:54	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506111	04/19/21 09:59	RBR	TAL SL
Total/NA	Analysis	904.0		1	507850	04/30/21 12:26	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509273	05/11/21 16:42	SCB	TAL SL

Client Sample ID: MW-303
Lab Sample ID: 310-204235-3
Date Collected: 04/08/21 19:00
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506105	04/19/21 09:13	RBR	TAL SL
Total/NA	Analysis	903.0		1	509145	05/11/21 09:54	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506111	04/19/21 09:59	RBR	TAL SL
Total/NA	Analysis	904.0		1	507850	04/30/21 12:26	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509273	05/11/21 16:42	SCB	TAL SL

Client Sample ID: MW-304
Lab Sample ID: 310-204235-4
Date Collected: 04/09/21 09:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506105	04/19/21 09:13	RBR	TAL SL
Total/NA	Analysis	903.0		1	509145	05/11/21 09:54	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506111	04/19/21 09:59	RBR	TAL SL
Total/NA	Analysis	904.0		1	507850	04/30/21 12:26	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509273	05/11/21 16:42	SCB	TAL SL

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-2
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-305
Lab Sample ID: 310-204235-5
Date Collected: 04/09/21 15:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506105	04/19/21 09:13	RBR	TAL SL
Total/NA	Analysis	903.0		1	509145	05/11/21 09:54	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506111	04/19/21 09:59	RBR	TAL SL
Total/NA	Analysis	904.0		1	507850	04/30/21 12:26	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509273	05/11/21 16:42	SCB	TAL SL

Client Sample ID: MW-306
Lab Sample ID: 310-204235-6
Date Collected: 04/09/21 16:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	903.0		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	904.0		1	508606	05/06/21 14:23	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: MW-302A
Lab Sample ID: 310-204235-7
Date Collected: 04/09/21 13:25
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	903.0		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	904.0		1	508606	05/06/21 14:23	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: MW-304A
Lab Sample ID: 310-204235-8
Date Collected: 04/09/21 10:35
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	903.0		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	904.0		1	508606	05/06/21 14:23	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509278	05/11/21 23:07	SCB	TAL SL

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-2
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-306A
Lab Sample ID: 310-204235-9
Date Collected: 04/09/21 17:15
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	903.0		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	904.0		1	508606	05/06/21 14:23	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: MW-20
Lab Sample ID: 310-204235-10
Date Collected: 04/08/21 17:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	903.0		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	904.0		1	508606	05/06/21 14:24	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: MW-6
Lab Sample ID: 310-204235-11
Date Collected: 04/07/21 08:15
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	903.0		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	904.0		1	508606	05/06/21 14:24	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509278	05/11/21 23:07	SCB	TAL SL

Client Sample ID: Field Blank
Lab Sample ID: 310-204235-12
Date Collected: 04/09/21 12:45
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			506114	04/19/21 11:16	RBR	TAL SL
Total/NA	Analysis	903.0		1	509146	05/11/21 09:58	FLC	TAL SL
Total/NA	Prep	PrecSep_0			506115	04/19/21 11:53	RBR	TAL SL
Total/NA	Analysis	904.0		1	508606	05/06/21 14:24	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	509278	05/11/21 23:07	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
Job ID: 310-204235-2
Project/Site: Lansing Gen Station, 25221070

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: Lansing Gen Station, 25221070

Job ID: 310-204235-2

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

eurofins | Environment Testing TestAmerica

310-204235 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY STATE | Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015 | Received By: SCD

Delivery Type: ☐ UPS ☒ FedEx Exp. ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes ☒ No	*If yes:* Cooler # 1 of 4
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: Q | Correction Factor (°C): 0.0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.6 | Corrected Temp (°C): 0.6

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engr.

City/State: CITY STATE Project:

Receipt Information

Date/Time Received: DATE TIME Received By: SLD

Delivery Type: ☐ UPS ☒ FedEx Exp ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # 2 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.0 Corrected Temp (°C): 1.0

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Eng.

City/State: CITY STATE | Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015 | Received By:

Delivery Type: ☐ UPS ☒ FedEx Exp. ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☑ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes ☒ No	*If yes:* Cooler # 3 of 4
Cooler Custody Seals Present?	☑ Yes ☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 | Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.3 | Corrected Temp (°C): 4.3

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Eng.

City/State: CITY STATE Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015 Received By: SLP

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # 4 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.6 Corrected Temp (°C): 1.6

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins Environment Testing America

Client Information			
Client Contact: ~~[illegible]~~ Meg Blodgett	Sampler: Paul A. Grover	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):
Company: SCS Engineers	Phone: 608 216-7362	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:
Address: ~~2450 Hickman Road, Suite 27~~	PWSID:		COC No: 14653 1
City: ~~Clive~~	Due Date Requested:		Page: Page 1 of 2
State, Zip: ~~IA, 50325~~	TAT Requested (days):		
Phone:	Compliance Project: Δ Yes Δ No		
Email: ~~tbuszka@scsengineers.com~~	PO #: 25221070		
	WO #:		
Project Name: Lansing Gen Station, 25221070	Project #: 31011020		
Site:	SSOW#:		

Analysis Requested

Preservation Codes: A - HCl, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A, 7470A	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
MW-301	4-8	19:55	Grab	Water	N		X	X	X	X		
MW-302	4-9	12:25	↓	Water	↓		↓	↓	↓	↓		
MW-303	4-8	19:00		Water								
MW-304	4-9	9:30		Water								
MW-305	4-9	15:36		Water								
MW-306	4-9	16:30		Water								
MW-302A	4-9	13:25		Water								
MW-304A	4-9	10:35		Water								
MW-306A	4-9	17:15		Water								
MW-20	4-8	17:30		Water								
MW-6	4-7-21	18:15	↓	Water	↓		↓	↓	↓	↓		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: Paul A. Grover	Date/Time: 4-10-21 14:00	Company: SCS	Received by: [signature]	Date/Time: 4-14-21 1015	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

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

Ver: 11/01/2020

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-69475-14653.2
Client Contact: Tanten Buszka	Phone	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: SCS Engineers	PWSID:	Analysis Requested		Job #:
Address: 8450 Hickman Road Suite 27	Due Date Requested:			Preservation Codes:
City: Clive	TAT Requested (days):			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify); Other:
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: tbuszka@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, 25221070	Project #: 31011020			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A, 7470A	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
Field Blank	4-9-21	12:45	Grab	Water	N		X	X	X	X		
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Paul A. Groom	4-10-21 14:00	SCS		4-14-21 1015	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver: 11/01/2020

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-20	MW-6	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
		Well Depth	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
		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 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	12
		Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	12
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	12
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	12
		Potassium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Sodium	X	X	X	X	X	X	X	X	X	X	X	X	12
	Dissolved (Filtered)	Arsenic		X				X							2
		Iron	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
		Molybdenum								X					1
	Field Parameters	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	X		11

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-204235-2

Login Number: 204235
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-204235-2

Login Number: 204235
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis
List Creation: 04/15/21 01:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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	

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-2

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)
310-204235-1	MW-301	84.8
310-204235-2	MW-302	81.2
310-204235-3	MW-303	82.4
310-204235-4	MW-304	81.8
310-204235-5	MW-305	78.8
310-204235-6	MW-306	69.4
310-204235-7	MW-302A	85.8
310-204235-8	MW-304A	77.6
310-204235-9	MW-306A	82.1
310-204235-10	MW-20	88.2
310-204235-11	MW-6	88.5
310-204235-12	Field Blank	80.6
LCS 160-506105/1-A	Lab Control Sample	80.6
LCS 160-506114/1-A	Lab Control Sample	80.0
LCSD 160-506105/2-A	Lab Control Sample Dup	82.7
LCSD 160-506114/2-A	Lab Control Sample Dup	84.8
MB 160-506105/23-A	Method Blank	85.5
MB 160-506114/23-A	Method Blank	87.0

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)
310-204235-1	MW-301	84.8	87.1
310-204235-2	MW-302	81.2	85.6
310-204235-3	MW-303	82.4	86.4
310-204235-4	MW-304	81.8	83.4
310-204235-5	MW-305	78.8	87.1
310-204235-6	MW-306	69.4	86.4
310-204235-7	MW-302A	85.8	88.6
310-204235-8	MW-304A	77.6	86.7
310-204235-9	MW-306A	82.1	88.2
310-204235-10	MW-20	88.2	86.7
310-204235-11	MW-6	88.5	86.7
310-204235-12	Field Blank	80.6	87.9
LCS 160-506111/1-A	Lab Control Sample	80.6	83.0
LCS 160-506115/1-A	Lab Control Sample	80.0	90.5
LCSD 160-506111/2-A	Lab Control Sample Dup	82.7	85.2
LCSD 160-506115/2-A	Lab Control Sample Dup	84.8	88.6
MB 160-506111/23-A	Method Blank	85.5	88.2
MB 160-506115/23-A	Method Blank	87.0	90.8

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-204235-1
Client Project/Site: Lansing Gen Station, 25221070
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
5/13/2021 8:28:17 AM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Job ID: 310-204235-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204235-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 4/28/2021. The report (revision 1) is being revised due to: Updated field data for pH on sample MW-301.

Receipt
The samples were received on 4/14/2021 10:15 AM. 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 0.6º C, 1.0º C, 1.6º C and 4.3º C.

HPLC/IC
Methods 300.0, 9056A: The following samples were diluted due to the nature of the sample matrix: MW-302 (310-204235-2), MW-305 (310-204235-5), MW-306 (310-204235-6), MW-302A (310-204235-7) and MW-306A (310-204235-9). 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
Job ID: 310-204235-1
Project/Site: Lansing Gen Station, 25221070

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204235-1	MW-301	Water	04/08/21 19:55	04/14/21 10:15	
310-204235-2	MW-302	Water	04/09/21 12:25	04/14/21 10:15	
310-204235-3	MW-303	Water	04/08/21 19:00	04/14/21 10:15	
310-204235-4	MW-304	Water	04/09/21 09:30	04/14/21 10:15	
310-204235-5	MW-305	Water	04/09/21 15:30	04/14/21 10:15	
310-204235-6	MW-306	Water	04/09/21 16:30	04/14/21 10:15	
310-204235-7	MW-302A	Water	04/09/21 13:25	04/14/21 10:15	
310-204235-8	MW-304A	Water	04/09/21 10:35	04/14/21 10:15	
310-204235-9	MW-306A	Water	04/09/21 17:15	04/14/21 10:15	
310-204235-10	MW-20	Water	04/08/21 17:30	04/14/21 10:15	
310-204235-11	MW-6	Water	04/07/21 08:15	04/14/21 10:15	
310-204235-12	Field Blank	Water	04/09/21 12:45	04/14/21 10:15	

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-301 — Lab Sample ID: 310-204235-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.38	J F1	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	27	F1	5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	5.0		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	140	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	160		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.060	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	58		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.11	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	7.1	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	6.8		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	240		30	26	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	624.02				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-10.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.27				mg/L	1		Field Sampling	Total/NA
pH, Field	8.04				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	461				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.50				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-204235-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.31	J	0.50	0.28	mg/L	5		9056A	Total/NA
Arsenic	33		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	630	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	460		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.060	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.0		0.50	0.091	ug/L	1		6020A	Total/NA
Molybdenum	1.7	J	2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	1.2	J	5.0	0.96	ug/L	1		6020A	Total/NA
Thallium	2.5	B	1.0	0.26	ug/L	1		6020A	Total/NA
Total Dissolved Solids	470		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	627.87				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-171.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.03				mg/L	1		Field Sampling	Total/NA
pH, Field	7.08				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1043				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	7.50				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.15				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303 — Lab Sample ID: 310-204235-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.52		0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	25		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	1.5	J	2.0	0.75	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-303 (Continued) — Lab Sample ID: 310-204235-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	170	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	120		100	58	ug/L	1		6020A	Total/NA
Calcium	47		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	3.5	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	4.8		2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	1.1	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	210		30	26	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	638.07				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	78.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	2.03				mg/L	1		Field Sampling	Total/NA
pH, Field	8.00				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	425				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	3.70				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304 — Lab Sample ID: 310-204235-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.5		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	15		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	43	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	64	J	100	58	ug/L	1		6020A	Total/NA
Calcium	69		0.50	0.19	mg/L	1		6020A	Total/NA
Total Dissolved Solids	290		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	621.46				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	160.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	8.69				mg/L	1		Field Sampling	Total/NA
pH, Field	7.27				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	520				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.80				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305 — Lab Sample ID: 310-204235-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.8	J	5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	29		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	150	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	140		100	58	ug/L	1		6020A	Total/NA
Calcium	79		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.29	J	0.50	0.091	ug/L	1		6020A	Total/NA
Selenium	1.4	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	300		30	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	627.02				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-25.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	2.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	574				umhos/cm	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-305 (Continued) — Lab Sample ID: 310-204235-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Temperature, Field	7.10				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	14.88				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 310-204235-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	33		10	4.3	mg/L	10		9056A	Total/NA
Sulfate	240		10	4.9	mg/L	10		9056A	Total/NA
Arsenic	8.0		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	280	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	650		100	58	ug/L	1		6020A	Total/NA
Calcium	290		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	1.3	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	0.35	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	24		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	1300		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	620.03				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-134.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.05				mg/L	1		Field Sampling	Total/NA
pH, Field	6.85				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1994				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.60				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.09				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302A — Lab Sample ID: 310-204235-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.7		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	45		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	51	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	170		100	58	ug/L	1		6020A	Total/NA
Calcium	75		0.50	0.19	mg/L	1		6020A	Total/NA
Selenium	1.2	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	330		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	623.12				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	104.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	7.88				mg/L	1		Field Sampling	Total/NA
pH, Field	7.25				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	597				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.10				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.86				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A — Lab Sample ID: 310-204235-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.53		0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	77		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.78	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	36	B	2.0	0.30	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-304A (Continued)

Lab Sample ID: 310-204235-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1400		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.096	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	43		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	1.6	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	0.88		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	1.1		0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	110		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	300		30	26	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	624.31				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	151.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.41				mg/L	1		Field Sampling	Total/NA
pH, Field	7.78				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	533				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.10				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	165.20				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A

Lab Sample ID: 310-204235-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.2		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	39		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	62	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	280		100	58	ug/L	1		6020A	Total/NA
Calcium	78		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.17	J	0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	350		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	620.14				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-8.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.68				mg/L	1		Field Sampling	Total/NA
pH, Field	7.21				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	669				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.20				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.01				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-20

Lab Sample ID: 310-204235-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.2		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.47	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	480		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	3.0		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	89	B	2.0	0.30	ug/L	1		6020A	Total/NA
Boron	2200		100	58	ug/L	1		6020A	Total/NA
Calcium	190		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.3		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	3.1	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	24		2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	1.1	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	1000		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

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-20 (Continued) — Lab Sample ID: 310-204235-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ground Water Elevation	650.79				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-44.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.67				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1310				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.70				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.43				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 310-204235-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.0		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.34	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	23		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	49	B	2.0	0.30	ug/L	1		6020A	Total/NA
Calcium	71		0.50	0.19	mg/L	1		6020A	Total/NA
Total Dissolved Solids	290		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	671.08				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	186.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	9.06				mg/L	1		Field Sampling	Total/NA
pH, Field	7.39				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	599				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.0				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: 310-204235-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-301

Date Collected: 04/08/21 19:55
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-1

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		5.0	2.2	mg/L			04/19/21 09:19	5
Fluoride	0.38	J F1	0.50	0.28	mg/L			04/19/21 09:19	5
Sulfate	27	F1	5.0	2.5	mg/L			04/19/21 09:19	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		04/16/21 08:45	04/20/21 20:07	1
Arsenic	5.0		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:07	1
Barium	140	B	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:07	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:07	1
Boron	160		100	58	ug/L		04/16/21 08:45	04/20/21 20:07	1
Cadmium	0.060	J	0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:07	1
Calcium	58		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:07	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:07	1
Cobalt	0.11	J	0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:07	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:07	1
Lithium	7.1	J	10	2.5	ug/L		04/16/21 08:45	04/20/21 20:07	1
Molybdenum	6.8		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:07	1
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:07	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/21/21 14:30	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		04/20/21 14:15	04/21/21 13:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	240		30	26	mg/L			04/14/21 14:16	1
pH	8.0	HF	0.1	0.1	SU			04/14/21 15:08	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	624.02				ft			04/08/21 19:55	1
Oxidation Reduction Potential	-10.1				millivolts			04/08/21 19:55	1
Oxygen, Dissolved, Client Supplied	0.27				mg/L			04/08/21 19:55	1
pH, Field	8.04				SU			04/08/21 19:55	1
Specific Conductance, Field	461				umhos/cm			04/08/21 19:55	1
Temperature, Field	11.50				Degrees C			04/08/21 19:55	1
Turbidity, Field	0.00				NTU			04/08/21 19:55	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-302

Date Collected: 04/09/21 12:25
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-2

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		5.0	2.2	mg/L			04/19/21 10:45	5
Fluoride	0.31	J	0.50	0.28	mg/L			04/19/21 10:45	5
Sulfate	<2.5		5.0	2.5	mg/L			04/19/21 10:45	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		04/16/21 08:45	04/20/21 20:28	1
Arsenic	33		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:28	1
Barium	630	B	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:28	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:28	1
Boron	460		100	58	ug/L		04/16/21 08:45	04/20/21 20:28	1
Cadmium	0.060	J	0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:28	1
Calcium	120		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:28	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:28	1
Cobalt	1.0		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:28	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:28	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:28	1
Molybdenum	1.7	J	2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:28	1
Selenium	1.2	J	5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:28	1
Thallium	2.5	B	1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:28	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		04/20/21 14:15	04/21/21 13:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	470		30	26	mg/L			04/14/21 14:16	1
pH	7.0	HF	0.1	0.1	SU			04/14/21 15:06	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	627.87				ft			04/09/21 12:25	1
Oxidation Reduction Potential	-171.2				millivolts			04/09/21 12:25	1
Oxygen, Dissolved, Client Supplied	0.03				mg/L			04/09/21 12:25	1
pH, Field	7.08				SU			04/09/21 12:25	1
Specific Conductance, Field	1043				umhos/cm			04/09/21 12:25	1
Temperature, Field	7.50				Degrees C			04/09/21 12:25	1
Turbidity, Field	3.15				NTU			04/09/21 12:25	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-303

Date Collected: 04/08/21 19:00
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-3

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21**		5.0	2.2	mg/L			04/19/21 11:13	5
Fluoride	**0.52**		0.50	0.28	mg/L			04/19/21 11:13	5
Sulfate	**25**		5.0	2.5	mg/L			04/19/21 11:13	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		04/16/21 08:45	04/20/21 20:31	1
Arsenic	**1.5**	**J**	2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:31	1
Barium	**170**	**B**	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:31	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:31	1
Boron	**120**		100	58	ug/L		04/16/21 08:45	04/20/21 20:31	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:31	1
Calcium	**47**		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:31	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:31	1
Cobalt	<0.091		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:31	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:31	1
Lithium	**3.5**	**J**	10	2.5	ug/L		04/16/21 08:45	04/20/21 20:31	1
Molybdenum	**4.8**		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:31	1
Selenium	**1.1**	**J**	5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:31	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:31	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		04/20/21 14:15	04/21/21 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**210**		30	26	mg/L			04/14/21 14:16	1
pH	**8.0**	**HF**	0.1	0.1	SU			04/14/21 15:04	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**638.07**				ft			04/08/21 19:00	1
Oxidation Reduction Potential	**78.4**				millivolts			04/08/21 19:00	1
Oxygen, Dissolved, Client Supplied	**2.03**				mg/L			04/08/21 19:00	1
pH, Field	**8.00**				SU			04/08/21 19:00	1
Specific Conductance, Field	**425**				umhos/cm			04/08/21 19:00	1
Temperature, Field	**3.70**				Degrees C			04/08/21 19:00	1
Turbidity, Field	**0.00**				NTU			04/08/21 19:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-304

Date Collected: 04/09/21 09:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-4

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.5**		5.0	2.2	mg/L			04/19/21 11:42	5
Fluoride	<0.28		0.50	0.28	mg/L			04/19/21 11:42	5
Sulfate	**15**		5.0	2.5	mg/L			04/19/21 11:42	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		04/16/21 08:45	04/20/21 20:34	1
Arsenic	<0.75		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:34	1
Barium	**43**	**B**	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:34	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:34	1
Boron	**64**	**J**	100	58	ug/L		04/16/21 08:45	04/20/21 20:34	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:34	1
Calcium	**69**		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:34	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:34	1
Cobalt	<0.091		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:34	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:34	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:34	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:34	1
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:34	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:34	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		04/20/21 14:15	04/21/21 13:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**290**		30	26	mg/L			04/14/21 14:16	1
pH	**7.4**	**HF**	0.1	0.1	SU			04/14/21 15:02	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**621.46**				ft			04/09/21 09:30	1
Oxidation Reduction Potential	**160.3**				millivolts			04/09/21 09:30	1
Oxygen, Dissolved, Client Supplied	**8.69**				mg/L			04/09/21 09:30	1
pH, Field	**7.27**				SU			04/09/21 09:30	1
Specific Conductance, Field	**520**				umhos/cm			04/09/21 09:30	1
Temperature, Field	**8.80**				Degrees C			04/09/21 09:30	1
Turbidity, Field	**0.00**				NTU			04/09/21 09:30	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-305

Date Collected: 04/09/21 15:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-5

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.8**	**J**	5.0	2.2	mg/L			04/19/21 12:10	5
Fluoride	<0.28		0.50	0.28	mg/L			04/19/21 12:10	5
Sulfate	**29**		5.0	2.5	mg/L			04/19/21 12:10	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		04/16/21 08:45	04/20/21 20:36	1
Arsenic	**1.7**	**J**	2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:36	1
Barium	**150**	**B**	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:36	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:36	1
Boron	**140**		100	58	ug/L		04/16/21 08:45	04/20/21 20:36	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:36	1
Calcium	**79**		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:36	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:36	1
Cobalt	**0.29**	**J**	0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:36	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:36	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:36	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:36	1
Selenium	**1.4**	**J**	5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:36	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:36	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		04/20/21 14:15	04/21/21 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**300**		30	26	mg/L			04/14/21 14:16	1
pH	**7.3**	**HF**	0.1	0.1	SU			04/14/21 14:56	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**627.02**				ft			04/09/21 15:30	1
Oxidation Reduction Potential	**-25.8**				millivolts			04/09/21 15:30	1
Oxygen, Dissolved, Client Supplied	**2.10**				mg/L			04/09/21 15:30	1
pH, Field	**7.17**				SU			04/09/21 15:30	1
Specific Conductance, Field	**574**				umhos/cm			04/09/21 15:30	1
Temperature, Field	**7.10**				Degrees C			04/09/21 15:30	1
Turbidity, Field	**14.88**				NTU			04/09/21 15:30	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-306

Date Collected: 04/09/21 16:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-6

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33**		10	4.3	mg/L			04/19/21 12:38	10
Fluoride	<0.28		0.50	0.28	mg/L			04/20/21 00:58	5
Sulfate	**240**		10	4.9	mg/L			04/19/21 12:38	10

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		04/16/21 08:45	04/20/21 20:39	1
Arsenic	**8.0**		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:39	1
Barium	**280**	**B**	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:39	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:39	1
Boron	**650**		100	58	ug/L		04/16/21 08:45	04/20/21 20:39	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:39	1
Calcium	**290**		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:39	1
Chromium	**1.3**	**J**	5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:39	1
Cobalt	**0.35**	**J**	0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:39	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:39	1
Lithium	**24**		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:39	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:39	1
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:39	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:39	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		04/20/21 14:15	04/21/21 13:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1300**		30	26	mg/L			04/14/21 14:16	1
pH	**7.2**	**HF**	0.1	0.1	SU			04/14/21 15:00	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**620.03**				ft			04/09/21 16:30	1
Oxidation Reduction Potential	**-134.2**				millivolts			04/09/21 16:30	1
Oxygen, Dissolved, Client Supplied	**0.05**				mg/L			04/09/21 16:30	1
pH, Field	**6.85**				SU			04/09/21 16:30	1
Specific Conductance, Field	**1994**				umhos/cm			04/09/21 16:30	1
Temperature, Field	**12.60**				Degrees C			04/09/21 16:30	1
Turbidity, Field	**0.09**				NTU			04/09/21 16:30	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-302A

Date Collected: 04/09/21 13:25
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-7

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.7**		5.0	2.2	mg/L			04/19/21 14:04	5
Fluoride	<0.28		0.50	0.28	mg/L			04/19/21 14:04	5
Sulfate	**45**		5.0	2.5	mg/L			04/19/21 14:04	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		04/16/21 08:45	04/20/21 20:42	1
Arsenic	<0.75		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:42	1
Barium	**51**	**B**	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:42	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:42	1
Boron	**170**		100	58	ug/L		04/16/21 08:45	04/20/21 20:42	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:42	1
Calcium	**75**		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:42	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:42	1
Cobalt	<0.091		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:42	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:42	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:42	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:42	1
Selenium	**1.2**	**J**	5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:42	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:42	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		04/20/21 14:15	04/21/21 13:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**330**		30	26	mg/L			04/14/21 14:16	1
pH	**7.4**	**HF**	0.1	0.1	SU			04/14/21 15:25	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**623.12**				ft			04/09/21 13:25	1
Oxidation Reduction Potential	**104.7**				millivolts			04/09/21 13:25	1
Oxygen, Dissolved, Client Supplied	**7.88**				mg/L			04/09/21 13:25	1
pH, Field	**7.25**				SU			04/09/21 13:25	1
Specific Conductance, Field	**597**				umhos/cm			04/09/21 13:25	1
Temperature, Field	**11.10**				Degrees C			04/09/21 13:25	1
Turbidity, Field	**0.86**				NTU			04/09/21 13:25	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-304A

Date Collected: 04/09/21 10:35
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-8

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	2.2	mg/L			04/19/21 15:01	5
Fluoride	0.53		0.50	0.28	mg/L			04/19/21 15:01	5
Sulfate	77		5.0	2.5	mg/L			04/19/21 15:01	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		04/16/21 08:45	04/20/21 20:44	1
Arsenic	0.78	J	2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:44	1
Barium	36	B	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:44	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:44	1
Boron	1400		100	58	ug/L		04/16/21 08:45	04/20/21 20:44	1
Cadmium	0.096	J	0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:44	1
Calcium	43		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:44	1
Chromium	1.6	J	5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:44	1
Cobalt	0.88		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:44	1
Lead	1.1		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:44	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:44	1
Molybdenum	110		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:44	1
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:44	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:44	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		04/20/21 14:15	04/21/21 13:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		30	26	mg/L			04/14/21 14:16	1
pH	8.0	HF	0.1	0.1	SU			04/14/21 15:10	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	624.31				ft			04/09/21 10:35	1
Oxidation Reduction Potential	151.6				millivolts			04/09/21 10:35	1
Oxygen, Dissolved, Client Supplied	0.41				mg/L			04/09/21 10:35	1
pH, Field	7.78				SU			04/09/21 10:35	1
Specific Conductance, Field	533				umhos/cm			04/09/21 10:35	1
Temperature, Field	10.10				Degrees C			04/09/21 10:35	1
Turbidity, Field	165.20				NTU			04/09/21 10:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-306A

Date Collected: 04/09/21 17:15
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-9

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.2**		5.0	2.2	mg/L			04/19/21 15:29	5
Fluoride	<0.28		0.50	0.28	mg/L			04/19/21 15:29	5
Sulfate	**39**		5.0	2.5	mg/L			04/19/21 15:29	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		04/16/21 08:45	04/20/21 20:47	1
Arsenic	<0.75		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:47	1
Barium	**62**	**B**	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:47	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:47	1
Boron	**280**		100	58	ug/L		04/16/21 08:45	04/20/21 20:47	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:47	1
Calcium	**78**		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:47	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:47	1
Cobalt	**0.17**	**J**	0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:47	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:47	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:47	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:47	1
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:47	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:47	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		04/20/21 14:15	04/21/21 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**350**		30	26	mg/L			04/14/21 14:16	1
pH	**7.4**	**HF**	0.1	0.1	SU			04/14/21 15:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**620.14**				ft			04/09/21 17:15	1
Oxidation Reduction Potential	**-8.5**				millivolts			04/09/21 17:15	1
Oxygen, Dissolved, Client Supplied	**1.68**				mg/L			04/09/21 17:15	1
pH, Field	**7.21**				SU			04/09/21 17:15	1
Specific Conductance, Field	**669**				umhos/cm			04/09/21 17:15	1
Temperature, Field	**14.20**				Degrees C			04/09/21 17:15	1
Turbidity, Field	**0.01**				NTU			04/09/21 17:15	1

Client Sample ID: MW-20

Date Collected: 04/08/21 17:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-10

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.2		5.0	2.2	mg/L			04/19/21 16:26	5
Fluoride	0.47	J	0.50	0.28	mg/L			04/19/21 16:26	5
Sulfate	480		5.0	2.5	mg/L			04/19/21 16:26	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		04/16/21 08:45	04/20/21 20:50	1
Arsenic	3.0		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:50	1
Barium	89	B	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:50	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:50	1
Boron	2200		100	58	ug/L		04/16/21 08:45	04/20/21 20:50	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:50	1
Calcium	190		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:50	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:50	1
Cobalt	1.3		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:50	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:50	1
Lithium	3.1	J	10	2.5	ug/L		04/16/21 08:45	04/20/21 20:50	1
Molybdenum	24		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:50	1
Selenium	1.1	J	5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:50	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 20:50	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		04/20/21 14:15	04/21/21 13:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		30	26	mg/L			04/14/21 14:16	1
pH	7.8	HF	0.1	0.1	SU			04/14/21 15:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	650.79				ft			04/08/21 17:30	1
Oxidation Reduction Potential	-44.3				millivolts			04/08/21 17:30	1
Oxygen, Dissolved, Client Supplied	0.10				mg/L			04/08/21 17:30	1
pH, Field	7.67				SU			04/08/21 17:30	1
Specific Conductance, Field	1310				umhos/cm			04/08/21 17:30	1
Temperature, Field	8.70				Degrees C			04/08/21 17:30	1
Turbidity, Field	0.43				NTU			04/08/21 17:30	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: MW-6

Date Collected: 04/07/21 08:15
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-11

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.0**		5.0	2.2	mg/L			04/19/21 16:55	5
Fluoride	**0.34**	**J**	0.50	0.28	mg/L			04/19/21 16:55	5
Sulfate	**23**		5.0	2.5	mg/L			04/19/21 16:55	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		04/16/21 08:45	04/20/21 21:03	1
Arsenic	<0.75		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 21:03	1
Barium	**49**	**B**	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 21:03	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 21:03	1
Boron	<58		100	58	ug/L		04/16/21 08:45	04/20/21 21:03	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 21:03	1
Calcium	**71**		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 21:03	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 21:03	1
Cobalt	<0.091		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 21:03	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 21:03	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 21:03	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 21:03	1
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 21:03	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 21:03	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		04/20/21 14:15	04/21/21 13:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**290**		30	26	mg/L			04/14/21 14:16	1
pH	**7.5**	**HF**	0.1	0.1	SU			04/14/21 15:31	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**671.08**				ft			04/07/21 08:15	1
Oxidation Reduction Potential	**186.2**				millivolts			04/07/21 08:15	1
Oxygen, Dissolved, Client Supplied	**9.06**				mg/L			04/07/21 08:15	1
pH, Field	**7.39**				SU			04/07/21 08:15	1
Specific Conductance, Field	**599**				umhos/cm			04/07/21 08:15	1
Temperature, Field	**10.0**				Degrees C			04/07/21 08:15	1
Turbidity, Field	**0.00**				NTU			04/07/21 08:15	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Client Sample ID: Field Blank

Date Collected: 04/09/21 12:45
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-12

Matrix: Water

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			04/19/21 17:23	1
Fluoride	<0.055		0.10	0.055	mg/L			04/19/21 17:23	1
Sulfate	<0.49		1.0	0.49	mg/L			04/19/21 17:23	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		04/16/21 08:45	04/20/21 21:08	1
Arsenic	<0.75		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 21:08	1
Barium	<0.30		2.0	0.30	ug/L		04/16/21 08:45	04/20/21 21:08	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 21:08	1
Boron	<58		100	58	ug/L		04/16/21 08:45	04/20/21 21:08	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 21:08	1
Calcium	<0.19		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 21:08	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 21:08	1
Cobalt	<0.091		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 21:08	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 21:08	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 21:08	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 21:08	1
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 21:08	1
Thallium	<0.26		1.0	0.26	ug/L		04/16/21 08:45	04/20/21 21:08	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		04/20/21 14:15	04/21/21 14:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			04/15/21 13:32	1
pH	**5.9**	**HF**	0.1	0.1	SU			04/14/21 15:12	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-313978/3
Matrix: Water
Analysis Batch: 313978

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			04/19/21 08:22	1
Fluoride	<0.055		0.10	0.055	mg/L			04/19/21 08:22	1
Sulfate	<0.49		1.0	0.49	mg/L			04/19/21 08:22	1

Lab Sample ID: LCS 310-313978/4
Matrix: Water
Analysis Batch: 313978

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	8.98		mg/L		90	90 - 110
Fluoride	2.00	1.93		mg/L		96	90 - 110
Sulfate	10.0	9.54		mg/L		95	90 - 110

Lab Sample ID: 310-204235-1 MS
Matrix: Water
Analysis Batch: 313978

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	18		25.0	38.2		mg/L		80	80 - 120
Fluoride	0.38	J F1	5.00	5.07		mg/L		94	80 - 120
Sulfate	27	F1	25.0	49.6		mg/L		91	80 - 120

Lab Sample ID: 310-204235-1 MSD
Matrix: Water
Analysis Batch: 313978

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
Chloride	18		25.0	38.7		mg/L		82	80 - 120	1	15
Fluoride	0.38	J F1	5.00	5.25		mg/L		97	80 - 120	3	15
Sulfate	27	F1	25.0	50.1		mg/L		92	80 - 120	1	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-312812/1-A
Matrix: Water
Analysis Batch: 313453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:02	1
Arsenic	<0.75		2.0	0.75	ug/L		04/16/21 08:45	04/20/21 20:02	1
Barium	0.636	J	2.0	0.30	ug/L		04/16/21 08:45	04/20/21 20:02	1
Beryllium	<0.27		1.0	0.27	ug/L		04/16/21 08:45	04/20/21 20:02	1
Boron	<58		100	58	ug/L		04/16/21 08:45	04/20/21 20:02	1
Cadmium	<0.051		0.10	0.051	ug/L		04/16/21 08:45	04/20/21 20:02	1
Calcium	<0.19		0.50	0.19	mg/L		04/16/21 08:45	04/20/21 20:02	1
Chromium	<1.1		5.0	1.1	ug/L		04/16/21 08:45	04/20/21 20:02	1
Cobalt	<0.091		0.50	0.091	ug/L		04/16/21 08:45	04/20/21 20:02	1
Lead	<0.21		0.50	0.21	ug/L		04/16/21 08:45	04/20/21 20:02	1
Lithium	<2.5		10	2.5	ug/L		04/16/21 08:45	04/20/21 20:02	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/16/21 08:45	04/20/21 20:02	1

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

Lab Sample ID: MB 310-312812/1-A
Matrix: Water
Analysis Batch: 313453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.96		5.0	0.96	ug/L		04/16/21 08:45	04/20/21 20:02	1

Lab Sample ID: MB 310-312812/1-A
Matrix: Water
Analysis Batch: 313497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.677	J	1.0	0.26	ug/L		04/16/21 08:45	04/21/21 14:27	1

Lab Sample ID: LCS 310-312812/2-A
Matrix: Water
Analysis Batch: 313453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	195		ug/L		97	80 - 120
Arsenic	200	198		ug/L		99	80 - 120
Barium	100	105		ug/L		105	80 - 120
Beryllium	100	89.9		ug/L		90	80 - 120
Boron	200	207		ug/L		103	80 - 120
Cadmium	100	99.0		ug/L		99	80 - 120
Calcium	2.00	1.66		mg/L		83	80 - 120
Chromium	100	97.3		ug/L		97	80 - 120
Cobalt	100	97.5		ug/L		97	80 - 120
Lead	200	194		ug/L		97	80 - 120
Lithium	200	175		ug/L		88	80 - 120
Molybdenum	200	192		ug/L		96	80 - 120
Selenium	400	398		ug/L		99	80 - 120

Lab Sample ID: LCS 310-312812/2-A
Matrix: Water
Analysis Batch: 313497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	200	204		ug/L		102	80 - 120

Lab Sample ID: 310-204235-1 MS
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<1.1		200	200		ug/L		100	75 - 125
Arsenic	5.0		200	208		ug/L		101	75 - 125
Barium	140	B	100	240		ug/L		104	75 - 125
Beryllium	<0.27		100	92.6		ug/L		93	75 - 125
Boron	160		200	332		ug/L		88	75 - 125
Cadmium	0.060	J	100	100		ug/L		100	75 - 125
Calcium	58		2.00	58.9	4	mg/L		40	75 - 125
Chromium	<1.1		100	97.4		ug/L		97	75 - 125
Cobalt	0.11	J	100	98.6		ug/L		99	75 - 125
Lead	<0.21		200	199		ug/L		100	75 - 125

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

Lab Sample ID: 310-204235-1 MS
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium	7.1	J	200	185		ug/L		89	75 - 125		
Molybdenum	6.8		200	204		ug/L		99	75 - 125		
Selenium	<0.96		400	404		ug/L		101	75 - 125		

Lab Sample ID: 310-204235-1 MS
Matrix: Water
Analysis Batch: 313497

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Thallium	<0.26		200	201		ug/L		101	75 - 125		

Lab Sample ID: 310-204235-1 MSD
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<1.1		200	202		ug/L		101	75 - 125	1	20
Arsenic	5.0		200	209		ug/L		102	75 - 125	1	20
Barium	140	B	100	239		ug/L		103	75 - 125	0	20
Beryllium	<0.27		100	94.9		ug/L		95	75 - 125	2	20
Boron	160		200	335		ug/L		89	75 - 125	1	20
Cadmium	0.060	J	100	101		ug/L		101	75 - 125	1	20
Calcium	58		2.00	57.7	4	mg/L		-18	75 - 125	2	20
Chromium	<1.1		100	98.4		ug/L		98	75 - 125	1	20
Cobalt	0.11	J	100	98.9		ug/L		99	75 - 125	0	20
Lead	<0.21		200	197		ug/L		99	75 - 125	1	20
Lithium	7.1	J	200	188		ug/L		90	75 - 125	2	20
Molybdenum	6.8		200	206		ug/L		99	75 - 125	1	20
Selenium	<0.96		400	404		ug/L		101	75 - 125	0	20
Thallium	2.4	^-	200	180		ug/L		89	75 - 125	1	20

Lab Sample ID: 310-204235-11 DU
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-6
Prep Type: Total/NA
Prep Batch: 312812

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	49	B		48.5		ug/L				0.5	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	71			70.6		mg/L				1	20
Chromium	<1.1			<1.1		ug/L				NC	20
Cobalt	<0.091			<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	<1.3			<1.3		ug/L				NC	20
Selenium	<0.96			<0.96		ug/L				NC	20

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

Lab Sample ID: 310-204235-11 DU
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-6
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Thallium	<0.26		<0.26		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-313367/1-A
Matrix: Water
Analysis Batch: 313498

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313367

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		04/20/21 14:15	04/21/21 13:15	1

Lab Sample ID: LCS 310-313367/2-A
Matrix: Water
Analysis Batch: 313498

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313367

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.81		ug/L		108	80 - 120

Lab Sample ID: 310-204235-1 MS
Matrix: Water
Analysis Batch: 313498

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 313367

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.15		1.67	1.89		ug/L		113	80 - 120

Lab Sample ID: 310-204235-1 MSD
Matrix: Water
Analysis Batch: 313498

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 313367

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.15		1.67	1.81		ug/L		109	80 - 120	4	20

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

Lab Sample ID: MB 310-312719/1
Matrix: Water
Analysis Batch: 312719

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			04/14/21 14:16	1

Lab Sample ID: LCS 310-312719/2
Matrix: Water
Analysis Batch: 312719

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	970		mg/L		97	90 - 110

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

Lab Sample ID: MB 310-312885/1
Matrix: Water
Analysis Batch: 312885

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			04/15/21 13:32	1

Lab Sample ID: LCS 310-312885/2
Matrix: Water
Analysis Batch: 312885

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	974		mg/L		97	90 - 110		

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-312721/1
Matrix: Water
Analysis Batch: 312721

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: 310-204235-5 DU
Matrix: Water
Analysis Batch: 312721

Client Sample ID: MW-305
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	20

HPLC/IC

Analysis Batch: 313978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	9056A	
310-204235-2	MW-302	Total/NA	Water	9056A	
310-204235-3	MW-303	Total/NA	Water	9056A	
310-204235-4	MW-304	Total/NA	Water	9056A	
310-204235-5	MW-305	Total/NA	Water	9056A	
310-204235-6	MW-306	Total/NA	Water	9056A	
310-204235-6	MW-306	Total/NA	Water	9056A	
310-204235-7	MW-302A	Total/NA	Water	9056A	
310-204235-8	MW-304A	Total/NA	Water	9056A	
310-204235-9	MW-306A	Total/NA	Water	9056A	
310-204235-10	MW-20	Total/NA	Water	9056A	
310-204235-11	MW-6	Total/NA	Water	9056A	
310-204235-12	Field Blank	Total/NA	Water	9056A	
MB 310-313978/3	Method Blank	Total/NA	Water	9056A	
LCS 310-313978/4	Lab Control Sample	Total/NA	Water	9056A	
310-204235-1 MS	MW-301	Total/NA	Water	9056A	
310-204235-1 MSD	MW-301	Total/NA	Water	9056A	

Metals

Prep Batch: 312812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	3010A	
310-204235-2	MW-302	Total/NA	Water	3010A	
310-204235-3	MW-303	Total/NA	Water	3010A	
310-204235-4	MW-304	Total/NA	Water	3010A	
310-204235-5	MW-305	Total/NA	Water	3010A	
310-204235-6	MW-306	Total/NA	Water	3010A	
310-204235-7	MW-302A	Total/NA	Water	3010A	
310-204235-8	MW-304A	Total/NA	Water	3010A	
310-204235-9	MW-306A	Total/NA	Water	3010A	
310-204235-10	MW-20	Total/NA	Water	3010A	
310-204235-11	MW-6	Total/NA	Water	3010A	
310-204235-12	Field Blank	Total/NA	Water	3010A	
MB 310-312812/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-204235-1 MS	MW-301	Total/NA	Water	3010A	
310-204235-1 MSD	MW-301	Total/NA	Water	3010A	
310-204235-11 DU	MW-6	Total/NA	Water	3010A	

Prep Batch: 313367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	7470A	
310-204235-2	MW-302	Total/NA	Water	7470A	
310-204235-3	MW-303	Total/NA	Water	7470A	
310-204235-4	MW-304	Total/NA	Water	7470A	
310-204235-5	MW-305	Total/NA	Water	7470A	
310-204235-6	MW-306	Total/NA	Water	7470A	
310-204235-7	MW-302A	Total/NA	Water	7470A	
310-204235-8	MW-304A	Total/NA	Water	7470A	
310-204235-9	MW-306A	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 313367 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-10	MW-20	Total/NA	Water	7470A	
310-204235-11	MW-6	Total/NA	Water	7470A	
310-204235-12	Field Blank	Total/NA	Water	7470A	
MB 310-313367/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-313367/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-204235-1 MS	MW-301	Total/NA	Water	7470A	
310-204235-1 MSD	MW-301	Total/NA	Water	7470A	

Analysis Batch: 313453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	6020A	312812
310-204235-2	MW-302	Total/NA	Water	6020A	312812
310-204235-3	MW-303	Total/NA	Water	6020A	312812
310-204235-4	MW-304	Total/NA	Water	6020A	312812
310-204235-5	MW-305	Total/NA	Water	6020A	312812
310-204235-6	MW-306	Total/NA	Water	6020A	312812
310-204235-7	MW-302A	Total/NA	Water	6020A	312812
310-204235-8	MW-304A	Total/NA	Water	6020A	312812
310-204235-9	MW-306A	Total/NA	Water	6020A	312812
310-204235-10	MW-20	Total/NA	Water	6020A	312812
310-204235-11	MW-6	Total/NA	Water	6020A	312812
310-204235-12	Field Blank	Total/NA	Water	6020A	312812
MB 310-312812/1-A	Method Blank	Total/NA	Water	6020A	312812
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	6020A	312812
310-204235-1 MS	MW-301	Total/NA	Water	6020A	312812
310-204235-1 MSD	MW-301	Total/NA	Water	6020A	312812
310-204235-11 DU	MW-6	Total/NA	Water	6020A	312812

Analysis Batch: 313497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	6020A	312812
MB 310-312812/1-A	Method Blank	Total/NA	Water	6020A	312812
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	6020A	312812
310-204235-1 MS	MW-301	Total/NA	Water	6020A	312812

Analysis Batch: 313498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	7470A	313367
310-204235-2	MW-302	Total/NA	Water	7470A	313367
310-204235-3	MW-303	Total/NA	Water	7470A	313367
310-204235-4	MW-304	Total/NA	Water	7470A	313367
310-204235-5	MW-305	Total/NA	Water	7470A	313367
310-204235-6	MW-306	Total/NA	Water	7470A	313367
310-204235-7	MW-302A	Total/NA	Water	7470A	313367
310-204235-8	MW-304A	Total/NA	Water	7470A	313367
310-204235-9	MW-306A	Total/NA	Water	7470A	313367
310-204235-10	MW-20	Total/NA	Water	7470A	313367
310-204235-11	MW-6	Total/NA	Water	7470A	313367
310-204235-12	Field Blank	Total/NA	Water	7470A	313367
MB 310-313367/1-A	Method Blank	Total/NA	Water	7470A	313367
LCS 310-313367/2-A	Lab Control Sample	Total/NA	Water	7470A	313367

Metals (Continued)

Analysis Batch: 313498 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1 MS	MW-301	Total/NA	Water	7470A	313367
310-204235-1 MSD	MW-301	Total/NA	Water	7470A	313367

General Chemistry

Analysis Batch: 312719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	SM 2540C	
310-204235-2	MW-302	Total/NA	Water	SM 2540C	
310-204235-3	MW-303	Total/NA	Water	SM 2540C	
310-204235-4	MW-304	Total/NA	Water	SM 2540C	
310-204235-5	MW-305	Total/NA	Water	SM 2540C	
310-204235-6	MW-306	Total/NA	Water	SM 2540C	
310-204235-7	MW-302A	Total/NA	Water	SM 2540C	
310-204235-8	MW-304A	Total/NA	Water	SM 2540C	
310-204235-9	MW-306A	Total/NA	Water	SM 2540C	
310-204235-10	MW-20	Total/NA	Water	SM 2540C	
310-204235-11	MW-6	Total/NA	Water	SM 2540C	
MB 310-312719/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-312719/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 312721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-204235-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-204235-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-204235-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-204235-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-204235-6	MW-306	Total/NA	Water	SM 4500 H+ B	
310-204235-7	MW-302A	Total/NA	Water	SM 4500 H+ B	
310-204235-8	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-204235-9	MW-306A	Total/NA	Water	SM 4500 H+ B	
310-204235-10	MW-20	Total/NA	Water	SM 4500 H+ B	
310-204235-11	MW-6	Total/NA	Water	SM 4500 H+ B	
310-204235-12	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-312721/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-204235-5 DU	MW-305	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 312885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-12	Field Blank	Total/NA	Water	SM 2540C	
MB 310-312885/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-312885/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 313482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	Field Sampling	
310-204235-2	MW-302	Total/NA	Water	Field Sampling	
310-204235-3	MW-303	Total/NA	Water	Field Sampling	
310-204235-4	MW-304	Total/NA	Water	Field Sampling	

Field Service / Mobile Lab (Continued)

Analysis Batch: 313482 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-5	MW-305	Total/NA	Water	Field Sampling	
310-204235-6	MW-306	Total/NA	Water	Field Sampling	
310-204235-7	MW-302A	Total/NA	Water	Field Sampling	
310-204235-8	MW-304A	Total/NA	Water	Field Sampling	
310-204235-9	MW-306A	Total/NA	Water	Field Sampling	
310-204235-10	MW-20	Total/NA	Water	Field Sampling	
310-204235-11	MW-6	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-1
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-301
Lab Sample ID: 310-204235-1
Date Collected: 04/08/21 19:55
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 09:19	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:07	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313497	04/21/21 14:30	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:19	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:08	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/08/21 19:55	SLD	TAL CF

Client Sample ID: MW-302
Lab Sample ID: 310-204235-2
Date Collected: 04/09/21 12:25
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 10:45	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:28	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:30	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:06	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/09/21 12:25	SLD	TAL CF

Client Sample ID: MW-303
Lab Sample ID: 310-204235-3
Date Collected: 04/08/21 19:00
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 11:13	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:31	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:32	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:04	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/08/21 19:00	SLD	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-1
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-304
Lab Sample ID: 310-204235-4
Date Collected: 04/09/21 09:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 11:42	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:34	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:34	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:02	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/09/21 09:30	SLD	TAL CF

Client Sample ID: MW-305
Lab Sample ID: 310-204235-5
Date Collected: 04/09/21 15:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 12:10	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:36	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:36	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 14:56	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/09/21 15:30	SLD	TAL CF

Client Sample ID: MW-306
Lab Sample ID: 310-204235-6
Date Collected: 04/09/21 16:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		10	313978	04/19/21 12:38	SAD	TAL CF
Total/NA	Analysis	9056A		5	313978	04/20/21 00:58	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:39	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:39	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:00	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/09/21 16:30	SLD	TAL CF

Client Sample ID: MW-302A
Lab Sample ID: 310-204235-7
Date Collected: 04/09/21 13:25
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 14:04	SAD	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-1
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-302A
Lab Sample ID: 310-204235-7
Date Collected: 04/09/21 13:25
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:42	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:41	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:25	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/09/21 13:25	SLD	TAL CF

Client Sample ID: MW-304A
Lab Sample ID: 310-204235-8
Date Collected: 04/09/21 10:35
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 15:01	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:44	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:43	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:10	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/09/21 10:35	SLD	TAL CF

Client Sample ID: MW-306A
Lab Sample ID: 310-204235-9
Date Collected: 04/09/21 17:15
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 15:29	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:47	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:45	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:29	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/09/21 17:15	SLD	TAL CF

Client Sample ID: MW-20
Lab Sample ID: 310-204235-10
Date Collected: 04/08/21 17:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 16:26	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:50	SAD	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-1
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-20
Lab Sample ID: 310-204235-10
Date Collected: 04/08/21 17:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:47	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:23	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/08/21 17:30	SLD	TAL CF

Client Sample ID: MW-6
Lab Sample ID: 310-204235-11
Date Collected: 04/07/21 08:15
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	313978	04/19/21 16:55	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 21:03	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 13:49	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312719	04/14/21 14:16	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:31	AJW	TAL CF
Total/NA	Analysis	Field Sampling		1	313482	04/07/21 08:15	SLD	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-204235-12
Date Collected: 04/09/21 12:45
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	313978	04/19/21 17:23	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 21:08	SAD	TAL CF
Total/NA	Prep	7470A			313367	04/20/21 14:15	HED	TAL CF
Total/NA	Analysis	7470A		1	313498	04/21/21 14:01	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	312885	04/15/21 13:32	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	312721	04/14/21 15:12	AJW	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
Job ID: 310-204235-1
Project/Site: Lansing Gen Station, 25221070

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

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-1

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

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310-204235 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY STATE Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015 Received By: SCD

Delivery Type: ☐ UPS ☒ FedEx Exp. ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # 1 of 4

Cooler Custody Seals Present? ☒ Yes ☐ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: Q Correction Factor (°C): 0.0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.6 Corrected Temp (°C): 0.6

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engr.

City/State: CITY STATE Project:

Receipt Information

Date/Time Received: DATE TIME Received By: SLD

Delivery Type: ☐ UPS ☒ FedEx Exp ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # 2 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.0 Corrected Temp (°C): 1.0

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ 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: SCS Eng.

City/State: CITY STATE

Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015

Received By:

Delivery Type: ☐ UPS ☒ FedEx Exp. ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☑ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes ☒ No	*If yes:* Cooler # 3 of 4
Cooler Custody Seals Present?	☑ Yes ☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.3 Corrected Temp (°C): 4.3

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ 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: SCS Eng.

City/State: CITY STATE Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015 Received By: SLP

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # 4 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.6 Corrected Temp (°C): 1.6

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Paul A. Grover	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-14653.1
Client Contact: ~~[illegible]~~ Meg Blodgett	Phone: 608 216-7362	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: SCS Engineers		PWSID:		
Address: ~~2450 Hickman Road, Suite 27~~	Due Date Requested:			
City: ~~Clive~~	TAT Requested (days):			
State, Zip: ~~IA, 50325~~	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: ~~tbuszka@scsengineers.com~~	WO #:			
Project Name: Lansing Gen Station, 25221070	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCl; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A, 7470A	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
MW-301	4-8	19:55	Grab	Water	N		X	X	X	X		
MW-302	4-9	12:25		Water								
MW-303	4-8	19:00		Water								
MW-304	4-9	9:30		Water								
MW-305	4-9	15:36		Water								
MW-306	4-9	16:30		Water								
MW-302A	4-9	13:25		Water								
MW-304A	4-9	10:35		Water								
MW-306A	4-9	17:15		Water								
MW-20	4-8	17:30		Water								
MW-6	4-7-21	18:15		Water								

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Paul A. Grover	Date/Time: 4-10-21 14:00	Company: SCS	Received by: [signature]	Date/Time: 4-14-21 1015	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 11/01/2020

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

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Client Information	Sampler	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-69475-14653.2
Client Contact: Tanten Buszka	Phone	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: 8450 Hickman Road Suite 27	Due Date Requested:			
City: Clive	TAT Requested (days):			
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: tbuszka@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, 25221070	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A, 7470A	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
Field Blank	4-9-21	12:45	Grab	Water	N		X	X	X	X		
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by: Paul A. Groom	Date/Time: 4-10-21 14:00	Company: SCS	Received by:	Date/Time: 4-14-21 0815	Company		
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company		

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

Ver: 11/01/2020

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-20	MW-6	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
		Well Depth	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
		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 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	12
		Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	12
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	12
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	12
		Potassium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Sodium	X	X	X	X	X	X	X	X	X	X	X	X	12
	Dissolved (Filtered)	Arsenic		X				X							2
		Iron	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
		Molybdenum								X					1
	Field Parameters	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	X		11

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-204235-1

Login Number: 204235
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-204235-3
Client Project/Site: Lansing Gen Station, 25221070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
4/22/2021 9:07:57 AM

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

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Job ID: 310-204235-3

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-204235-3

Comments
No additional comments.

Receipt
The samples were received on 4/14/2021 10:15 AM. 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 0.6º C, 1.0º C, 1.6º C and 4.3º 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.

Sample Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-204235-1	MW-301	Water	04/08/21 19:55	04/14/21 10:15	
310-204235-2	MW-302	Water	04/09/21 12:25	04/14/21 10:15	
310-204235-3	MW-303	Water	04/08/21 19:00	04/14/21 10:15	
310-204235-4	MW-304	Water	04/09/21 09:30	04/14/21 10:15	
310-204235-5	MW-305	Water	04/09/21 15:30	04/14/21 10:15	
310-204235-6	MW-306	Water	04/09/21 16:30	04/14/21 10:15	
310-204235-7	MW-302A	Water	04/09/21 13:25	04/14/21 10:15	
310-204235-8	MW-304A	Water	04/09/21 10:35	04/14/21 10:15	
310-204235-9	MW-306A	Water	04/09/21 17:15	04/14/21 10:15	
310-204235-10	MW-20	Water	04/08/21 17:30	04/14/21 10:15	
310-204235-11	MW-6	Water	04/07/21 08:15	04/14/21 10:15	
310-204235-12	Field Blank	Water	04/09/21 12:45	04/14/21 10:15	

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-301 — Lab Sample ID: 310-204235-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	740		100	36	ug/L	1		6020A	Total/NA
Magnesium	19000		500	100	ug/L	1		6020A	Total/NA
Manganese	670		10	4.4	ug/L	1		6020A	Total/NA
Potassium	2600		500	150	ug/L	1		6020A	Total/NA
Sodium	13000		1000	610	ug/L	1		6020A	Total/NA
Iron	320		100	36	ug/L	1		6020A	Dissolved
Manganese	650		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	220		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	220		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-204235-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	36000		100	36	ug/L	1		6020A	Total/NA
Magnesium	41000		500	100	ug/L	1		6020A	Total/NA
Manganese	2500		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3200		500	150	ug/L	1		6020A	Total/NA
Sodium	16000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	33		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	33000		100	36	ug/L	1		6020A	Dissolved
Manganese	2400		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	540		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	540		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303 — Lab Sample ID: 310-204235-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	18000		500	100	ug/L	1		6020A	Total/NA
Manganese	30		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1500		500	150	ug/L	1		6020A	Total/NA
Sodium	13000		1000	610	ug/L	1		6020A	Total/NA
Iron	320		100	36	ug/L	1		6020A	Dissolved
Manganese	66		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	170		8.3	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	170		8.3	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304 — Lab Sample ID: 310-204235-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	37	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	33000		500	100	ug/L	1		6020A	Total/NA
Manganese	5.9	J	10	4.4	ug/L	1		6020A	Total/NA
Potassium	1200		500	150	ug/L	1		6020A	Total/NA
Sodium	4900		1000	610	ug/L	1		6020A	Total/NA
Manganese	10		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		9.1	4.2	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		9.1	4.2	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-305 — Lab Sample ID: 310-204235-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	5900		100	36	ug/L	1		6020A	Total/NA
Magnesium	25000		500	100	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-305 (Continued) — Lab Sample ID: 310-204235-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1200		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1300		500	150	ug/L	1		6020A	Total/NA
Sodium	5900		1000	610	ug/L	1		6020A	Total/NA
Iron	3700		100	36	ug/L	1		6020A	Dissolved
Manganese	1100		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	280		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	280		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 310-204235-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	44000		100	36	ug/L	1		6020A	Total/NA
Magnesium	50000		500	100	ug/L	1		6020A	Total/NA
Manganese	5500		40	18	ug/L	4		6020A	Total/NA
Potassium	6100		500	150	ug/L	1		6020A	Total/NA
Sodium	98000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	7.8		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	41000		100	36	ug/L	1		6020A	Dissolved
Manganese	5300		40	18	ug/L	4		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	880		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	880		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302A — Lab Sample ID: 310-204235-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	47	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	37000		500	100	ug/L	1		6020A	Total/NA
Manganese	4.5	J	10	4.4	ug/L	1		6020A	Total/NA
Potassium	1000		500	150	ug/L	1		6020A	Total/NA
Sodium	7000		1000	610	ug/L	1		6020A	Total/NA
Iron	440		100	36	ug/L	1		6020A	Dissolved
Manganese	59		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		9.1	4.2	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		9.1	4.2	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304A — Lab Sample ID: 310-204235-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	580		100	36	ug/L	1		6020A	Total/NA
Magnesium	18000		500	100	ug/L	1		6020A	Total/NA
Manganese	54		10	4.4	ug/L	1		6020A	Total/NA
Potassium	710		500	150	ug/L	1		6020A	Total/NA
Sodium	58000		1000	610	ug/L	1		6020A	Total/NA
Manganese	6.2	J	10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	120		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	180		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	180		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306A — Lab Sample ID: 310-204235-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1800		100	36	ug/L	1		6020A	Total/NA
Magnesium	35000		500	100	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-306A (Continued) — Lab Sample ID: 310-204235-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1100		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1200		500	150	ug/L	1		6020A	Total/NA
Sodium	10000		1000	610	ug/L	1		6020A	Total/NA
Iron	1600		100	36	ug/L	1		6020A	Dissolved
Manganese	1100		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	320		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	320		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-20 — Lab Sample ID: 310-204235-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1200		100	36	ug/L	1		6020A	Total/NA
Magnesium	44000		500	100	ug/L	1		6020A	Total/NA
Manganese	4200		10	4.4	ug/L	1		6020A	Total/NA
Potassium	4100		500	150	ug/L	1		6020A	Total/NA
Sodium	38000		1000	610	ug/L	1		6020A	Total/NA
Iron	930		100	36	ug/L	1		6020A	Dissolved
Manganese	4100		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	270		9.8	4.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	270		9.8	4.5	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 310-204235-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	36000		500	100	ug/L	1		6020A	Total/NA
Potassium	1100		500	150	ug/L	1		6020A	Total/NA
Sodium	4600		1000	610	ug/L	1		6020A	Total/NA
Iron	49	J	100	36	ug/L	1		6020A	Dissolved
Manganese	5.1	J	10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		9.6	4.4	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	310		9.6	4.4	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-204235-12

No Detections.

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-301

Date Collected: 04/08/21 19:55
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-1

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	740		100	36	ug/L		04/16/21 08:45	04/20/21 20:07	1
Magnesium	19000		500	100	ug/L		04/16/21 08:45	04/20/21 20:07	1
Manganese	670		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:07	1
Potassium	2600		500	150	ug/L		04/16/21 08:45	04/20/21 20:07	1
Sodium	13000		1000	610	ug/L		04/16/21 08:45	04/21/21 14:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	320		100	36	ug/L		04/15/21 09:00	04/16/21 22:21	1
Manganese	650		10	4.4	ug/L		04/15/21 09:00	04/16/21 22:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	220		10	4.6	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	220		10	4.6	mg/L			04/21/21 10:08	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-302

Date Collected: 04/09/21 12:25
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-2

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	36000		100	36	ug/L		04/16/21 08:45	04/20/21 20:28	1
Magnesium	41000		500	100	ug/L		04/16/21 08:45	04/20/21 20:28	1
Manganese	2500		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:28	1
Potassium	3200		500	150	ug/L		04/16/21 08:45	04/20/21 20:28	1
Sodium	16000		1000	610	ug/L		04/16/21 08:45	04/20/21 20:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	33		2.0	0.75	ug/L		04/15/21 09:00	04/16/21 22:37	1
Iron	33000		100	36	ug/L		04/15/21 09:00	04/16/21 22:37	1
Manganese	2400		10	4.4	ug/L		04/15/21 09:00	04/16/21 22:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	540		10	4.6	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	540		10	4.6	mg/L			04/21/21 10:08	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-303

Date Collected: 04/08/21 19:00
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-3

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/16/21 08:45	04/20/21 20:31	1
Magnesium	**18000**		500	100	ug/L		04/16/21 08:45	04/20/21 20:31	1
Manganese	**30**		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:31	1
Potassium	**1500**		500	150	ug/L		04/16/21 08:45	04/20/21 20:31	1
Sodium	**13000**		1000	610	ug/L		04/16/21 08:45	04/20/21 20:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**320**		100	36	ug/L		04/15/21 09:00	04/16/21 22:40	1
Manganese	**66**		10	4.4	ug/L		04/15/21 09:00	04/16/21 22:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**170**		8.3	3.8	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<3.8		8.3	3.8	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	**170**		8.3	3.8	mg/L			04/21/21 10:08	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-304

Date Collected: 04/09/21 09:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-4

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**37**	**J**	100	36	ug/L		04/16/21 08:45	04/20/21 20:34	1
Magnesium	**33000**		500	100	ug/L		04/16/21 08:45	04/20/21 20:34	1
Manganese	**5.9**	**J**	10	4.4	ug/L		04/16/21 08:45	04/20/21 20:34	1
Potassium	**1200**		500	150	ug/L		04/16/21 08:45	04/20/21 20:34	1
Sodium	**4900**		1000	610	ug/L		04/16/21 08:45	04/20/21 20:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/15/21 09:00	04/16/21 22:42	1
Manganese	**10**		10	4.4	ug/L		04/15/21 09:00	04/16/21 22:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**300**		9.1	4.2	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.2		9.1	4.2	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	**300**		9.1	4.2	mg/L			04/21/21 10:08	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-305

Date Collected: 04/09/21 15:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-5

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	5900		100	36	ug/L		04/16/21 08:45	04/20/21 20:36	1
Magnesium	25000		500	100	ug/L		04/16/21 08:45	04/20/21 20:36	1
Manganese	1200		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:36	1
Potassium	1300		500	150	ug/L		04/16/21 08:45	04/20/21 20:36	1
Sodium	5900		1000	610	ug/L		04/16/21 08:45	04/20/21 20:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3700		100	36	ug/L		04/15/21 09:00	04/16/21 22:45	1
Manganese	1100		10	4.4	ug/L		04/15/21 09:00	04/16/21 22:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	280		10	4.6	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	280		10	4.6	mg/L			04/21/21 10:08	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-306

Date Collected: 04/09/21 16:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-6

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	44000		100	36	ug/L		04/16/21 08:45	04/20/21 20:39	1
Magnesium	50000		500	100	ug/L		04/16/21 08:45	04/20/21 20:39	1
Manganese	5500		40	18	ug/L		04/16/21 08:45	04/21/21 14:35	4
Potassium	6100		500	150	ug/L		04/16/21 08:45	04/20/21 20:39	1
Sodium	98000		1000	610	ug/L		04/16/21 08:45	04/20/21 20:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.8		2.0	0.75	ug/L		04/15/21 09:00	04/16/21 22:50	1
Iron	41000		100	36	ug/L		04/15/21 09:00	04/16/21 22:50	1
Manganese	5300		40	18	ug/L		04/15/21 09:00	04/19/21 17:08	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	880		10	4.6	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	880		10	4.6	mg/L			04/21/21 10:08	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-302A

Date Collected: 04/09/21 13:25
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-7

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	47	J	100	36	ug/L		04/16/21 08:45	04/20/21 20:42	1
Magnesium	37000		500	100	ug/L		04/16/21 08:45	04/20/21 20:42	1
Manganese	4.5	J	10	4.4	ug/L		04/16/21 08:45	04/20/21 20:42	1
Potassium	1000		500	150	ug/L		04/16/21 08:45	04/20/21 20:42	1
Sodium	7000		1000	610	ug/L		04/16/21 08:45	04/20/21 20:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	440		100	36	ug/L		04/15/21 09:00	04/16/21 22:53	1
Manganese	59		10	4.4	ug/L		04/15/21 09:00	04/16/21 22:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		9.1	4.2	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.2		9.1	4.2	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	300		9.1	4.2	mg/L			04/21/21 10:08	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-304A

Date Collected: 04/09/21 10:35
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-8

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**580**		100	36	ug/L		04/16/21 08:45	04/20/21 20:44	1
Magnesium	**18000**		500	100	ug/L		04/16/21 08:45	04/20/21 20:44	1
Manganese	**54**		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:44	1
Potassium	**710**		500	150	ug/L		04/16/21 08:45	04/20/21 20:44	1
Sodium	**58000**		1000	610	ug/L		04/16/21 08:45	04/20/21 20:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/15/21 09:00	04/16/21 22:56	1
Manganese	**6.2**	**J**	10	4.4	ug/L		04/15/21 09:00	04/16/21 22:56	1
Molybdenum	**120**		2.0	1.3	ug/L		04/15/21 09:00	04/16/21 22:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**180**		10	4.6	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	**180**		10	4.6	mg/L			04/21/21 10:08	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-306A

Date Collected: 04/09/21 17:15
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-9

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1800		100	36	ug/L		04/16/21 08:45	04/20/21 20:47	1
Magnesium	35000		500	100	ug/L		04/16/21 08:45	04/20/21 20:47	1
Manganese	1100		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:47	1
Potassium	1200		500	150	ug/L		04/16/21 08:45	04/20/21 20:47	1
Sodium	10000		1000	610	ug/L		04/16/21 08:45	04/20/21 20:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1600		100	36	ug/L		04/15/21 09:00	04/16/21 22:58	1
Manganese	1100		10	4.4	ug/L		04/15/21 09:00	04/16/21 22:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	320		10	4.6	mg/L			04/21/21 13:31	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			04/21/21 13:31	1
Total Alkalinity as CaCO3 to pH 4.5	320		10	4.6	mg/L			04/21/21 13:31	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-20

Date Collected: 04/08/21 17:30
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-10

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1200		100	36	ug/L		04/16/21 08:45	04/20/21 20:50	1
Magnesium	44000		500	100	ug/L		04/16/21 08:45	04/20/21 20:50	1
Manganese	4200		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:50	1
Potassium	4100		500	150	ug/L		04/16/21 08:45	04/20/21 20:50	1
Sodium	38000		1000	610	ug/L		04/16/21 08:45	04/20/21 20:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	930		100	36	ug/L		04/15/21 09:00	04/16/21 23:01	1
Manganese	4100		10	4.4	ug/L		04/15/21 09:00	04/16/21 23:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	270		9.8	4.5	mg/L			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<4.5		9.8	4.5	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	270		9.8	4.5	mg/L			04/21/21 10:08	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: MW-6

Date Collected: 04/07/21 08:15
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-11

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/16/21 08:45	04/20/21 21:03	1
Magnesium	**36000**		500	100	ug/L		04/16/21 08:45	04/20/21 21:03	1
Manganese	<4.4		10	4.4	ug/L		04/16/21 08:45	04/20/21 21:03	1
Potassium	**1100**		500	150	ug/L		04/16/21 08:45	04/20/21 21:03	1
Sodium	**4600**		1000	610	ug/L		04/16/21 08:45	04/20/21 21:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**49**	**J**	100	36	ug/L		04/15/21 09:00	04/16/21 23:17	1
Manganese	**5.1**	**J**	10	4.4	ug/L		04/15/21 09:00	04/16/21 23:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**310**		9.6	4.4	mg/L			04/19/21 11:45	1
Carbonate Alkalinity as CaCO3	<4.4		9.6	4.4	mg/L			04/19/21 11:45	1
Total Alkalinity as CaCO3 to pH 4.5	**310**		9.6	4.4	mg/L			04/19/21 11:45	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Client Sample ID: Field Blank

Date Collected: 04/09/21 12:45
Date Received: 04/14/21 10:15

Lab Sample ID: 310-204235-12

Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/16/21 08:45	04/20/21 21:08	1
Magnesium	<100		500	100	ug/L		04/16/21 08:45	04/20/21 21:08	1
Manganese	<4.4		10	4.4	ug/L		04/16/21 08:45	04/20/21 21:08	1
Potassium	<150		500	150	ug/L		04/16/21 08:45	04/20/21 21:08	1
Sodium	<610		1000	610	ug/L		04/16/21 08:45	04/20/21 21:08	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			04/19/21 15:26	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/19/21 15:26	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/19/21 15:26	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-204235-3
Project/Site: Lansing Gen Station, 25221070

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.

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

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-312716/1-A
Matrix: Water
Analysis Batch: 313142

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		04/15/21 09:00	04/16/21 21:36	1
Iron	<36		100	36	ug/L		04/15/21 09:00	04/16/21 21:36	1
Manganese	<4.4		10	4.4	ug/L		04/15/21 09:00	04/16/21 21:36	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/15/21 09:00	04/16/21 21:36	1

Lab Sample ID: LCS 310-312716/2-A
Matrix: Water
Analysis Batch: 313142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	205		ug/L		103	80 - 120
Iron	200	192		ug/L		96	80 - 120
Manganese	100	97.2		ug/L		97	80 - 120
Molybdenum	200	195		ug/L		97	80 - 120

Lab Sample ID: MB 310-312812/1-A
Matrix: Water
Analysis Batch: 313453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	<100		500	100	ug/L		04/16/21 08:45	04/20/21 20:02	1
Iron	<36		100	36	ug/L		04/16/21 08:45	04/20/21 20:02	1
Manganese	<4.4		10	4.4	ug/L		04/16/21 08:45	04/20/21 20:02	1
Potassium	<150		500	150	ug/L		04/16/21 08:45	04/20/21 20:02	1

Lab Sample ID: MB 310-312812/1-A
Matrix: Water
Analysis Batch: 313497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<610		1000	610	ug/L		04/16/21 08:45	04/21/21 14:27	1

Lab Sample ID: LCS 310-312812/2-A
Matrix: Water
Analysis Batch: 313453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	2000	1840		ug/L		92	80 - 120
Iron	200	197		ug/L		99	80 - 120
Manganese	100	96.0		ug/L		96	80 - 120
Potassium	2000	1930		ug/L		96	80 - 120

Lab Sample ID: LCS 310-312812/2-A
Matrix: Water
Analysis Batch: 313497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	2000	1910		ug/L		95	80 - 120

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

Lab Sample ID: 310-204235-1 MS
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	19000		2000	20600	4	ug/L		72	75 - 125
Iron	740		200	930		ug/L		96	75 - 125
Manganese	670		100	774	4	ug/L		105	75 - 125
Potassium	2600		2000	4620		ug/L		100	75 - 125

Lab Sample ID: 310-204235-1 MS
Matrix: Water
Analysis Batch: 313497

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	13000		2000	14400	4	ug/L		81	75 - 125

Lab Sample ID: 310-204235-1 MSD
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium	19000		2000	20300	4	ug/L		57	75 - 125	1	20
Iron	740		200	936		ug/L		99	75 - 125	1	20
Manganese	670		100	761	4	ug/L		92	75 - 125	2	20
Potassium	2600		2000	4420		ug/L		90	75 - 125	4	20
Sodium	13000	^2 ^+ *+	2000	13800	4	ug/L		54	75 - 125	3	20

Lab Sample ID: 310-204235-11 DU
Matrix: Water
Analysis Batch: 313453

Client Sample ID: MW-6
Prep Type: Total/NA
Prep Batch: 312812

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Magnesium	36000		35800		ug/L		0.5	20
Iron	<36		<36		ug/L		NC	20
Manganese	<4.4		<4.4		ug/L		NC	20
Potassium	1100		1090		ug/L		0.5	20
Sodium	4600		4550		ug/L		1	20

Lab Sample ID: 310-204235-5 DU
Matrix: Water
Analysis Batch: 313142

Client Sample ID: MW-305
Prep Type: Dissolved
Prep Batch: 312716

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	1.3	J	1.35	J	ug/L		3	20
Iron	3700		3810		ug/L		3	20
Manganese	1100		1160		ug/L		2	20
Molybdenum	<1.3		<1.3		ug/L		NC	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-313244/1
Matrix: Water
Analysis Batch: 313244

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			04/19/21 15:26	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/19/21 15:26	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/19/21 15:26	1

Lab Sample ID: LCS 310-313244/2
Matrix: Water
Analysis Batch: 313244

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 to pH 4.5	1000	992		mg/L		99	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-313205/1
Matrix: Water
Analysis Batch: 313205

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			04/19/21 11:45	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/19/21 11:45	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/19/21 11:45	1

Lab Sample ID: LCS 310-313205/2
Matrix: Water
Analysis Batch: 313205

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 to pH 4.5	1000	1010		mg/L		101	90 - 110

Lab Sample ID: MB 310-313458/1
Matrix: Water
Analysis Batch: 313458

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			04/21/21 10:08	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/21/21 10:08	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/21/21 10:08	1

Lab Sample ID: LCS 310-313458/2
Matrix: Water
Analysis Batch: 313458

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 to pH 4.5	1000	980		mg/L		98	90 - 110

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 310-313478/1
Matrix: Water
Analysis Batch: 313478

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			04/21/21 13:31	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			04/21/21 13:31	1
Total Alkalinity as CaCO3 to pH 4.5	<2.3		5.0	2.3	mg/L			04/21/21 13:31	1

Lab Sample ID: LCS 310-313478/2
Matrix: Water
Analysis Batch: 313478

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 to pH 4.5	1000	1010		mg/L		101	90 - 110

Metals

Prep Batch: 312716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Dissolved	Water	3010A	
310-204235-2	MW-302	Dissolved	Water	3010A	
310-204235-3	MW-303	Dissolved	Water	3010A	
310-204235-4	MW-304	Dissolved	Water	3010A	
310-204235-5	MW-305	Dissolved	Water	3010A	
310-204235-6	MW-306	Dissolved	Water	3010A	
310-204235-7	MW-302A	Dissolved	Water	3010A	
310-204235-8	MW-304A	Dissolved	Water	3010A	
310-204235-9	MW-306A	Dissolved	Water	3010A	
310-204235-10	MW-20	Dissolved	Water	3010A	
310-204235-11	MW-6	Dissolved	Water	3010A	
MB 310-312716/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-312716/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-204235-5 DU	MW-305	Dissolved	Water	3010A	

Prep Batch: 312812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	3010A	
310-204235-2	MW-302	Total/NA	Water	3010A	
310-204235-3	MW-303	Total/NA	Water	3010A	
310-204235-4	MW-304	Total/NA	Water	3010A	
310-204235-5	MW-305	Total/NA	Water	3010A	
310-204235-6	MW-306	Total/NA	Water	3010A	
310-204235-7	MW-302A	Total/NA	Water	3010A	
310-204235-8	MW-304A	Total/NA	Water	3010A	
310-204235-9	MW-306A	Total/NA	Water	3010A	
310-204235-10	MW-20	Total/NA	Water	3010A	
310-204235-11	MW-6	Total/NA	Water	3010A	
310-204235-12	Field Blank	Total/NA	Water	3010A	
MB 310-312812/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-204235-1 MS	MW-301	Total/NA	Water	3010A	
310-204235-1 MSD	MW-301	Total/NA	Water	3010A	
310-204235-11 DU	MW-6	Total/NA	Water	3010A	

Analysis Batch: 313142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Dissolved	Water	6020A	312716
310-204235-2	MW-302	Dissolved	Water	6020A	312716
310-204235-3	MW-303	Dissolved	Water	6020A	312716
310-204235-4	MW-304	Dissolved	Water	6020A	312716
310-204235-5	MW-305	Dissolved	Water	6020A	312716
310-204235-6	MW-306	Dissolved	Water	6020A	312716
310-204235-7	MW-302A	Dissolved	Water	6020A	312716
310-204235-8	MW-304A	Dissolved	Water	6020A	312716
310-204235-9	MW-306A	Dissolved	Water	6020A	312716
310-204235-10	MW-20	Dissolved	Water	6020A	312716
310-204235-11	MW-6	Dissolved	Water	6020A	312716
MB 310-312716/1-A	Method Blank	Total/NA	Water	6020A	312716
LCS 310-312716/2-A	Lab Control Sample	Total/NA	Water	6020A	312716
310-204235-5 DU	MW-305	Dissolved	Water	6020A	312716

Metals

Analysis Batch: 313305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-6	MW-306	Dissolved	Water	6020A	312716

Analysis Batch: 313453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	6020A	312812
310-204235-2	MW-302	Total/NA	Water	6020A	312812
310-204235-3	MW-303	Total/NA	Water	6020A	312812
310-204235-4	MW-304	Total/NA	Water	6020A	312812
310-204235-5	MW-305	Total/NA	Water	6020A	312812
310-204235-6	MW-306	Total/NA	Water	6020A	312812
310-204235-7	MW-302A	Total/NA	Water	6020A	312812
310-204235-8	MW-304A	Total/NA	Water	6020A	312812
310-204235-9	MW-306A	Total/NA	Water	6020A	312812
310-204235-10	MW-20	Total/NA	Water	6020A	312812
310-204235-11	MW-6	Total/NA	Water	6020A	312812
310-204235-12	Field Blank	Total/NA	Water	6020A	312812
MB 310-312812/1-A	Method Blank	Total/NA	Water	6020A	312812
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	6020A	312812
310-204235-1 MS	MW-301	Total/NA	Water	6020A	312812
310-204235-1 MSD	MW-301	Total/NA	Water	6020A	312812
310-204235-11 DU	MW-6	Total/NA	Water	6020A	312812

Analysis Batch: 313497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	6020A	312812
310-204235-6	MW-306	Total/NA	Water	6020A	312812
MB 310-312812/1-A	Method Blank	Total/NA	Water	6020A	312812
LCS 310-312812/2-A	Lab Control Sample	Total/NA	Water	6020A	312812
310-204235-1 MS	MW-301	Total/NA	Water	6020A	312812

General Chemistry

Analysis Batch: 313205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-11	MW-6	Total/NA	Water	SM 2320B	
MB 310-313205/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-313205/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 313244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-12	Field Blank	Total/NA	Water	2320B	
MB 310-313244/1	Method Blank	Total/NA	Water	2320B	
LCS 310-313244/2	Lab Control Sample	Total/NA	Water	2320B	

Analysis Batch: 313458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-1	MW-301	Total/NA	Water	SM 2320B	
310-204235-2	MW-302	Total/NA	Water	SM 2320B	
310-204235-3	MW-303	Total/NA	Water	SM 2320B	
310-204235-4	MW-304	Total/NA	Water	SM 2320B	
310-204235-5	MW-305	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 313458 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-6	MW-306	Total/NA	Water	SM 2320B	
310-204235-7	MW-302A	Total/NA	Water	SM 2320B	
310-204235-8	MW-304A	Total/NA	Water	SM 2320B	
310-204235-10	MW-20	Total/NA	Water	SM 2320B	
MB 310-313458/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-313458/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 313478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-204235-9	MW-306A	Total/NA	Water	SM 2320B	
MB 310-313478/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-313478/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-3
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-301
Lab Sample ID: 310-204235-1
Date Collected: 04/08/21 19:55
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:21	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:07	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313497	04/21/21 14:30	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Client Sample ID: MW-302
Lab Sample ID: 310-204235-2
Date Collected: 04/09/21 12:25
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:37	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:28	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Client Sample ID: MW-303
Lab Sample ID: 310-204235-3
Date Collected: 04/08/21 19:00
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:40	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:31	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Client Sample ID: MW-304
Lab Sample ID: 310-204235-4
Date Collected: 04/09/21 09:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:42	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:34	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-3
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-305
Lab Sample ID: 310-204235-5
Date Collected: 04/09/21 15:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:45	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:36	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Client Sample ID: MW-306
Lab Sample ID: 310-204235-6
Date Collected: 04/09/21 16:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:50	SAD	TAL CF
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		4	313305	04/19/21 17:08	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:39	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		4	313497	04/21/21 14:35	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Client Sample ID: MW-302A
Lab Sample ID: 310-204235-7
Date Collected: 04/09/21 13:25
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:53	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:42	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Client Sample ID: MW-304A
Lab Sample ID: 310-204235-8
Date Collected: 04/09/21 10:35
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:56	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:44	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-204235-3
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-306A
Lab Sample ID: 310-204235-9
Date Collected: 04/09/21 17:15
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 22:58	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:47	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313478	04/21/21 13:31	DFS	TAL CF

Client Sample ID: MW-20
Lab Sample ID: 310-204235-10
Date Collected: 04/08/21 17:30
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 23:01	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 20:50	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313458	04/21/21 10:08	DFS	TAL CF

Client Sample ID: MW-6
Lab Sample ID: 310-204235-11
Date Collected: 04/07/21 08:15
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			312716	04/15/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	313142	04/16/21 23:17	SAD	TAL CF
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 21:03	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	313205	04/19/21 11:45	DFS	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-204235-12
Date Collected: 04/09/21 12:45
Matrix: Water
Date Received: 04/14/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			312812	04/16/21 08:45	CJT	TAL CF
Total/NA	Analysis	6020A		1	313453	04/20/21 21:08	SAD	TAL CF
Total/NA	Analysis	2320B		1	313244	04/19/21 15:26	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
Job ID: 310-204235-3
Project/Site: Lansing Gen Station, 25221070

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

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-204235-3

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

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310-204235 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY STATE | Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015 | Received By: SCD

Delivery Type: ☐ UPS ☒ FedEx Exp. ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes ☒ No	*If yes:* Cooler # 1 of 4
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: Q | Correction Factor (°C): 0.0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.6 | Corrected Temp (°C): 0.6

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engr.

City/State: CITY STATE Project:

Receipt Information

Date/Time Received: DATE TIME Received By: SLD

Delivery Type: ☐ UPS ☒ FedEx Exp ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # 2 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.0 Corrected Temp (°C): 1.0

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Eng.			
City/State: CITY STATE		Project:	
Receipt Information			
Date/Time Received: DATE 4/14/21 TIME 1015		Received By:	
Delivery Type: ☐ UPS ☒ FedEx Exp. ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? ☑ Yes ☐ No		*If yes:* Cooler ID:	
Multiple Coolers? ☐ Yes ☒ No		*If yes:* Cooler # 3 of 4	
Cooler Custody Seals Present? ☑ Yes ☐ No		*If yes:* Cooler custody seals intact? ☐ Yes ☐ No	
Sample Custody Seals Present? ☐ Yes ☒ No		*If yes:* Sample custody seals intact? ☐ Yes ☐ No	
Trip Blank Present? ☐ Yes ☒ No		*If yes:* Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE			
Thermometer ID: 2		Correction Factor (°C): 0.0	
• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 4.3		Corrected Temp (°C): 4.3	
• **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? ☐ Yes ☐ No a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Eng.

City/State: CITY STATE Project:

Receipt Information

Date/Time Received: DATE 4/14/21 TIME 1015 Received By: SLP

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # 4 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 2 Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.6 Corrected Temp (°C): 1.6

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

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Client Information	Sampler: PAG	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-59476-16399.1
Client Contact: ~~Tanner Buszka~~ Mr. Blodgett	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: ~~SCS Engineers~~ SCS	PWSID:			Job #:
Address: ~~8450 Hickman Road Suite 27~~	Due Date Requested:			
City: ~~Clive~~	TAT Requested (days):			
State, Zip: ~~IA 50325~~	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: ~~tbuszka@scsengineers.com~~	WO #:			
Project Name: Lansing Gen Station, 25221070	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (6)	6020A - Dissolved Metals (2-4)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D		
MW-301	4-8-21	19:55	Grab	Water	Y N			Unfiltered	Filtered		
MW-302	4-9-21	12:25		Water							
MW-303	4-8-21	19:00		Water							
MW-304	4-9-21	9:30		Water							
MW-305	4-9-21	15:30		Water							
MW-306	4-9-21	16:30		Water							
MW-302A	4-9-21	13:25		Water							
MW-304A	4-9-21	10:35		Water							
MW-306A	4-9-21	17:15		Water							
MW-20	4-8-21	17:30		Water							
MW-6	4-7-21	18:15		Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Paul A. Grow	4-10-21 14:00	SCS		4-14-21 1015	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 11/01/2020

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone: 319-277-2401 Fax: 319-277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Paul A. Brown	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-59476-16399.2
Client Contact: ~~Tanten Buszka~~ Meg Blodgett	Phone: 608 316-7362	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: ~~8450 Hickman Road Suite 27~~	Due Date Requested:			
City: ~~Clive~~	TAT Requested (days):			
State, Zip: ~~IA, 50325~~	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: ~~tbuszka@sccengineers.com~~	WO #:			
Project Name: Lansing Gen Station, 25221070	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (6)	6020A - Dissolved Metals (2-4)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D		
Field Blank	4-9-21	12:45	Grab	Water	N		X	X	X		
				Water							

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Paul A. Brown	4-10-21 14:00	SCS		4-14-21 1015	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 11/01/2020

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-20	MW-6	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
		Well Depth	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
		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 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	12
		Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	12
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	12
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	12
		Potassium	X	X	X	X	X	X	X	X	X	X	X	X	12
		Sodium	X	X	X	X	X	X	X	X	X	X	X	X	12
	Dissolved (Filtered)	Arsenic		X				X							2
		Iron	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
		Molybdenum								X					1
	Field Parameters	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	X		11

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-204235-3

Login Number: 204235
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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	

Appendix C3

July 2021 Supplemental Sampling Event

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-211049-1
Client Project/Site: Lansing Generating Station - 25221070.00
Revision: 2

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
8/5/2021 9:53:43 AM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Job ID: 310-211049-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211049-1

Comments
REVISED REPORTS: Added anion analysis per COC.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º 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.

Narrative

Job Narrative
310-211049-4

Comments
No additional comments.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º C.

HPLC/IC
Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-307 (310-211049-3) and MW-307A (310-211049-4). 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.

Sample Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211049-1	MW-306	Water	07/12/21 15:50	07/16/21 09:50
310-211049-2	MW-304A	Water	07/12/21 13:30	07/16/21 09:50
310-211049-3	MW-307	Water	07/12/21 20:45	07/16/21 09:50
310-211049-4	MW-307A	Water	07/12/21 19:40	07/16/21 09:50
310-211049-5	Field Blank	Water	07/12/21 19:40	07/16/21 09:50

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-306 — Lab Sample ID: 310-211049-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.2		2.0	0.75	ug/L	1		6020A	Total/NA
Ground Water Elevation	619.83				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-128.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.37				mg/L	1		Field Sampling	Total/NA
pH, Field	7.51				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	2006				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.40				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.13				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A — Lab Sample ID: 310-211049-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	100		2.0	1.3	ug/L	1		6020A	Total/NA
Ground Water Elevation	623.87				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	80.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.48				mg/L	1		Field Sampling	Total/NA
pH, Field	8.09				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	543.1				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.80				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	36.09				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-211049-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	44		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	2.1		2.0	0.75	ug/L	1		6020A	Total/NA
Ba	310		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	220		100	58	ug/L	1		6020A	Total/NA
Calcium	55		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.15	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	13		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	5.5		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	210		50	26	mg/L	1		SM 2540C	Total/NA
pH	8.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	630.95				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-40.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.47				mg/L	1		Field Sampling	Total/NA
pH, Field	8.25				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	449.6				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.20				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-211049-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.8		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	30		5.0	2.5	mg/L	5		9056A	Total/NA
Ba	120		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	370		100	58	ug/L	1		6020A	Total/NA
Calcium	67		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.54		0.50	0.091	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307A (Continued) — Lab Sample ID: 310-211049-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	6.8		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	280		50	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	625.27				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	73.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.27				mg/L	1		Field Sampling	Total/NA
pH, Field	7.83				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	615.6				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.20				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: 310-211049-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-306
Lab Sample ID: 310-211049-1
Date Collected: 07/12/21 15:50
Matrix: Water
Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.2		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 18:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	619.83				ft			07/12/21 15:50	1
Oxidation Reduction Potential	-128.3				millivolts			07/12/21 15:50	1
Oxygen, Dissolved, Client Supplied	0.37				mg/L			07/12/21 15:50	1
pH, Field	7.51				SU			07/12/21 15:50	1
Specific Conductance, Field	2006				umhos/cm			07/12/21 15:50	1
Temperature, Field	14.40				Degrees C			07/12/21 15:50	1
Turbidity, Field	0.13				NTU			07/12/21 15:50	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-304A
Date Collected: 07/12/21 13:30
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-2
Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	100		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 18:56	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	623.87				ft			07/12/21 13:30	1
Oxidation Reduction Potential	80.3				millivolts			07/12/21 13:30	1
Oxygen, Dissolved, Client Supplied	0.48				mg/L			07/12/21 13:30	1
pH, Field	8.09				SU			07/12/21 13:30	1
Specific Conductance, Field	543.1				umhos/cm			07/12/21 13:30	1
Temperature, Field	13.80				Degrees C			07/12/21 13:30	1
Turbidity, Field	36.09				NTU			07/12/21 13:30	1

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Date Collected: 07/12/21 20:45
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-3
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.2	mg/L			08/03/21 11:24	5
Fluoride	<0.28		0.50	0.28	mg/L			08/03/21 11:24	5
Sulfate	44		5.0	2.5	mg/L			08/03/21 11:24	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		07/21/21 09:00	07/26/21 18:59	1
Arsenic	2.1		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 18:59	1
Ba	310		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 18:59	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 18:59	1
Boron	220		100	58	ug/L		07/21/21 09:00	07/26/21 18:59	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 18:59	1
Calcium	55		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 18:59	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 18:59	1
Cobalt	0.15	J	0.50	0.091	ug/L		07/21/21 09:00	07/26/21 18:59	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 18:59	1
Lithium	13		10	2.5	ug/L		07/21/21 09:00	07/26/21 18:59	1
Molybdenum	5.5		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 18:59	1
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 18:59	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 18:59	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		07/19/21 12:15	07/20/21 11:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		50	26	mg/L			07/19/21 09:33	1
pH	8.2	HF	0.1	0.1	SU			07/16/21 14:31	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	630.95				ft			07/12/21 00:00	1
Oxidation Reduction Potential	-40.6				millivolts			07/12/21 00:00	1
Oxygen, Dissolved, Client Supplied	0.47				mg/L			07/12/21 00:00	1
pH, Field	8.25				SU			07/12/21 00:00	1
Specific Conductance, Field	449.6				umhos/cm			07/12/21 00:00	1
Temperature, Field	15.20				Degrees C			07/12/21 00:00	1
Turbidity, Field	0.00				NTU			07/12/21 00:00	1

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.8**		5.0	2.2	mg/L			08/03/21 12:11	5
Fluoride	<0.28		0.50	0.28	mg/L			08/03/21 12:11	5
Sulfate	**30**		5.0	2.5	mg/L			08/03/21 12:11	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		07/21/21 09:00	07/26/21 19:02	1
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 19:02	1
Ba	**120**		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 19:02	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 19:02	1
Boron	**370**		100	58	ug/L		07/21/21 09:00	07/26/21 19:02	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 19:02	1
Calcium	**67**		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 19:02	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 19:02	1
Cobalt	**0.54**		0.50	0.091	ug/L		07/21/21 09:00	07/26/21 19:02	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 19:02	1
Lithium	<2.5		10	2.5	ug/L		07/21/21 09:00	07/26/21 19:02	1
Molybdenum	**6.8**		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 19:02	1
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 19:02	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 19:02	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		07/19/21 12:15	07/20/21 11:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**280**		50	26	mg/L			07/19/21 09:33	1
pH	**7.5**	**HF**	0.1	0.1	SU			07/16/21 14:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**625.27**				ft			07/12/21 13:40	1
Oxidation Reduction Potential	**73.1**				millivolts			07/12/21 13:40	1
Oxygen, Dissolved, Client Supplied	**0.27**				mg/L			07/12/21 13:40	1
pH, Field	**7.83**				SU			07/12/21 13:40	1
Specific Conductance, Field	**615.6**				umhos/cm			07/12/21 13:40	1
Temperature, Field	**13.20**				Degrees C			07/12/21 13:40	1
Turbidity, Field	**0.00**				NTU			07/12/21 13:40	1

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

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			08/03/21 12:27	1
Fluoride	<0.055		0.10	0.055	mg/L			08/03/21 12:27	1
Sulfate	<0.49		1.0	0.49	mg/L			08/03/21 12:27	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		07/21/21 09:00	07/26/21 19:06	1
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 19:06	1
Ba	<0.30		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 19:06	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 19:06	1
Boron	<58		100	58	ug/L		07/21/21 09:00	07/26/21 19:06	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 19:06	1
Calcium	<0.19		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 19:06	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 19:06	1
Cobalt	<0.091		0.50	0.091	ug/L		07/21/21 09:00	07/26/21 19:06	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 19:06	1
Lithium	<2.5		10	2.5	ug/L		07/21/21 09:00	07/26/21 19:06	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 19:06	1
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 19:06	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 19:06	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		07/19/21 12:15	07/20/21 11:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			07/19/21 09:33	1
pH	**5.9**	**HF**	0.1	0.1	SU			07/16/21 14:28	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-324354/3
Matrix: Water
Analysis Batch: 324354

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			08/03/21 09:49	1
Fluoride	<0.055		0.10	0.055	mg/L			08/03/21 09:49	1
Sulfate	<0.49		1.0	0.49	mg/L			08/03/21 09:49	1

Lab Sample ID: LCS 310-324354/33
Matrix: Water
Analysis Batch: 324354

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	9.28		mg/L		93	90 - 110
Fluoride	2.00	1.96		mg/L		98	90 - 110
Sulfate	10.0	9.70		mg/L		97	90 - 110

Lab Sample ID: 310-211049-3 MS
Matrix: Water
Analysis Batch: 324354

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
Chloride	15		25.0	35.5		mg/L		84	80 - 120
Fluoride	<0.28		5.00	4.48		mg/L		90	80 - 120
Sulfate	44		25.0	65.6		mg/L		85	80 - 120

Lab Sample ID: 310-211049-3 MSD
Matrix: Water
Analysis Batch: 324354

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
Chloride	15		25.0	35.2		mg/L		82	80 - 120	1	15
Fluoride	<0.28		5.00	4.46		mg/L		89	80 - 120	0	15
Sulfate	44		25.0	64.9		mg/L		82	80 - 120	1	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-322997/1-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		07/21/21 09:00	07/26/21 18:19	1
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 18:19	1
Ba	<0.30		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 18:19	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 18:19	1
Boron	<58		100	58	ug/L		07/21/21 09:00	07/26/21 18:19	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 18:19	1
Calcium	<0.19		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 18:19	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 18:19	1
Cobalt	<0.091		0.50	0.091	ug/L		07/21/21 09:00	07/26/21 18:19	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 18:19	1
Lithium	<2.5		10	2.5	ug/L		07/21/21 09:00	07/26/21 18:19	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 18:19	1

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

Lab Sample ID: MB 310-322997/1-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 18:19	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 18:19	1

Lab Sample ID: LCS 310-322997/2-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	191		ug/L		95	80 - 120
Arsenic	200	204		ug/L		102	80 - 120
Ba	100	96.2		ug/L		96	80 - 120
Beryllium	100	96.3		ug/L		96	80 - 120
Boron	200	215		ug/L		107	80 - 120
Cadmium	100	93.7		ug/L		94	80 - 120
Calcium	2.00	1.97		mg/L		99	80 - 120
Chromium	100	95.3		ug/L		95	80 - 120
Cobalt	100	95.7		ug/L		96	80 - 120
Lead	200	201		ug/L		100	80 - 120
Lithium	200	197		ug/L		98	80 - 120
Molybdenum	200	189		ug/L		95	80 - 120
Selenium	400	362		ug/L		90	80 - 120
Thallium	200	201		ug/L		101	80 - 120

Lab Sample ID: 310-211049-5 DU
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 322997

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
Ba	<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	<0.091		<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	<1.3		<1.3		ug/L		NC	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 310-322794/1-A
Matrix: Water
Analysis Batch: 322950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		07/19/21 12:15	07/20/21 10:16	1

Lab Sample ID: LCS 310-322794/2-A
Matrix: Water
Analysis Batch: 322950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.66		ug/L		99	80 - 120

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

Lab Sample ID: MB 310-322771/1
Matrix: Water
Analysis Batch: 322771

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			07/19/21 09:33	1

Lab Sample ID: LCS 310-322771/2
Matrix: Water
Analysis Batch: 322771

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	928		mg/L		93	90 - 110

Lab Sample ID: 310-211049-4 DU
Matrix: Water
Analysis Batch: 322771

Client Sample ID: MW-307A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	280		268		mg/L		4	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-322661/1
Matrix: Water
Analysis Batch: 322661

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 Association Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

HPLC/IC

Analysis Batch: 324354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	9056A	
310-211049-4	MW-307A	Total/NA	Water	9056A	
310-211049-5	Field Blank	Total/NA	Water	9056A	
MB 310-324354/3	Method Blank	Total/NA	Water	9056A	
LCS 310-324354/33	Lab Control Sample	Total/NA	Water	9056A	
310-211049-3 MS	MW-307	Total/NA	Water	9056A	
310-211049-3 MSD	MW-307	Total/NA	Water	9056A	

Metals

Prep Batch: 322794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	7470A	
310-211049-4	MW-307A	Total/NA	Water	7470A	
310-211049-5	Field Blank	Total/NA	Water	7470A	
MB 310-322794/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-322794/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 322950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	7470A	322794
310-211049-4	MW-307A	Total/NA	Water	7470A	322794
310-211049-5	Field Blank	Total/NA	Water	7470A	322794
MB 310-322794/1-A	Method Blank	Total/NA	Water	7470A	322794
LCS 310-322794/2-A	Lab Control Sample	Total/NA	Water	7470A	322794

Prep Batch: 322997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-1	MW-306	Total/NA	Water	3010A	
310-211049-2	MW-304A	Total/NA	Water	3010A	
310-211049-3	MW-307	Total/NA	Water	3010A	
310-211049-4	MW-307A	Total/NA	Water	3010A	
310-211049-5	Field Blank	Total/NA	Water	3010A	
MB 310-322997/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211049-5 DU	Field Blank	Total/NA	Water	3010A	

Analysis Batch: 323563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-1	MW-306	Total/NA	Water	6020A	322997
310-211049-2	MW-304A	Total/NA	Water	6020A	322997
310-211049-3	MW-307	Total/NA	Water	6020A	322997
310-211049-4	MW-307A	Total/NA	Water	6020A	322997
310-211049-5	Field Blank	Total/NA	Water	6020A	322997
MB 310-322997/1-A	Method Blank	Total/NA	Water	6020A	322997
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	6020A	322997
310-211049-5 DU	Field Blank	Total/NA	Water	6020A	322997

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

General Chemistry

Analysis Batch: 322661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	SM 4500 H+ B	
310-211049-4	MW-307A	Total/NA	Water	SM 4500 H+ B	
310-211049-5	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-322661/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 322771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	SM 2540C	
310-211049-4	MW-307A	Total/NA	Water	SM 2540C	
310-211049-5	Field Blank	Total/NA	Water	SM 2540C	
MB 310-322771/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-322771/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-211049-4 DU	MW-307A	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 323057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-1	MW-306	Total/NA	Water	Field Sampling	
310-211049-2	MW-304A	Total/NA	Water	Field Sampling	
310-211049-3	MW-307	Total/NA	Water	Field Sampling	
310-211049-4	MW-307A	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-306
Lab Sample ID: 310-211049-1
Date Collected: 07/12/21 15:50
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:52	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 15:50	SJF	TAL CF

Client Sample ID: MW-304A
Lab Sample ID: 310-211049-2
Date Collected: 07/12/21 13:30
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:56	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 13:30	SJF	TAL CF

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3
Date Collected: 07/12/21 20:45
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	324354	08/03/21 11:24	CJT	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:59	SAP	TAL CF
Total/NA	Prep	7470A			322794	07/19/21 12:15	JNR	TAL CF
Total/NA	Analysis	7470A		1	322950	07/20/21 11:08	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	322771	07/19/21 09:33	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	322661	07/16/21 14:31	LBB	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 00:00	SJF	TAL CF

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	324354	08/03/21 12:11	CJT	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:02	SAP	TAL CF
Total/NA	Prep	7470A			322794	07/19/21 12:15	JNR	TAL CF
Total/NA	Analysis	7470A		1	322950	07/20/21 11:10	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	322771	07/19/21 09:33	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	322661	07/16/21 14:30	LBB	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 13:40	SJF	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	324354	08/03/21 12:27	CJT	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:06	SAP	TAL CF
Total/NA	Prep	7470A			322794	07/19/21 12:15	JNR	TAL CF
Total/NA	Analysis	7470A		1	322950	07/20/21 11:13	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	322771	07/19/21 09:33	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	322661	07/16/21 14:28	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
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

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

Method Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Method	Method Description	Protocol	Laboratory
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

eurofins | Environment Testing TestAmerica

310-211049 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information

Client: SCS Engineering

City/State: CITY Marion STATE WI | Project: Lansing Generating Station

Receipt Information

Date/Time Received: DATE 7/14/2021 TIME 950 | Received By: AW

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 0.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Adam Watson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62231-18121.1
Client Contact: Mr. Tom Karwoski	Phone: 608-250-9985	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order Requested			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Generating Station - As/Mo	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (1) As	6020A - Metals (1) Mo	TDS, Ph, Anions	Metals (14) Hg	Radium	Alkalinity (Carbonate/Bicarbonate)	Total Metals	Dissolved Metals					Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	D	D	N	D	D						
MW-306	7/12/21			Water			X	X												See included table for sample parameter check
MW-304A	7/12/21			Water			X	X												
MW-307	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
MW-307A	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
Field blank	7/12/21			Water			X	X	X	X	X	X	X							

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Adam Watson	7/15/21	SCS Eng.		7/16 950	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-307	MW-307A	MW-308	MW-309	MW-20	MW-6	Field Blank	Outfall	Ash Pond Catwalk	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters, Total (Unfiltered)	Boron										X	X					X			3
		Calcium										X	X					X			3
		Chloride										X	X					X			3
		Fluoride										X	X					X			3
		pH										X	X					X			3
		Sulfate										X	X					X			3
		TDS										X	X					X			3
	Appendix IV Parameters, Total (Unfiltered)	Antimony										X	X					X			3
		Arsenic						X				X	X					X			4
		Barium										X	X					X			3
		Beryllium										X	X					X			3
		Cadmium										X	X					X			3
		Chromium										X	X					X			3
		Cobalt										X	X					X			3
		Fluoride										X	X					X			3
		Lead										X	X					X			3
		Lithium										X	X					X			3
		Mercury										X	X					X			3
		Molybdenum								X		X	X					X			4
		Selenium										X	X					X			3
		Thallium										X	X					X			3
		Radium										X	X					X			3
	Field Parameters	Groundwater Elevation										X	X	X	X						4
		Surface Water Elevation																	X	X	2
		Well Depth										X	X								2
		pH (field)										X	X								2
		Specific Conductance										X	X								2
		Dissolved Oxygen										X	X								2
		ORP										X	X								2
		Temperature										X	X								2
		Turbidity										X	X								2
		Color										X	X								2
		Odor										X	X								2
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate										X	X					X			3
		Alkalinity - Bicarbonate										X	X					X			3
		Iron										X	X					X			3
		Magnesium										X	X					X			3
		Manganese										X	X					X			3
		Potassium										X	X					X			3
		Sodium										X	X					X			3
	Dissolved (Filtered)	Arsenic										x	x								2
		Iron										x	x								2
		Manganese										x	x								2
		Molybdenum										x	x								2
	Field Parameters	Sulfide, Field										x	x								2
		Total Iron, Field										x	x								2
		Ferrous Iron, Field										x	x								2

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211049-1

Login Number: 211049
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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.	False	times taken from containers
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	

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-211049-2
Client Project/Site: Lansing Generating Station - 25221070.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
8/16/2021 12:55:29 PM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Job ID: 310-211049-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211049-2

Comments
No additional comments.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º C.

RAD
Method 903.0: Radium-226 Batch 519687 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 (310-211049-3), MW-307A (310-211049-4), Field Blank (310-211049-5), (LCS 160-519687/1-A), (LCSD 160-519687/2-A) and (MB 160-519687/23-A)

Method 904.0: Radium-228 Prep Batch 160-519723: 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 (310-211049-3), MW-307A (310-211049-4) and Field Blank (310-211049-5)

Method PrecSep_0: Ra-228 Batch 160-519723: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-307 (310-211049-3), MW-307A (310-211049-4) and Field Blank (310-211049-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-519687: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-307 (310-211049-3), MW-307A (310-211049-4) and Field Blank (310-211049-5). 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
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211049-3	MW-307	Water	07/12/21 20:45	07/16/21 09:50
310-211049-4	MW-307A	Water	07/12/21 19:40	07/16/21 09:50
310-211049-5	Field Blank	Water	07/12/21 19:40	07/16/21 09:50

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3

No Detections.

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4

No Detections.

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-307
Date Collected: 07/12/21 20:45
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-3
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	0.171		0.0892	0.0905	1.00	0.112	pCi/L	07/22/21 09:15	08/13/21 07:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*86.8*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:32*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.328	U	0.360	0.361	1.00	0.590	pCi/L	07/22/21 10:15	07/28/21 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*86.8*		*40 - 110*	*07/22/21 10:15*	*07/28/21 12:10*	*1*
Y Carrier	*86.9*		*40 - 110*	*07/22/21 10:15*	*07/28/21 12:10*	*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	0.499	U	0.371	0.372	5.00	0.590	pCi/L		08/16/21 12:35	1

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4

Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	**0.265**		0.118	0.121	1.00	0.150	pCi/L	07/22/21 09:15	08/13/21 07:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*88.8*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:32*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.245	U	0.234	0.235	1.00	0.378	pCi/L	07/22/21 10:15	07/28/21 09:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*88.8*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:14*	*1*
Y Carrier	*89.9*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:14*	*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	**0.509**		0.262	0.264	5.00	0.378	pCi/L		08/16/21 12:35	1

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5

Date Collected: 07/12/21 19:40
Matrix: Water

Date Received: 07/16/21 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	0.0568	U	0.0747	0.0748	1.00	0.125	pCi/L	07/22/21 09:15	08/13/21 07:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*77.1*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.246	U	0.272	0.273	1.00	0.446	pCi/L	07/22/21 10:15	07/28/21 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*77.1*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:15*	*1*
Y Carrier	*89.3*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:15*	*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	0.303	U	0.282	0.283	5.00	0.446	pCi/L		08/16/21 12:35	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

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.
¤	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

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-519687/23-A
Matrix: Water
Analysis Batch: 522527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 519687

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	0.06295	U	0.0668	0.0671	1.00	0.107	pCi/L	07/22/21 09:15	08/13/21 07:51	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*94.3*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:51*	*1*

Lab Sample ID: LCS 160-519687/1-A
Matrix: Water
Analysis Batch: 522526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 519687

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Ra-226			11.3	10.12		1.06	1.00	0.103	pCi/L	89	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba	*87.7*		*40 - 110*

Lab Sample ID: LCSD 160-519687/2-A
Matrix: Water
Analysis Batch: 522526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 519687

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Ra-226			11.3	10.86		1.13	1.00	0.129	pCi/L	96	75 - 125	0.34	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba	*87.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-519723/23-A
Matrix: Water
Analysis Batch: 520379

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 519723

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.3561		0.223	0.226	1.00	0.340	pCi/L	07/22/21 10:15	07/28/21 09:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*94.3*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:21*	*1*
Y Carrier	*88.1*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:21*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-519723/1-A
Matrix: Water
Analysis Batch: 520430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 519723

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Ra-228			9.48	9.594		1.11	1.00	0.363	pCi/L	101	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba	*87.7*		*40 - 110*
Y Carrier	*89.0*		*40 - 110*

Lab Sample ID: LCSD 160-519723/2-A
Matrix: Water
Analysis Batch: 520430

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 519723

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Ra-228			9.48	9.158		1.07	1.00	0.389	pCi/L	97	75 - 125	0.20	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba	*87.5*		*40 - 110*
Y Carrier	*89.9*		*40 - 110*

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Rad

Prep Batch: 519687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	PrecSep-21	
310-211049-4	MW-307A	Total/NA	Water	PrecSep-21	
310-211049-5	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-519687/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-519687/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-519687/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 519723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	PrecSep_0	
310-211049-4	MW-307A	Total/NA	Water	PrecSep_0	
310-211049-5	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-519723/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-519723/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-519723/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3
Date Collected: 07/12/21 20:45
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			519687	07/22/21 09:15	MJ	TAL SL
Total/NA	Analysis	903.0		1	522526	08/13/21 07:32	ANW	TAL SL
Total/NA	Prep	PrecSep_0			519723	07/22/21 10:15	MJ	TAL SL
Total/NA	Analysis	904.0		1	520413	07/28/21 12:10	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	522826	08/16/21 12:35	SCB	TAL SL

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			519687	07/22/21 09:15	MJ	TAL SL
Total/NA	Analysis	903.0		1	522526	08/13/21 07:32	ANW	TAL SL
Total/NA	Prep	PrecSep_0			519723	07/22/21 10:15	MJ	TAL SL
Total/NA	Analysis	904.0		1	520413	07/28/21 09:14	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	522826	08/16/21 12:35	SCB	TAL SL

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			519687	07/22/21 09:15	MJ	TAL SL
Total/NA	Analysis	903.0		1	522526	08/13/21 07:43	ANW	TAL SL
Total/NA	Prep	PrecSep_0			519723	07/22/21 10:15	MJ	TAL SL
Total/NA	Analysis	904.0		1	520440	07/28/21 09:15	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	522826	08/16/21 12:35	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
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

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.

Method Summary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

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

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310-211049 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information

Client: SCS Engineering

City/State: CITY Marion STATE WI | Project: Lansing Generating Station

Receipt Information

Date/Time Received: DATE 7/14/2021 TIME 950 | Received By: AW

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 0.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

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Client Information	Sampler: Adam Watson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62231-18121.1
Client Contact: Mr. Tom Karwoski	Phone: 608-250-9985	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order Requested			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Generating Station - As/Mo	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (1) As	6020A - Metals (1) Mo	TDS, Ph, Anions	Metals (14) Hg	Radium	Alkalinity (Carbonate/Bicarbonate)	Total Metals	Dissolved Metals					Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	D	D	N	D	D						
MW-306	7/12/21			Water			X	X												See included table for sample parameter check
MW-304A	7/12/21			Water			X	X												
MW-307	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
MW-307A	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
Field blank	7/12/21			Water			X	X	X	X	X	X	X							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Adam Watson	7/15/21	SCS Eng.		7/16 950	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

8/16/2021

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-307	MW-307A	MW-308	MW-309	MW-20	MW-6	Field Blank	Outfall	Ash Pond Catwalk	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters, Total (Unfiltered)	Boron										X	X					X			3
		Calcium										X	X					X			3
		Chloride										X	X					X			3
		Fluoride										X	X					X			3
		pH										X	X					X			3
		Sulfate										X	X					X			3
		TDS										X	X					X			3
	Appendix IV Parameters, Total (Unfiltered)	Antimony										X	X					X			3
		Arsenic						X				X	X					X			4
		Barium										X	X					X			3
		Beryllium										X	X					X			3
		Cadmium										X	X					X			3
		Chromium										X	X					X			3
		Cobalt										X	X					X			3
		Fluoride										X	X					X			3
		Lead										X	X					X			3
		Lithium										X	X					X			3
		Mercury										X	X					X			3
		Molybdenum								X		X	X					X			4
		Selenium										X	X					X			3
		Thallium										X	X					X			3
		Radium										X	X					X			3
	Field Parameters	Groundwater Elevation										X	X	X	X						4
		Surface Water Elevation																	X	X	2
		Well Depth										X	X								2
		pH (field)										X	X								2
		Specific Conductance										X	X								2
		Dissolved Oxygen										X	X								2
		ORP										X	X								2
		Temperature										X	X								2
		Turbidity										X	X								2
		Color										X	X								2
		Odor										X	X								2
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate										X	X					X			3
		Alkalinity - Bicarbonate										X	X					X			3
		Iron										X	X					X			3
		Magnesium										X	X					X			3
		Manganese										X	X					X			3
		Potassium										X	X					X			3
		Sodium										X	X					X			3
	Dissolved (Filtered)	Arsenic										x	x								2
		Iron										x	x								2
		Manganese										x	x								2
		Molybdenum										x	x								2
	Field Parameters	Sulfide, Field										x	x								2
		Total Iron, Field										x	x								2
		Ferrous Iron, Field										x	x								2

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211049-2

Login Number: 211049
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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.	False	times taken from containers
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: 310-211049-2

Login Number: 211049
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 07/20/21 09:19 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
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-211049-3	MW-307	86.8
310-211049-4	MW-307A	88.8
310-211049-5	Field Blank	77.1
LCS 160-519687/1-A	Lab Control Sample	87.7
LCSD 160-519687/2-A	Lab Control Sample Dup	87.5
MB 160-519687/23-A	Method Blank	94.3

Tracer/Carrier Legend

Ba = Ba

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-211049-3	MW-307	86.8	86.9
310-211049-4	MW-307A	88.8	89.9
310-211049-5	Field Blank	77.1	89.3
LCS 160-519723/1-A	Lab Control Sample	87.7	89.0
LCSD 160-519723/2-A	Lab Control Sample Dup	87.5	89.9
MB 160-519723/23-A	Method Blank	94.3	88.1

Tracer/Carrier Legend

Ba = Ba
Y = Y Carrier

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-211049-3
Client Project/Site: Lansing Generating Station - 25221070.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
7/30/2021 10:19:16 AM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Generating Station - 25221070.00

Job ID: 310-211049-3

Job ID: 310-211049-3

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211049-3

Comments
No additional comments.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º C.

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

General Chemistry
Method 2320B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 310-323183 recovered outside control limits for the following analytes: Total Alkalinity. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

Sample Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211049-3	MW-307	Water	07/12/21 20:45	07/16/21 09:50
310-211049-4	MW-307A	Water	07/12/21 19:40	07/16/21 09:50
310-211049-5	Field Blank	Water	07/12/21 19:40	07/16/21 09:50

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307 — Lab Sample ID: 310-211049-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	140		100	36	ug/L	1		6020A	Total/NA
Magnesium	17000		500	100	ug/L	1		6020A	Total/NA
Manganese	310		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3600		500	150	ug/L	1		6020A	Total/NA
Sodium	13000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	2.0		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	110		100	36	ug/L	1		6020A	Dissolved
Manganese	300		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	5.2		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	170		8.9	4.1	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	170		8.9	4.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-211049-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	33000		500	100	ug/L	1		6020A	Total/NA
Manganese	620		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3000		500	150	ug/L	1		6020A	Total/NA
Sodium	16000		1000	610	ug/L	1		6020A	Total/NA
Manganese	600		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	7.3		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		9.1	4.2	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	310		9.1	4.2	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-211049-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Date Collected: 07/12/21 20:45
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-3
Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	140		100	36	ug/L		07/21/21 09:00	07/26/21 18:59	1
Magnesium	17000		500	100	ug/L		07/21/21 09:00	07/26/21 18:59	1
Manganese	310		10	4.4	ug/L		07/21/21 09:00	07/26/21 18:59	1
Potassium	3600		500	150	ug/L		07/21/21 09:00	07/26/21 18:59	1
Sodium	13000		1000	610	ug/L		07/21/21 09:00	07/26/21 18:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.0		2.0	0.75	ug/L		07/21/21 09:00	07/29/21 16:06	1
Iron	110		100	36	ug/L		07/21/21 09:00	07/29/21 16:06	1
Manganese	300		10	4.4	ug/L		07/21/21 09:00	07/29/21 16:06	1
Molybdenum	5.2		2.0	1.3	ug/L		07/21/21 09:00	07/29/21 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	170		8.9	4.1	mg/L			07/19/21 10:34	1
Carbonate Alkalinity as CaCO3	<4.1		8.9	4.1	mg/L			07/19/21 10:34	1
Total Alkalinity as CaCO3	170		8.9	4.1	mg/L			07/19/21 10:34	1

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		07/21/21 09:00	07/26/21 19:02	1
Magnesium	**33000**		500	100	ug/L		07/21/21 09:00	07/26/21 19:02	1
Manganese	**620**		10	4.4	ug/L		07/21/21 09:00	07/26/21 19:02	1
Potassium	**3000**		500	150	ug/L		07/21/21 09:00	07/26/21 19:02	1
Sodium	**16000**		1000	610	ug/L		07/21/21 09:00	07/26/21 19:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/29/21 16:18	1
Iron	<36		100	36	ug/L		07/21/21 09:00	07/29/21 16:18	1
Manganese	**600**		10	4.4	ug/L		07/21/21 09:00	07/29/21 16:18	1
Molybdenum	**7.3**		2.0	1.3	ug/L		07/21/21 09:00	07/29/21 16:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**310**		9.1	4.2	mg/L			07/19/21 10:34	1
Carbonate Alkalinity as CaCO3	<4.2		9.1	4.2	mg/L			07/19/21 10:34	1
Total Alkalinity as CaCO3	**310**		9.1	4.2	mg/L			07/19/21 10:34	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		07/21/21 09:00	07/26/21 19:06	1
Magnesium	<100		500	100	ug/L		07/21/21 09:00	07/26/21 19:06	1
Manganese	<4.4		10	4.4	ug/L		07/21/21 09:00	07/26/21 19:06	1
Potassium	<150		500	150	ug/L		07/21/21 09:00	07/26/21 19:06	1
Sodium	<610		1000	610	ug/L		07/21/21 09:00	07/26/21 19:06	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			07/22/21 08:58	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/22/21 08:58	1
Total Alkalinity as CaCO3	<2.3	*+	5.0	2.3	mg/L			07/22/21 08:58	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Qualifiers

General Chemistry

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

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

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-322963/1-A
Matrix: Water
Analysis Batch: 323930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322963

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/29/21 16:01	1
Iron	<36		100	36	ug/L		07/21/21 09:00	07/29/21 16:01	1
Manganese	<4.4		10	4.4	ug/L		07/21/21 09:00	07/29/21 16:01	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/21/21 09:00	07/29/21 16:01	1

Lab Sample ID: LCS 310-322963/2-A
Matrix: Water
Analysis Batch: 323930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322963

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	190		ug/L		95	80 - 120
Iron	200	193		ug/L		97	80 - 120
Manganese	100	92.5		ug/L		92	80 - 120
Molybdenum	200	189		ug/L		94	80 - 120

Lab Sample ID: MB 310-322997/1-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		07/21/21 09:00	07/26/21 18:19	1
Magnesium	<100		500	100	ug/L		07/21/21 09:00	07/26/21 18:19	1
Manganese	<4.4		10	4.4	ug/L		07/21/21 09:00	07/26/21 18:19	1
Potassium	<150		500	150	ug/L		07/21/21 09:00	07/26/21 18:19	1
Sodium	<610		1000	610	ug/L		07/21/21 09:00	07/26/21 18:19	1

Lab Sample ID: LCS 310-322997/2-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	200	214		ug/L		107	80 - 120
Magnesium	2000	2050		ug/L		102	80 - 120
Manganese	100	98.6		ug/L		99	80 - 120
Potassium	2000	2040		ug/L		102	80 - 120
Sodium	2000	2010		ug/L		100	80 - 120

Lab Sample ID: 310-211049-5 DU
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	<36		<36		ug/L		NC	20
Magnesium	<100		<100		ug/L		NC	20
Manganese	<4.4		<4.4		ug/L		NC	20
Potassium	<150		<150		ug/L		NC	20
Sodium	<610		<610		ug/L		NC	20

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

Lab Sample ID: 310-211049-3 MS
Matrix: Water
Analysis Batch: 323930

Client Sample ID: MW-307
Prep Type: Dissolved
Prep Batch: 322963

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.0		200	194		ug/L		96	75 - 125
Iron	110		200	287		ug/L		89	75 - 125
Manganese	300		100	386		ug/L		90	75 - 125
Molybdenum	5.2		200	196		ug/L		95	75 - 125

Lab Sample ID: 310-211049-3 MSD
Matrix: Water
Analysis Batch: 323930

Client Sample ID: MW-307
Prep Type: Dissolved
Prep Batch: 322963

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	2.0		200	196		ug/L		97	75 - 125	1	20
Iron	110		200	288		ug/L		90	75 - 125	0	20
Manganese	300		100	395		ug/L		99	75 - 125	2	20
Molybdenum	5.2		200	200		ug/L		97	75 - 125	2	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-323183/1
Matrix: Water
Analysis Batch: 323183

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			07/22/21 08:58	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/22/21 08:58	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/22/21 08:58	1

Lab Sample ID: LCS 310-323183/2
Matrix: Water
Analysis Batch: 323183

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	1140	*+	mg/L		114	90 - 110

Lab Sample ID: 310-211049-5 MS
Matrix: Water
Analysis Batch: 323183

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	<2.3	*+	25.0	29.3		mg/L		117	69 - 126

Lab Sample ID: 310-211049-5 MSD
Matrix: Water
Analysis Batch: 323183

Client Sample ID: Field Blank
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	<2.3	*+	25.0	28.2		mg/L		113	69 - 126	4	14

QC Sample Results

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-322783/1
Matrix: Water
Analysis Batch: 322783

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			07/19/21 10:34	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/19/21 10:34	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/19/21 10:34	1

Lab Sample ID: LCS 310-322783/2
Matrix: Water
Analysis Batch: 322783

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

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Metals

Prep Batch: 322963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Dissolved	Water	3010A	
310-211049-4	MW-307A	Dissolved	Water	3010A	
MB 310-322963/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322963/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211049-3 MS	MW-307	Dissolved	Water	3010A	
310-211049-3 MSD	MW-307	Dissolved	Water	3010A	

Prep Batch: 322997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	3010A	
310-211049-4	MW-307A	Total/NA	Water	3010A	
310-211049-5	Field Blank	Total/NA	Water	3010A	
MB 310-322997/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211049-5 DU	Field Blank	Total/NA	Water	3010A	

Analysis Batch: 323563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	6020A	322997
310-211049-4	MW-307A	Total/NA	Water	6020A	322997
310-211049-5	Field Blank	Total/NA	Water	6020A	322997
MB 310-322997/1-A	Method Blank	Total/NA	Water	6020A	322997
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	6020A	322997
310-211049-5 DU	Field Blank	Total/NA	Water	6020A	322997

Analysis Batch: 323930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Dissolved	Water	6020A	322963
310-211049-4	MW-307A	Dissolved	Water	6020A	322963
MB 310-322963/1-A	Method Blank	Total/NA	Water	6020A	322963
LCS 310-322963/2-A	Lab Control Sample	Total/NA	Water	6020A	322963
310-211049-3 MS	MW-307	Dissolved	Water	6020A	322963
310-211049-3 MSD	MW-307	Dissolved	Water	6020A	322963

Analysis Batch: 323931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Dissolved	Water	6020A	322963
310-211049-4	MW-307A	Dissolved	Water	6020A	322963
MB 310-322963/1-A	Method Blank	Total/NA	Water	6020A	322963
LCS 310-322963/2-A	Lab Control Sample	Total/NA	Water	6020A	322963
310-211049-3 MS	MW-307	Dissolved	Water	6020A	322963
310-211049-3 MSD	MW-307	Dissolved	Water	6020A	322963

General Chemistry

Analysis Batch: 322783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	SM 2320B	
310-211049-4	MW-307A	Total/NA	Water	SM 2320B	
MB 310-322783/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-322783/2	Lab Control Sample	Total/NA	Water	SM 2320B	

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

General Chemistry

Analysis Batch: 323183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-5	Field Blank	Total/NA	Water	2320B	
MB 310-323183/1	Method Blank	Total/NA	Water	2320B	
LCS 310-323183/2	Lab Control Sample	Total/NA	Water	2320B	
310-211049-5 MS	Field Blank	Total/NA	Water	2320B	
310-211049-5 MSD	Field Blank	Total/NA	Water	2320B	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3
Date Collected: 07/12/21 20:45
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323930	07/29/21 16:06	SAP	TAL CF
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323931	07/29/21 16:06	SAP	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:59	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	322783	07/19/21 10:34	DFS	TAL CF

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323930	07/29/21 16:18	SAP	TAL CF
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323931	07/29/21 16:18	SAP	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:02	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	322783	07/19/21 10:34	DFS	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:06	SAP	TAL CF
Total/NA	Analysis	2320B		1	323183	07/22/21 08:58	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
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

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

Method Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

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

eurofins | Environment Testing TestAmerica

310-211049 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information

Client: SCS Engineering

City/State: CITY Marion STATE WI | Project: Lansing Generating Station

Receipt Information

Date/Time Received: DATE 7/14/2021 TIME 950 | Received By: AW

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 0.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Adam Watson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62231-18121.1
Client Contact: Mr. Tom Karwoski	Phone: 608-250-9985	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order Requested			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Generating Station - As/Mo	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (1) As	6020A - Metals (1) Mo	TDS, Ph, Anions	Metals (14) Hg	Radium	Alkalinity (Carbonate/Bicarbonate)	Total Metals	Dissolved Metals						Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	D	D	N	D	D							
MW-306	7/12/21			Water			X	X													See included table for sample parameter check
MW-304A	7/12/21			Water			X	X													
MW-307	7/12/21			Water			X	X	X	X	X	X	X	X							Dissolved metals sample was filtered
MW-307A	7/12/21			Water			X	X	X	X	X	X	X	X							Dissolved metals sample was filtered
Field blank	7/12/21			Water			X	X	X	X	X	X	X								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Adam Watson	7/15/21	SCS Eng.		7/16 950	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-307	MW-307A	MW-308	MW-309	MW-20	MW-6	Field Blank	Outfall	Ash Pond Catwalk	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters, Total (Unfiltered)	Boron										X	X					X			3
		Calcium										X	X					X			3
		Chloride										X	X					X			3
		Fluoride										X	X					X			3
		pH										X	X					X			3
		Sulfate										X	X					X			3
		TDS										X	X					X			3
	Appendix IV Parameters, Total (Unfiltered)	Antimony										X	X					X			3
		Arsenic						X				X	X					X			4
		Barium										X	X					X			3
		Beryllium										X	X					X			3
		Cadmium										X	X					X			3
		Chromium										X	X					X			3
		Cobalt										X	X					X			3
		Fluoride										X	X					X			3
		Lead										X	X					X			3
		Lithium										X	X					X			3
		Mercury										X	X					X			3
		Molybdenum								X		X	X					X			4
		Selenium										X	X					X			3
		Thallium										X	X					X			3
		Radium										X	X					X			3
	Field Parameters	Groundwater Elevation										X	X	X	X						4
		Surface Water Elevation																	X	X	2
		Well Depth										X	X								2
		pH (field)										X	X								2
		Specific Conductance										X	X								2
		Dissolved Oxygen										X	X								2
		ORP										X	X								2
		Temperature										X	X								2
		Turbidity										X	X								2
		Color										X	X								2
		Odor										X	X								2
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate										X	X					X			3
		Alkalinity - Bicarbonate										X	X					X			3
		Iron										X	X					X			3
		Magnesium										X	X					X			3
		Manganese										X	X					X			3
		Potassium										X	X					X			3
		Sodium										X	X					X			3
	Dissolved (Filtered)	Arsenic										x	x								2
		Iron										x	x								2
		Manganese										x	x								2
		Molybdenum										x	x								2
	Field Parameters	Sulfide, Field										x	x								2
		Total Iron, Field										x	x								2
		Ferrous Iron, Field										x	x								2

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211049-3

Login Number: 211049
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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.	False	times taken from containers
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 C4

August 2021 Supplemental Sampling Event

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-213027-1
Client Project/Site: Lansing Gen Station, 25221070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
8/30/2021 12:06:46 PM

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

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

Job ID: 310-213027-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-213027-1

Comments
No additional comments.

Receipt
The samples were received on 8/13/2021 3:30 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 1.5º 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.

Sample Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-213027-1	MW-307	Water	08/13/21 10:10	08/13/21 15:30
310-213027-2	MW-307A	Water	08/13/21 11:05	08/13/21 15:30
310-213027-3	Field Blank	Water	08/13/21 11:10	08/13/21 15:30

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

Client Sample ID: MW-307 — Lab Sample ID: 310-213027-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	42	F1	5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	2.4		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	300		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	250		100	58	ug/L	1		6020A	Total/NA
Calcium	47		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.15	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	13		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	7.2		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	230		50	26	mg/L	1		SM 2540C	Total/NA
pH	8.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	630.01				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-17.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.17				mg/L	1		Field Sampling	Total/NA
pH, Field	7.86				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	437.0				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	17.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-213027-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.2		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	32		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.76	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	120		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	380		100	58	ug/L	1		6020A	Total/NA
Calcium	62		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.57		0.50	0.091	ug/L	1		6020A	Total/NA
Molybdenum	6.6		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	290		50	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	625.48				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	54.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.17				mg/L	1		Field Sampling	Total/NA
pH, Field	7.35				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	612.3				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.5				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: 310-213027-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

Client Sample ID: MW-307

Date Collected: 08/13/21 10:10
Date Received: 08/13/21 15:30

Lab Sample ID: 310-213027-1

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16**		5.0	2.2	mg/L			08/17/21 18:24	5
Fluoride	<0.28	F1	0.50	0.28	mg/L			08/17/21 18:24	5
Sulfate	**42**	**F1**	5.0	2.5	mg/L			08/17/21 18:24	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		08/17/21 09:00	08/19/21 20:43	1
Arsenic	**2.4**		2.0	0.75	ug/L		08/17/21 09:00	08/19/21 20:43	1
Barium	**300**		2.0	0.30	ug/L		08/17/21 09:00	08/19/21 20:43	1
Beryllium	<0.27		1.0	0.27	ug/L		08/17/21 09:00	08/19/21 20:43	1
Boron	**250**		100	58	ug/L		08/17/21 09:00	08/19/21 20:43	1
Cadmium	<0.051		0.10	0.051	ug/L		08/17/21 09:00	08/19/21 20:43	1
Calcium	**47**		0.50	0.19	mg/L		08/17/21 09:00	08/19/21 20:43	1
Chromium	<1.1		5.0	1.1	ug/L		08/17/21 09:00	08/19/21 20:43	1
Cobalt	**0.15**	**J**	0.50	0.091	ug/L		08/17/21 09:00	08/23/21 17:43	1
Lead	<0.21		0.50	0.21	ug/L		08/17/21 09:00	08/19/21 20:43	1
Lithium	**13**		10	2.5	ug/L		08/17/21 09:00	08/19/21 20:43	1
Molybdenum	**7.2**		2.0	1.3	ug/L		08/17/21 09:00	08/19/21 20:43	1
Selenium	<0.96		5.0	0.96	ug/L		08/17/21 09:00	08/19/21 20:43	1
Thallium	<0.26		1.0	0.26	ug/L		08/17/21 09:00	08/19/21 20:43	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		08/18/21 12:18	08/19/21 10:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**230**		50	26	mg/L			08/16/21 10:39	1
pH	**8.1**	**HF**	0.1	0.1	SU			08/13/21 21:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**630.01**				ft			08/13/21 10:10	1
Oxidation Reduction Potential	**-17.5**				millivolts			08/13/21 10:10	1
Oxygen, Dissolved, Client Supplied	**0.17**				mg/L			08/13/21 10:10	1
pH, Field	**7.86**				SU			08/13/21 10:10	1
Specific Conductance, Field	**437.0**				umhos/cm			08/13/21 10:10	1
Temperature, Field	**17.4**				Degrees C			08/13/21 10:10	1
Turbidity, Field	**0.00**				NTU			08/13/21 10:10	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

Client Sample ID: MW-307A

Date Collected: 08/13/21 11:05
Date Received: 08/13/21 15:30

Lab Sample ID: 310-213027-2

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.2**		5.0	2.2	mg/L			08/17/21 19:11	5
Fluoride	<0.28		0.50	0.28	mg/L			08/17/21 19:11	5
Sulfate	**32**		5.0	2.5	mg/L			08/17/21 19:11	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		08/17/21 09:00	08/19/21 20:46	1
Arsenic	**0.76**	**J**	2.0	0.75	ug/L		08/17/21 09:00	08/19/21 20:46	1
Barium	**120**		2.0	0.30	ug/L		08/17/21 09:00	08/19/21 20:46	1
Beryllium	<0.27		1.0	0.27	ug/L		08/17/21 09:00	08/19/21 20:46	1
Boron	**380**		100	58	ug/L		08/17/21 09:00	08/19/21 20:46	1
Cadmium	<0.051		0.10	0.051	ug/L		08/17/21 09:00	08/19/21 20:46	1
Calcium	**62**		0.50	0.19	mg/L		08/17/21 09:00	08/19/21 20:46	1
Chromium	<1.1		5.0	1.1	ug/L		08/17/21 09:00	08/19/21 20:46	1
Cobalt	**0.57**		0.50	0.091	ug/L		08/17/21 09:00	08/23/21 17:46	1
Lead	<0.21		0.50	0.21	ug/L		08/17/21 09:00	08/19/21 20:46	1
Lithium	<2.5		10	2.5	ug/L		08/17/21 09:00	08/19/21 20:46	1
Molybdenum	**6.6**		2.0	1.3	ug/L		08/17/21 09:00	08/19/21 20:46	1
Selenium	<0.96		5.0	0.96	ug/L		08/17/21 09:00	08/19/21 20:46	1
Thallium	<0.26		1.0	0.26	ug/L		08/17/21 09:00	08/19/21 20:46	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		08/18/21 12:18	08/19/21 10:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**290**		50	26	mg/L			08/16/21 10:39	1
pH	**7.6**	**HF**	0.1	0.1	SU			08/13/21 21:11	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**625.48**				ft			08/13/21 11:05	1
Oxidation Reduction Potential	**54.3**				millivolts			08/13/21 11:05	1
Oxygen, Dissolved, Client Supplied	**0.17**				mg/L			08/13/21 11:05	1
pH, Field	**7.35**				SU			08/13/21 11:05	1
Specific Conductance, Field	**612.3**				umhos/cm			08/13/21 11:05	1
Temperature, Field	**12.5**				Degrees C			08/13/21 11:05	1
Turbidity, Field	**0.00**				NTU			08/13/21 11:05	1

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

Client Sample ID: Field Blank

Date Collected: 08/13/21 11:10
Date Received: 08/13/21 15:30

Lab Sample ID: 310-213027-3

Matrix: Water

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			08/17/21 19:27	1
Fluoride	<0.055		0.10	0.055	mg/L			08/17/21 19:27	1
Sulfate	<0.49		1.0	0.49	mg/L			08/17/21 19:27	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		08/17/21 09:00	08/23/21 17:50	1
Arsenic	<0.75		2.0	0.75	ug/L		08/17/21 09:00	08/23/21 17:50	1
Barium	<0.30		2.0	0.30	ug/L		08/17/21 09:00	08/23/21 17:50	1
Beryllium	<0.27		1.0	0.27	ug/L		08/17/21 09:00	08/23/21 17:50	1
Boron	<58		100	58	ug/L		08/17/21 09:00	08/19/21 20:59	1
Cadmium	<0.051		0.10	0.051	ug/L		08/17/21 09:00	08/23/21 17:50	1
Calcium	<0.19		0.50	0.19	mg/L		08/17/21 09:00	08/19/21 20:59	1
Chromium	<1.1		5.0	1.1	ug/L		08/17/21 09:00	08/23/21 17:50	1
Cobalt	<0.091		0.50	0.091	ug/L		08/17/21 09:00	08/23/21 17:50	1
Lead	<0.21		0.50	0.21	ug/L		08/17/21 09:00	08/23/21 17:50	1
Lithium	<2.5		10	2.5	ug/L		08/17/21 09:00	08/19/21 20:59	1
Molybdenum	<1.3		2.0	1.3	ug/L		08/17/21 09:00	08/23/21 17:50	1
Selenium	<0.96		5.0	0.96	ug/L		08/17/21 09:00	08/19/21 20:59	1
Thallium	<0.26		1.0	0.26	ug/L		08/17/21 09:00	08/19/21 20:59	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		08/18/21 12:18	08/19/21 10:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			08/16/21 10:39	1
pH	5.9	HF	0.1	0.1	SU			08/13/21 21:05	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery 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.
¤	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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-325738/3
Matrix: Water
Analysis Batch: 325738

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			08/17/21 16:19	1
Fluoride	<0.055		0.10	0.055	mg/L			08/17/21 16:19	1
Sulfate	<0.49		1.0	0.49	mg/L			08/17/21 16:19	1

Lab Sample ID: LCS 310-325738/4
Matrix: Water
Analysis Batch: 325738

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	9.53		mg/L		95	90 - 110
Fluoride	2.00	2.06		mg/L		103	90 - 110
Sulfate	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: 310-213027-1 MS
Matrix: Water
Analysis Batch: 325738

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
Chloride	16		25.0	38.1		mg/L		87	80 - 120
Fluoride	<0.28	F1	5.00	4.62		mg/L		92	80 - 120
Sulfate	42	F1	25.0	64.4		mg/L		89	80 - 120

Lab Sample ID: 310-213027-1 MSD
Matrix: Water
Analysis Batch: 325738

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
Chloride	16		25.0	37.9		mg/L		86	80 - 120	0	15
Fluoride	<0.28	F1	5.00	4.62		mg/L		92	80 - 120	0	15
Sulfate	42	F1	25.0	63.2		mg/L		85	80 - 120	2	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-325548/1-A
Matrix: Water
Analysis Batch: 325937

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 325548

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		08/17/21 09:00	08/19/21 19:45	1
Arsenic	<0.75		2.0	0.75	ug/L		08/17/21 09:00	08/19/21 19:45	1
Barium	<0.30		2.0	0.30	ug/L		08/17/21 09:00	08/19/21 19:45	1
Beryllium	<0.27		1.0	0.27	ug/L		08/17/21 09:00	08/19/21 19:45	1
Boron	<58		100	58	ug/L		08/17/21 09:00	08/19/21 19:45	1
Cadmium	<0.051		0.10	0.051	ug/L		08/17/21 09:00	08/19/21 19:45	1
Calcium	<0.19		0.50	0.19	mg/L		08/17/21 09:00	08/19/21 19:45	1
Chromium	<1.1		5.0	1.1	ug/L		08/17/21 09:00	08/19/21 19:45	1
Cobalt	<0.091		0.50	0.091	ug/L		08/17/21 09:00	08/19/21 19:45	1
Lead	<0.21		0.50	0.21	ug/L		08/17/21 09:00	08/19/21 19:45	1
Molybdenum	<1.3		2.0	1.3	ug/L		08/17/21 09:00	08/19/21 19:45	1
Selenium	<0.96		5.0	0.96	ug/L		08/17/21 09:00	08/19/21 19:45	1

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

Lab Sample ID: MB 310-325548/1-A
Matrix: Water
Analysis Batch: 325937

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 325548

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.26		1.0	0.26	ug/L		08/17/21 09:00	08/19/21 19:45	1

Lab Sample ID: MB 310-325548/1-A
Matrix: Water
Analysis Batch: 326233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 325548

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.5		10	2.5	ug/L		08/17/21 09:00	08/23/21 16:41	1

Lab Sample ID: LCS 310-325548/2-A
Matrix: Water
Analysis Batch: 325937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 325548

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	203		ug/L		102	80 - 120
Arsenic	200	196		ug/L		98	80 - 120
Barium	100	101		ug/L		101	80 - 120
Beryllium	100	94.6		ug/L		95	80 - 120
Boron	200	208		ug/L		104	80 - 120
Cadmium	100	96.3		ug/L		96	80 - 120
Calcium	2.00	1.79		mg/L		90	80 - 120
Chromium	100	99.4		ug/L		99	80 - 120
Cobalt	100	96.9		ug/L		97	80 - 120
Lead	200	201		ug/L		100	80 - 120
Molybdenum	200	187		ug/L		94	80 - 120
Selenium	400	391		ug/L		98	80 - 120
Thallium	200	203		ug/L		102	80 - 120

Lab Sample ID: LCS 310-325548/2-A
Matrix: Water
Analysis Batch: 326233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 325548

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	200	217		ug/L		108	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-325732/1-A
Matrix: Water
Analysis Batch: 325884

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 325732

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		08/18/21 12:18	08/19/21 09:52	1

Lab Sample ID: LCS 310-325732/2-A
Matrix: Water
Analysis Batch: 325884

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 325732

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.59		ug/L		95	80 - 120

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

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

Lab Sample ID: MB 310-325460/1
Matrix: Water
Analysis Batch: 325460

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			08/16/21 10:39	1

Lab Sample ID: LCS 310-325460/2
Matrix: Water
Analysis Batch: 325460

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	950		mg/L		95	90 - 110		

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-325378/1
Matrix: Water
Analysis Batch: 325378

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		101	98 - 102		

Lab Sample ID: 310-213027-3 DU
Matrix: Water
Analysis Batch: 325378

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

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	5.9	HF		5.9		SU				0.2	20

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

HPLC/IC

Analysis Batch: 325738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	9056A	
310-213027-2	MW-307A	Total/NA	Water	9056A	
310-213027-3	Field Blank	Total/NA	Water	9056A	
MB 310-325738/3	Method Blank	Total/NA	Water	9056A	
LCS 310-325738/4	Lab Control Sample	Total/NA	Water	9056A	
310-213027-1 MS	MW-307	Total/NA	Water	9056A	
310-213027-1 MSD	MW-307	Total/NA	Water	9056A	

Metals

Prep Batch: 325548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	3010A	
310-213027-2	MW-307A	Total/NA	Water	3010A	
310-213027-3	Field Blank	Total/NA	Water	3010A	
MB 310-325548/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-325548/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 325732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	7470A	
310-213027-2	MW-307A	Total/NA	Water	7470A	
310-213027-3	Field Blank	Total/NA	Water	7470A	
MB 310-325732/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-325732/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 325884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	7470A	325732
310-213027-2	MW-307A	Total/NA	Water	7470A	325732
310-213027-3	Field Blank	Total/NA	Water	7470A	325732
MB 310-325732/1-A	Method Blank	Total/NA	Water	7470A	325732
LCS 310-325732/2-A	Lab Control Sample	Total/NA	Water	7470A	325732

Analysis Batch: 325937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	6020A	325548
310-213027-2	MW-307A	Total/NA	Water	6020A	325548
310-213027-3	Field Blank	Total/NA	Water	6020A	325548
MB 310-325548/1-A	Method Blank	Total/NA	Water	6020A	325548
LCS 310-325548/2-A	Lab Control Sample	Total/NA	Water	6020A	325548

Analysis Batch: 326233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	6020A	325548
310-213027-2	MW-307A	Total/NA	Water	6020A	325548
310-213027-3	Field Blank	Total/NA	Water	6020A	325548
MB 310-325548/1-A	Method Blank	Total/NA	Water	6020A	325548
LCS 310-325548/2-A	Lab Control Sample	Total/NA	Water	6020A	325548

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

General Chemistry

Analysis Batch: 325378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	SM 4500 H+ B	
310-213027-2	MW-307A	Total/NA	Water	SM 4500 H+ B	
310-213027-3	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-325378/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-213027-3 DU	Field Blank	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 325460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	SM 2540C	
310-213027-2	MW-307A	Total/NA	Water	SM 2540C	
310-213027-3	Field Blank	Total/NA	Water	SM 2540C	
MB 310-325460/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-325460/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 326917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	Field Sampling	
310-213027-2	MW-307A	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-213027-1
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-307
Lab Sample ID: 310-213027-1
Date Collected: 08/13/21 10:10
Matrix: Water
Date Received: 08/13/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	325738	08/17/21 18:24	JNR	TAL CF
Total/NA	Prep	3010A			325548	08/17/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	326233	08/23/21 17:43	SAP	TAL CF
Total/NA	Prep	3010A			325548	08/17/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	325937	08/19/21 20:43	SAP	TAL CF
Total/NA	Prep	7470A			325732	08/18/21 12:18	EAM	TAL CF
Total/NA	Analysis	7470A		1	325884	08/19/21 10:09	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	325460	08/16/21 10:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	325378	08/13/21 21:09	JWH	TAL CF
Total/NA	Analysis	Field Sampling		1	326917	08/13/21 10:10	SJF	TAL CF

Client Sample ID: MW-307A
Lab Sample ID: 310-213027-2
Date Collected: 08/13/21 11:05
Matrix: Water
Date Received: 08/13/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	325738	08/17/21 19:11	JNR	TAL CF
Total/NA	Prep	3010A			325548	08/17/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	326233	08/23/21 17:46	SAP	TAL CF
Total/NA	Prep	3010A			325548	08/17/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	325937	08/19/21 20:46	SAP	TAL CF
Total/NA	Prep	7470A			325732	08/18/21 12:18	EAM	TAL CF
Total/NA	Analysis	7470A		1	325884	08/19/21 10:11	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	325460	08/16/21 10:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	325378	08/13/21 21:11	JWH	TAL CF
Total/NA	Analysis	Field Sampling		1	326917	08/13/21 11:05	SJF	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-213027-3
Date Collected: 08/13/21 11:10
Matrix: Water
Date Received: 08/13/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	325738	08/17/21 19:27	JNR	TAL CF
Total/NA	Prep	3010A			325548	08/17/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	326233	08/23/21 17:50	SAP	TAL CF
Total/NA	Prep	3010A			325548	08/17/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	325937	08/19/21 20:59	SAP	TAL CF
Total/NA	Prep	7470A			325732	08/18/21 12:18	EAM	TAL CF
Total/NA	Analysis	7470A		1	325884	08/19/21 10:18	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	325460	08/16/21 10:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	325378	08/13/21 21:05	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
Job ID: 310-213027-1
Project/Site: Lansing Gen Station, 25221070

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

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-1

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

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310-213027 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY Madison STATE WI Project:

Receipt Information

Date/Time Received: DATE 8/13/2021 TIME 1530 Received By: AW

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☐ Yes	☑ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 0 Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.5 Corrected Temp (°C): 1.5

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

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Client Information	Sampler: ROSA CRUZ	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62888-16398.1
Client Contact: Mr. Tom Karwoski	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718-6751	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, 25221070	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (14)* & Hg	2540C_Calcd TDS, 9056A_GR/GFM_28D Cl/F/Sulf, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
MW-307	8-13-21	10:10	G	Water	N		X	X	X	X		*Sb,As,Ba,Be,B,Ca,Cd,Cr,Co,Pb,Li,Hg,Mo,Se,Tl
MW-307A	8-13-21	11:05	G	Water	N		X	X	X	X		
Field Blank	8-13-21	11:10	G	Water	N		X	X	X	X		
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
ROSA CRUZ	8-13-21	SCS	[signature]	8/13/21 1530	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: [redacted]	Company

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

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-213027-1

Login Number: 213027
List Number: 1
Creator: Kizer, Preston V

List Source: Eurofins TestAmerica, Cedar Falls

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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-213027-2
Client Project/Site: Lansing Gen Station, 25221070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
9/20/2021 6:50:00 PM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-2

Job ID: 310-213027-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-213027-2

Comments
No additional comments.

Receipt
The samples were received on 8/13/2021 3:30 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 1.5º C.

RAD
Method 903.0: Radium 226 prep batch 160-523122 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 (310-213027-1), MW-307A (310-213027-2), Field Blank (310-213027-3), (LCS 160-523122/1-A), (LCSD 160-523122/2-A) and (MB 160-523122/10-A)

Method 904.0: Radium 228 prep batch 160-523125 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 (310-213027-1), MW-307A (310-213027-2), Field Blank (310-213027-3), (LCS 160-523125/1-A), (LCSD 160-523125/2-A) and (MB 160-523125/10-A)

Method PrecSep_0: Ra-228 Batch 160-523125: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-307 (310-213027-1), MW-307A (310-213027-2) and Field Blank (310-213027-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-523122: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-307 (310-213027-1), MW-307A (310-213027-2) and Field Blank (310-213027-3). 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: Lansing Gen Station, 25221070

Job ID: 310-213027-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-213027-1	MW-307	Water	08/13/21 10:10	08/13/21 15:30
310-213027-2	MW-307A	Water	08/13/21 11:05	08/13/21 15:30
310-213027-3	Field Blank	Water	08/13/21 11:10	08/13/21 15:30

Detection Summary

Client: SCS Engineers
Job ID: 310-213027-2
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-307 — Lab Sample ID: 310-213027-1

No Detections.

Client Sample ID: MW-307A — Lab Sample ID: 310-213027-2

No Detections.

Client Sample ID: Field Blank — Lab Sample ID: 310-213027-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-307
Lab Sample ID: 310-213027-1

Date Collected: 08/13/21 10:10
Matrix: Water

Date Received: 08/13/21 15:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.289	U	0.242	0.243	1.00	0.362	pCi/L	08/18/21 09:45	09/09/21 17:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*90.8*		*40 - 110*	*08/18/21 09:45*	*09/09/21 17:26*	*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	**1.62**		0.354	0.384	1.00	0.404	pCi/L	08/18/21 10:16	09/09/21 12:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*90.8*		*40 - 110*	*08/18/21 10:16*	*09/09/21 12:56*	*1*
Y Carrier	*87.1*		*40 - 110*	*08/18/21 10:16*	*09/09/21 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	**1.91**		0.429	0.454	5.00	0.404	pCi/L		09/16/21 17:37	1

Client Sample ID: MW-307A
Lab Sample ID: 310-213027-2

Date Collected: 08/13/21 11:05
Matrix: Water

Date Received: 08/13/21 15:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.163	U	0.218	0.219	1.00	0.367	pCi/L	08/18/21 09:45	09/09/21 17:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*87.9*		*40 - 110*	*08/18/21 09:45*	*09/09/21 17:26*	*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	0.0954	U	0.236	0.236	1.00	0.409	pCi/L	08/18/21 10:16	09/09/21 12:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*87.9*		*40 - 110*	*08/18/21 10:16*	*09/09/21 12:58*	*1*
Y Carrier	*84.9*		*40 - 110*	*08/18/21 10:16*	*09/09/21 12:58*	*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	0.258	U	0.321	0.322	5.00	0.409	pCi/L		09/16/21 17:37	1

Client Sample ID: Field Blank
Lab Sample ID: 310-213027-3

Date Collected: 08/13/21 11:10
Matrix: Water

Date Received: 08/13/21 15:30

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.190	U	0.208	0.209	1.00	0.331	pCi/L	08/18/21 09:45	09/09/21 17:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*83.8*		*40 - 110*	*08/18/21 09:45*	*09/09/21 17:26*	*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	**0.664**		0.266	0.272	1.00	0.357	pCi/L	08/18/21 10:16	09/09/21 12:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*83.8*		*40 - 110*	*08/18/21 10:16*	*09/09/21 12:58*	*1*
Y Carrier	*89.7*		*40 - 110*	*08/18/21 10:16*	*09/09/21 12:58*	*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	**0.854**		0.338	0.343	5.00	0.357	pCi/L		09/16/21 17:37	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-2

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.
¤	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

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-523122/10-A
Matrix: Water
Analysis Batch: 526075

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 523122

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.1584	U	0.195	0.196	1.00	0.320	pCi/L	08/18/21 09:45	09/09/21 20:06	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*72.8*		*40 - 110*	*08/18/21 09:45*	*09/09/21 20:06*	*1*

Lab Sample ID: LCS 160-523122/1-A
Matrix: Water
Analysis Batch: 526075

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 523122

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium 226			11.3	9.608		1.29	1.00	0.356	pCi/L	85	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba	*93.2*		*40 - 110*

Lab Sample ID: LCSD 160-523122/2-A
Matrix: Water
Analysis Batch: 526075

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 523122

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium 226			11.3	9.751		1.30	1.00	0.284	pCi/L	86	75 - 125	0.06	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba	*89.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-523125/10-A
Matrix: Water
Analysis Batch: 526070

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 523125

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.3590	U	0.311	0.313	1.00	0.498	pCi/L	08/18/21 10:16	09/09/21 12:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*72.8*		*40 - 110*	*08/18/21 10:16*	*09/09/21 12:50*	*1*
Y Carrier	*88.6*		*40 - 110*	*08/18/21 10:16*	*09/09/21 12:50*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-523125/1-A
Matrix: Water
Analysis Batch: 526075

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 523125

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium 228			9.35	10.09		1.17	1.00	0.377	pCi/L	108	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba	*93.2*		*40 - 110*
Y Carrier	*85.6*		*40 - 110*

Lab Sample ID: LCSD 160-523125/2-A
Matrix: Water
Analysis Batch: 526075

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 523125

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium 228			9.35	10.83		1.25	1.00	0.441	pCi/L	116	75 - 125	0.31	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba	*89.7*		*40 - 110*
Y Carrier	*88.6*		*40 - 110*

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-2

Rad

Prep Batch: 523122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	PrecSep-21	
310-213027-2	MW-307A	Total/NA	Water	PrecSep-21	
310-213027-3	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-523122/10-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-523122/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-523122/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 523125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-213027-1	MW-307	Total/NA	Water	PrecSep_0	
310-213027-2	MW-307A	Total/NA	Water	PrecSep_0	
310-213027-3	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-523125/10-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-523125/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-523125/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-213027-2
Project/Site: Lansing Gen Station, 25221070

Client Sample ID: MW-307
Lab Sample ID: 310-213027-1
Date Collected: 08/13/21 10:10
Matrix: Water
Date Received: 08/13/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			523122	08/18/21 09:45	MJ	TAL SL
Total/NA	Analysis	903.0		1	526075	09/09/21 17:26	ANW	TAL SL
Total/NA	Prep	PrecSep_0			523125	08/18/21 10:16	MJ	TAL SL
Total/NA	Analysis	904.0		1	526075	09/09/21 12:56	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	527433	09/16/21 17:37	CAH	TAL SL

Client Sample ID: MW-307A
Lab Sample ID: 310-213027-2
Date Collected: 08/13/21 11:05
Matrix: Water
Date Received: 08/13/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			523122	08/18/21 09:45	MJ	TAL SL
Total/NA	Analysis	903.0		1	526075	09/09/21 17:26	ANW	TAL SL
Total/NA	Prep	PrecSep_0			523125	08/18/21 10:16	MJ	TAL SL
Total/NA	Analysis	904.0		1	526075	09/09/21 12:58	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	527433	09/16/21 17:37	CAH	TAL SL

Client Sample ID: Field Blank
Lab Sample ID: 310-213027-3
Date Collected: 08/13/21 11:10
Matrix: Water
Date Received: 08/13/21 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			523122	08/18/21 09:45	MJ	TAL SL
Total/NA	Analysis	903.0		1	526075	09/09/21 17:26	ANW	TAL SL
Total/NA	Prep	PrecSep_0			523125	08/18/21 10:16	MJ	TAL SL
Total/NA	Analysis	904.0		1	526075	09/09/21 12:58	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	527433	09/16/21 17:37	CAH	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
Job ID: 310-213027-2
Project/Site: Lansing Gen Station, 25221070

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	06-30-22
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	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.

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25221070

Job ID: 310-213027-2

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

eurofins | Environment Testing TestAmerica

310-213027 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY Madison STATE WI | Project:

Receipt Information

Date/Time Received: DATE 8/13/2021 TIME 1530 | Received By: AW

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☐ Yes	☑ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 0 | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1.5 | Corrected Temp (°C): 1.5

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing America

Client Information	Sampler: ROSA CRUZ	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62888-16398.1
Client Contact: Mr. Tom Karwoski	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718-6751	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, 25221070	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (14)* & Hg	2540C_Calcd TDS, 9056A_GR/GFM_28D Cl/F/Sulf, SM4500_H+	903.0 - Radium 226	904.0 - Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	D		
MW-307	8-13-21	10:10	G	Water	N		X	X	X	X		*Sb,As,Ba,Be,B,Ca,Cd,Cr,Co,Pb,Li,Hg,Mo,Se,Tl
MW-307A	8-13-21	11:05	G	Water	N		X	X	X	X		
Field Blank	8-13-21	11:10	G	Water	N		X	X	X	X		
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
ROSA CRUZ	8-13-21	SCS	[signature]	8/13/21 1530	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: [redacted]	Company

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

Ver: 01/16/2019

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9/20/2021

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-213027-2

Login Number: 213027
List Number: 1
Creator: Kizer, Preston V

List Source: Eurofins TestAmerica, Cedar Falls

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: 310-213027-2

Login Number: 213027
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 08/17/21 01:10 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: Lansing Gen Station, 25221070

Job ID: 310-213027-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-213027-1	MW-307	90.8
310-213027-2	MW-307A	87.9
310-213027-3	Field Blank	83.8
LCS 160-523122/1-A	Lab Control Sample	93.2
LCSD 160-523122/2-A	Lab Control Sample Dup	89.7
MB 160-523122/10-A	Method Blank	72.8

Tracer/Carrier Legend

Ba = Ba

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-213027-1	MW-307	90.8	87.1
310-213027-2	MW-307A	87.9	84.9
310-213027-3	Field Blank	83.8	89.7
LCS 160-523125/1-A	Lab Control Sample	93.2	85.6
LCSD 160-523125/2-A	Lab Control Sample Dup	89.7	88.6
MB 160-523125/10-A	Method Blank	72.8	88.6

Tracer/Carrier Legend

Ba = Ba
Y = Y Carrier

Appendix C5

October 2021 Assessment Monitoring

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-218390-1
Client Project/Site: Lansing Gen Station - 25220070.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
12/3/2021 10:06:31 AM

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

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Job ID: 310-218390-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-218390-1

Comments
No additional comments.

Receipt
The samples were received on 10/28/2021 8:27 AM. 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 2.5º C, 3.6º C, 4.5º C and 5.4º C.

HPLC/IC
Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-218390-1), MW-302 (310-218390-2), MW-303 (310-218390-3), MW-304 (310-218390-4), MW-305 (310-218390-5), MW-306 (310-218390-6), MW-302A (310-218390-7), MW-304A (310-218390-8), MW-306A (310-218390-9), MW-307 (310-218390-10), MW-307A (310-218390-11), MW-20 (310-218390-12) and MW-6 (310-218390-13). 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: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-218390-1	MW-301	Water	10/26/21 17:50	10/28/21 09:01
310-218390-2	MW-302	Water	10/27/21 10:50	10/28/21 09:01
310-218390-3	MW-303	Water	10/26/21 13:45	10/28/21 09:01
310-218390-4	MW-304	Water	10/26/21 11:45	10/28/21 09:01
310-218390-5	MW-305	Water	10/27/21 10:55	10/28/21 09:01
310-218390-6	MW-306	Water	10/27/21 12:15	10/28/21 09:01
310-218390-7	MW-302A	Water	10/27/21 09:20	10/28/21 09:01
310-218390-8	MW-304A	Water	10/26/21 13:10	10/28/21 09:01
310-218390-9	MW-306A	Water	10/27/21 13:30	10/28/21 09:01
310-218390-10	MW-307	Water	10/27/21 14:50	10/28/21 09:01
310-218390-11	MW-307A	Water	10/27/21 12:35	10/28/21 09:01
310-218390-12	MW-20	Water	10/26/21 11:00	10/28/21 09:01
310-218390-13	MW-6	Water	10/26/21 15:10	10/28/21 09:01
310-218390-14	Field Blank	Water	10/26/21 11:50	10/28/21 09:01

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-301 — Lab Sample ID: 310-218390-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	49		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	7.1		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	160		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	260		100	58	ug/L	1		6020A	Total/NA
Calcium	68		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.23	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.37	J	0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	6.7	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	6.2		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	210		50	26	mg/L	1		SM 2540C	Total/NA
pH	8.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	627.00				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-159.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	8.11				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	534				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.81				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-218390-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	1.3	F1	0.50	0.28	mg/L	5		9056A	Total/NA
Arsenic	51		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	680		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	630		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.076	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.1		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	1.0		0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	1.4	J	2.0	1.3	ug/L	1		6020A	Total/NA
Thallium	0.31	J	1.0	0.26	ug/L	1		6020A	Total/NA
Total Dissolved Solids	450		50	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	628.86				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-128.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.07				mg/L	1		Field Sampling	Total/NA
pH, Field	6.89				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1075				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.35				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303 — Lab Sample ID: 310-218390-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	25		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	28		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	2.2		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	240		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	170		100	58	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-303 (Continued) — Lab Sample ID: 310-218390-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	49		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	11		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	7.1		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	150		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	638.68				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	125.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.17				mg/L	1		Field Sampling	Total/NA
pH, Field	7.45				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	452				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	24.8				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.65				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304 — Lab Sample ID: 310-218390-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.9		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	18		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	44		2.0	0.37	ug/L	1		6020A	Total/NA
Calcium	71		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.22	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.23	J	0.50	0.21	ug/L	1		6020A	Total/NA
Total Dissolved Solids	200		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	621.29				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	171.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	8.32				mg/L	1		Field Sampling	Total/NA
pH, Field	7.29				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	562.3				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305 — Lab Sample ID: 310-218390-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.6		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	14		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	3.9		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	200		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	200		100	58	ug/L	1		6020A	Total/NA
Calcium	79		0.50	0.19	mg/L	1		6020A	Total/NA
Lead	0.29	J	0.50	0.21	ug/L	1		6020A	Total/NA
Total Dissolved Solids	260		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	626.41				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-128.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.08				mg/L	1		Field Sampling	Total/NA
pH, Field	7.29				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	643.0				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.27				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-306 — Lab Sample ID: 310-218390-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	34		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	95		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	8.6		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	320		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	580		100	58	ug/L	1		6020A	Total/NA
Calcium	210		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.30	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lead	1.1		0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	22		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	960		50	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	619.91				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-126.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.11				mg/L	1		Field Sampling	Total/NA
pH, Field	6.86				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1778				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.72				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302A — Lab Sample ID: 310-218390-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.9		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	50		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	48		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	140		100	58	ug/L	1		6020A	Total/NA
Calcium	75		0.50	0.19	mg/L	1		6020A	Total/NA
Lead	0.22	J	0.50	0.21	ug/L	1		6020A	Total/NA
Selenium	1.0	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	280		50	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	623.10				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	159.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	7.27				mg/L	1		Field Sampling	Total/NA
pH, Field	7.15				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	627.0				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A — Lab Sample ID: 310-218390-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	91		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	26		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	1300		100	58	ug/L	1		6020A	Total/NA
Calcium	35		0.50	0.19	mg/L	1		6020A	Total/NA
Lead	0.37	J	0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	120		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	240		50	26	mg/L	1		SM 2540C	Total/NA
pH	8.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	623.87				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-304A (Continued) — Lab Sample ID: 310-218390-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxidation Reduction Potential	157.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	2.53				mg/L	1		Field Sampling	Total/NA
pH, Field	7.94				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	526.8				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.78				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A — Lab Sample ID: 310-218390-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.7		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	42		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	59		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	240		100	58	ug/L	1		6020A	Total/NA
Calcium	80		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.21	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.32	J	0.50	0.21	ug/L	1		6020A	Total/NA
Selenium	0.99	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	280		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	620.17				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	78.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.23				mg/L	1		Field Sampling	Total/NA
pH, Field	7.34				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	663				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.59				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-218390-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	70		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	2.5		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	240		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	280		100	58	ug/L	1		6020A	Total/NA
Calcium	38		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	12		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	12		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	130		50	26	mg/L	1		SM 2540C	Total/NA
pH	8.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	634.90				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-123.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.93				mg/L	1		Field Sampling	Total/NA
pH, Field	8.11				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	361.2				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.4				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.

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-307A — Lab Sample ID: 310-218390-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.1		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	33		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	1.3	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	130		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	300		100	58	ug/L	1		6020A	Total/NA
Calcium	70		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.77		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.21	J	0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	6.3		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	230		50	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	626.25				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	47.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.39				mg/L	1		Field Sampling	Total/NA
pH, Field	7.29				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	625.4				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-20 — Lab Sample ID: 310-218390-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.8	J	5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	240		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	3.4		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	99		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	2400		100	58	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.86		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.32	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	20		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	600		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	649.34				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	147.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.17				mg/L	1		Field Sampling	Total/NA
pH, Field	7.72				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	989				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.84				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 310-218390-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.8		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	25		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	47		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	64	J	100	58	ug/L	1		6020A	Total/NA
Calcium	72		0.50	0.19	mg/L	1		6020A	Total/NA
Total Dissolved Solids	240		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-6 (Continued) — Lab Sample ID: 310-218390-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ground Water Elevation	668.14				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	136.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	9.34				mg/L	1		Field Sampling	Total/NA
pH, Field	7.70				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	601				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.9				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: 310-218390-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.40	J	2.0	0.37	ug/L	1		6020A	Total/NA
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.

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-301

Date Collected: 10/26/21 17:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-1

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		5.0	2.2	mg/L			11/02/21 17:02	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 17:02	5
Sulfate	**49**		5.0	2.5	mg/L			11/02/21 17:02	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		11/01/21 09:00	11/10/21 19:07	1
Arsenic	**7.1**		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:07	1
Barium	**160**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:07	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:07	1
Boron	**260**		100	58	ug/L		11/01/21 09:00	11/10/21 19:07	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:07	1
Calcium	**68**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:07	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:07	1
Cobalt	**0.23**	**J**	0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:07	1
Lead	**0.37**	**J**	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:07	1
Lithium	**6.7**	**J**	10	2.5	ug/L		11/01/21 09:00	11/10/21 19:07	1
Molybdenum	**6.2**		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:07	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:07	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:07	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		11/08/21 15:30	11/10/21 10:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**210**		50	26	mg/L			11/01/21 10:42	1
pH	**8.1**	**HF**	0.1	0.1	SU			10/28/21 17:03	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**627.00**				ft			10/26/21 17:50	1
Oxidation Reduction Potential	**-159.7**				millivolts			10/26/21 17:50	1
Oxygen, Dissolved, Client Supplied	**0.10**				mg/L			10/26/21 17:50	1
pH, Field	**8.11**				SU			10/26/21 17:50	1
Specific Conductance, Field	**534**				umhos/cm			10/26/21 17:50	1
Temperature, Field	**16.1**				Degrees C			10/26/21 17:50	1
Turbidity, Field	**0.81**				NTU			10/26/21 17:50	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-302

Date Collected: 10/27/21 10:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-2

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**		5.0	2.2	mg/L			11/02/21 17:33	5
Fluoride	**1.3**	**F1**	0.50	0.28	mg/L			11/02/21 17:33	5
Sulfate	<2.5		5.0	2.5	mg/L			11/02/21 17:33	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		11/01/21 09:00	11/10/21 19:28	1
Arsenic	**51**		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:28	1
Barium	**680**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:28	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:28	1
Boron	**630**		100	58	ug/L		11/01/21 09:00	11/10/21 19:28	1
Cadmium	**0.076**	**J**	0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:28	1
Calcium	**120**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:28	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:28	1
Cobalt	**1.1**		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:28	1
Lead	**1.0**		0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:28	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:28	1
Molybdenum	**1.4**	**J**	2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:28	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:28	1
Thallium	**0.31**	**J**	1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:28	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		11/08/21 15:30	11/10/21 10:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**450**		50	26	mg/L			11/02/21 14:30	1
pH	**7.0**	**HF**	0.1	0.1	SU			10/28/21 17:04	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**628.86**				ft			10/27/21 10:50	1
Oxidation Reduction Potential	**-128.1**				millivolts			10/27/21 10:50	1
Oxygen, Dissolved, Client Supplied	**1.07**				mg/L			10/27/21 10:50	1
pH, Field	**6.89**				SU			10/27/21 10:50	1
Specific Conductance, Field	**1075**				umhos/cm			10/27/21 10:50	1
Temperature, Field	**15.7**				Degrees C			10/27/21 10:50	1
Turbidity, Field	**3.35**				NTU			10/27/21 10:50	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-303

Date Collected: 10/26/21 13:45
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-3

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25**		5.0	2.2	mg/L			11/02/21 18:20	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 18:20	5
Sulfate	**28**		5.0	2.5	mg/L			11/02/21 18:20	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		11/01/21 09:00	11/10/21 19:30	1
Arsenic	**2.2**		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:30	1
Barium	**240**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:30	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:30	1
Boron	**170**		100	58	ug/L		11/01/21 09:00	11/10/21 19:30	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:30	1
Calcium	**49**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:30	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:30	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:30	1
Lead	<0.21		0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:30	1
Lithium	**11**		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:30	1
Molybdenum	**7.1**		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:30	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:30	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:30	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		11/08/21 15:30	11/10/21 10:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**150**		50	26	mg/L			11/01/21 10:42	1
pH	**7.7**	**HF**	0.1	0.1	SU			10/28/21 17:08	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**638.68**				ft			10/26/21 13:45	1
Oxidation Reduction Potential	**125.8**				millivolts			10/26/21 13:45	1
Oxygen, Dissolved, Client Supplied	**0.17**				mg/L			10/26/21 13:45	1
pH, Field	**7.45**				SU			10/26/21 13:45	1
Specific Conductance, Field	**452**				umhos/cm			10/26/21 13:45	1
Temperature, Field	**24.8**				Degrees C			10/26/21 13:45	1
Turbidity, Field	**0.65**				NTU			10/26/21 13:45	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-304

Date Collected: 10/26/21 11:45
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-4

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.9**		5.0	2.2	mg/L			11/02/21 19:06	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 19:06	5
Sulfate	**18**		5.0	2.5	mg/L			11/02/21 19:06	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		11/01/21 09:00	11/10/21 19:33	1
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:33	1
Barium	**44**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:33	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:33	1
Boron	<58		100	58	ug/L		11/01/21 09:00	11/10/21 19:33	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:33	1
Calcium	**71**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:33	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:33	1
Cobalt	**0.22**	**J**	0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:33	1
Lead	**0.23**	**J**	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:33	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:33	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:33	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:33	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:33	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		11/08/21 15:30	11/10/21 10:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**200**		50	26	mg/L			11/01/21 10:42	1
pH	**7.4**	**HF**	0.1	0.1	SU			10/28/21 17:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**621.29**				ft			10/26/21 11:45	1
Oxidation Reduction Potential	**171.3**				millivolts			10/26/21 11:45	1
Oxygen, Dissolved, Client Supplied	**8.32**				mg/L			10/26/21 11:45	1
pH, Field	**7.29**				SU			10/26/21 11:45	1
Specific Conductance, Field	**562.3**				umhos/cm			10/26/21 11:45	1
Temperature, Field	**12.1**				Degrees C			10/26/21 11:45	1
Turbidity, Field	**0.00**				NTU			10/26/21 11:45	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-305

Date Collected: 10/27/21 10:55
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-5

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.6**		5.0	2.2	mg/L			11/02/21 19:22	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 19:22	5
Sulfate	**14**		5.0	2.5	mg/L			11/02/21 19:22	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		11/01/21 09:00	11/10/21 19:36	1
Arsenic	**3.9**		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:36	1
Barium	**200**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:36	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:36	1
Boron	**200**		100	58	ug/L		11/01/21 09:00	11/10/21 19:36	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:36	1
Calcium	**79**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:36	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:36	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:36	1
Lead	**0.29**	**J**	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:36	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:36	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:36	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:36	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:36	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		11/08/21 15:30	11/10/21 10:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**260**		50	26	mg/L			11/02/21 14:30	1
pH	**7.3**	**HF**	0.1	0.1	SU			10/28/21 17:10	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**626.41**				ft			10/27/21 10:55	1
Oxidation Reduction Potential	**-128.5**				millivolts			10/27/21 10:55	1
Oxygen, Dissolved, Client Supplied	**0.08**				mg/L			10/27/21 10:55	1
pH, Field	**7.29**				SU			10/27/21 10:55	1
Specific Conductance, Field	**643.0**				umhos/cm			10/27/21 10:55	1
Temperature, Field	**16.3**				Degrees C			10/27/21 10:55	1
Turbidity, Field	**0.27**				NTU			10/27/21 10:55	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-306

Date Collected: 10/27/21 12:15
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-6

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34**		5.0	2.2	mg/L			11/02/21 19:38	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 19:38	5
Sulfate	**95**		5.0	2.5	mg/L			11/02/21 19:38	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		11/01/21 09:00	11/10/21 19:38	1
Arsenic	**8.6**		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:38	1
Barium	**320**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:38	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:38	1
Boron	**580**		100	58	ug/L		11/01/21 09:00	11/10/21 19:38	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:38	1
Calcium	**210**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:38	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:38	1
Cobalt	**0.30**	**J**	0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:38	1
Lead	**1.1**		0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:38	1
Lithium	**22**		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:38	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:38	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:38	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:38	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		11/08/21 15:30	11/10/21 10:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**960**		50	26	mg/L			11/02/21 14:30	1
pH	**7.0**	**HF**	0.1	0.1	SU			10/28/21 17:11	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**619.91**				ft			10/27/21 12:15	1
Oxidation Reduction Potential	**-126.3**				millivolts			10/27/21 12:15	1
Oxygen, Dissolved, Client Supplied	**0.11**				mg/L			10/27/21 12:15	1
pH, Field	**6.86**				SU			10/27/21 12:15	1
Specific Conductance, Field	**1778**				umhos/cm			10/27/21 12:15	1
Temperature, Field	**16.6**				Degrees C			10/27/21 12:15	1
Turbidity, Field	**2.72**				NTU			10/27/21 12:15	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-302A

Date Collected: 10/27/21 09:20
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-7

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.9**		5.0	2.2	mg/L			11/02/21 19:53	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 19:53	5
Sulfate	**50**		5.0	2.5	mg/L			11/02/21 19:53	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		11/01/21 09:00	11/10/21 19:41	1
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:41	1
Barium	**48**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:41	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:41	1
Boron	**140**		100	58	ug/L		11/01/21 09:00	11/10/21 19:41	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:41	1
Calcium	**75**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:41	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:41	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:41	1
Lead	**0.22**	**J**	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:41	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:41	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:41	1
Selenium	**1.0**	**J**	5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:41	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:41	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		11/08/21 15:30	11/10/21 10:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**280**		50	26	mg/L			11/02/21 14:30	1
pH	**7.6**	**HF**	0.1	0.1	SU			10/28/21 17:14	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**623.10**				ft			10/27/21 09:20	1
Oxidation Reduction Potential	**159.1**				millivolts			10/27/21 09:20	1
Oxygen, Dissolved, Client Supplied	**7.27**				mg/L			10/27/21 09:20	1
pH, Field	**7.15**				SU			10/27/21 09:20	1
Specific Conductance, Field	**627.0**				umhos/cm			10/27/21 09:20	1
Temperature, Field	**12.0**				Degrees C			10/27/21 09:20	1
Turbidity, Field	**0.00**				NTU			10/27/21 09:20	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-304A

Date Collected: 10/26/21 13:10
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-8

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15**		5.0	2.2	mg/L			11/02/21 20:09	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 20:09	5
Sulfate	**91**		5.0	2.5	mg/L			11/02/21 20:09	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		11/01/21 09:00	11/10/21 19:44	1
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:44	1
Barium	**26**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:44	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:44	1
Boron	**1300**		100	58	ug/L		11/01/21 09:00	11/10/21 19:44	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:44	1
Calcium	**35**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:44	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:44	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:44	1
Lead	**0.37**	**J**	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:44	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:44	1
Molybdenum	**120**		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:44	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:44	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:44	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		11/08/21 15:30	11/10/21 10:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**240**		50	26	mg/L			11/01/21 10:42	1
pH	**8.1**	**HF**	0.1	0.1	SU			10/28/21 17:22	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**623.87**				ft			10/26/21 13:10	1
Oxidation Reduction Potential	**157.1**				millivolts			10/26/21 13:10	1
Oxygen, Dissolved, Client Supplied	**2.53**				mg/L			10/26/21 13:10	1
pH, Field	**7.94**				SU			10/26/21 13:10	1
Specific Conductance, Field	**526.8**				umhos/cm			10/26/21 13:10	1
Temperature, Field	**13.4**				Degrees C			10/26/21 13:10	1
Turbidity, Field	**2.78**				NTU			10/26/21 13:10	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-306A

Date Collected: 10/27/21 13:30
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-9

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.7		5.0	2.2	mg/L			11/02/21 20:24	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 20:24	5
Sulfate	42		5.0	2.5	mg/L			11/02/21 20:24	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		11/01/21 09:00	11/10/21 19:46	1
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:46	1
Barium	59		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:46	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:46	1
Boron	240		100	58	ug/L		11/01/21 09:00	11/10/21 19:46	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:46	1
Calcium	80		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:46	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:46	1
Cobalt	0.21	J	0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:46	1
Lead	0.32	J	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:46	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:46	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:46	1
Selenium	0.99	J	5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:46	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:46	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		11/08/21 15:30	11/10/21 10:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	280		50	26	mg/L			11/02/21 14:30	1
pH	7.4	HF	0.1	0.1	SU			10/28/21 17:24	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	620.17				ft			10/27/21 13:30	1
Oxidation Reduction Potential	78.8				millivolts			10/27/21 13:30	1
Oxygen, Dissolved, Client Supplied	1.23				mg/L			10/27/21 13:30	1
pH, Field	7.34				SU			10/27/21 13:30	1
Specific Conductance, Field	663				umhos/cm			10/27/21 13:30	1
Temperature, Field	14.6				Degrees C			10/27/21 13:30	1
Turbidity, Field	0.59				NTU			10/27/21 13:30	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-307

Date Collected: 10/27/21 14:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-10

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		5.0	2.2	mg/L			11/02/21 20:40	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 20:40	5
Sulfate	**70**		5.0	2.5	mg/L			11/02/21 20:40	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		11/01/21 09:00	11/10/21 20:00	1
Arsenic	**2.5**		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:00	1
Barium	**240**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 20:00	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 20:00	1
Boron	**280**		100	58	ug/L		11/01/21 09:00	11/10/21 20:00	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 20:00	1
Calcium	**38**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 20:00	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 20:00	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 20:00	1
Lead	<0.21		0.50	0.21	ug/L		11/01/21 09:00	11/10/21 20:00	1
Lithium	**12**		10	2.5	ug/L		11/01/21 09:00	11/10/21 20:00	1
Molybdenum	**12**		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 20:00	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 20:00	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 20:00	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		11/08/21 15:30	11/10/21 10:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**130**		50	26	mg/L			11/02/21 14:30	1
pH	**8.2**	**HF**	0.1	0.1	SU			10/28/21 17:25	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**634.90**				ft			10/27/21 14:50	1
Oxidation Reduction Potential	**-123.4**				millivolts			10/27/21 14:50	1
Oxygen, Dissolved, Client Supplied	**0.93**				mg/L			10/27/21 14:50	1
pH, Field	**8.11**				SU			10/27/21 14:50	1
Specific Conductance, Field	**361.2**				umhos/cm			10/27/21 14:50	1
Temperature, Field	**16.4**				Degrees C			10/27/21 14:50	1
Turbidity, Field	**0.00**				NTU			10/27/21 14:50	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-307A

Date Collected: 10/27/21 12:35
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-11

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.1**		5.0	2.2	mg/L			11/02/21 20:55	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 20:55	5
Sulfate	**33**		5.0	2.5	mg/L			11/02/21 20:55	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		11/01/21 09:00	11/10/21 20:03	1
Arsenic	**1.3**	**J**	2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:03	1
Barium	**130**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 20:03	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 20:03	1
Boron	**300**		100	58	ug/L		11/01/21 09:00	11/10/21 20:03	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 20:03	1
Calcium	**70**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 20:03	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 20:03	1
Cobalt	**0.77**		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 20:03	1
Lead	**0.21**	**J**	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 20:03	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 20:03	1
Molybdenum	**6.3**		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 20:03	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 20:03	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 20:03	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		11/08/21 15:30	11/10/21 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**230**		50	26	mg/L			11/02/21 14:30	1
pH	**7.6**	**HF**	0.1	0.1	SU			10/28/21 17:27	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**626.25**				ft			10/27/21 12:35	1
Oxidation Reduction Potential	**47.7**				millivolts			10/27/21 12:35	1
Oxygen, Dissolved, Client Supplied	**1.39**				mg/L			10/27/21 12:35	1
pH, Field	**7.29**				SU			10/27/21 12:35	1
Specific Conductance, Field	**625.4**				umhos/cm			10/27/21 12:35	1
Temperature, Field	**12.9**				Degrees C			10/27/21 12:35	1
Turbidity, Field	**0.00**				NTU			10/27/21 12:35	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-20

Date Collected: 10/26/21 11:00
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-12

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.8**	**J**	5.0	2.2	mg/L			11/02/21 21:11	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 21:11	5
Sulfate	**240**		5.0	2.5	mg/L			11/02/21 21:11	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		11/01/21 09:00	11/10/21 20:08	1
Arsenic	**3.4**		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:08	1
Barium	**99**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 20:08	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 20:08	1
Boron	**2400**		100	58	ug/L		11/01/21 09:00	11/10/21 20:08	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 20:08	1
Calcium	**130**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 20:08	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 20:08	1
Cobalt	**0.86**		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 20:08	1
Lead	**0.32**	**J**	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 20:08	1
Lithium	**2.5**	**J**	10	2.5	ug/L		11/01/21 09:00	11/10/21 20:08	1
Molybdenum	**20**		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 20:08	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 20:08	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 20:08	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		11/08/21 15:30	11/10/21 10:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**600**		50	26	mg/L			11/01/21 12:29	1
pH	**7.7**	**HF**	0.1	0.1	SU			10/28/21 17:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**649.34**				ft			10/26/21 11:00	1
Oxidation Reduction Potential	**147.5**				millivolts			10/26/21 11:00	1
Oxygen, Dissolved, Client Supplied	**0.17**				mg/L			10/26/21 11:00	1
pH, Field	**7.72**				SU			10/26/21 11:00	1
Specific Conductance, Field	**989**				umhos/cm			10/26/21 11:00	1
Temperature, Field	**13.3**				Degrees C			10/26/21 11:00	1
Turbidity, Field	**0.84**				NTU			10/26/21 11:00	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: MW-6

Date Collected: 10/26/21 15:10
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-13

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.8**		5.0	2.2	mg/L			11/02/21 21:27	5
Fluoride	<0.28		0.50	0.28	mg/L			11/02/21 21:27	5
Sulfate	**25**		5.0	2.5	mg/L			11/02/21 21:27	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		11/01/21 09:00	11/10/21 20:10	1
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:10	1
Barium	**47**		2.0	0.37	ug/L		11/01/21 09:00	11/10/21 20:10	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 20:10	1
Boron	**64**	**J**	100	58	ug/L		11/01/21 09:00	11/10/21 20:10	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 20:10	1
Calcium	**72**		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 20:10	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 20:10	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 20:10	1
Lead	<0.21		0.50	0.21	ug/L		11/01/21 09:00	11/10/21 20:10	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 20:10	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 20:10	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 20:10	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 20:10	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		11/08/21 15:30	11/10/21 10:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**240**		50	26	mg/L			11/01/21 12:29	1
pH	**7.5**	**HF**	0.1	0.1	SU			10/28/21 17:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**668.14**				ft			10/26/21 15:10	1
Oxidation Reduction Potential	**136.2**				millivolts			10/26/21 15:10	1
Oxygen, Dissolved, Client Supplied	**9.34**				mg/L			10/26/21 15:10	1
pH, Field	**7.70**				SU			10/26/21 15:10	1
Specific Conductance, Field	**601**				umhos/cm			10/26/21 15:10	1
Temperature, Field	**9.9**				Degrees C			10/26/21 15:10	1
Turbidity, Field	**0.00**				NTU			10/26/21 15:10	1

Client: SCS Engineers
Project/Site: Lansing Gen Station - 25220070.00

Job ID: 310-218390-1

Client Sample ID: Field Blank

Date Collected: 10/26/21 11:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-14

Matrix: Water

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			11/02/21 22:13	1
Fluoride	<0.055		0.10	0.055	mg/L			11/02/21 22:13	1
Sulfate	<0.49		1.0	0.49	mg/L			11/02/21 22:13	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		11/01/21 09:00	11/10/21 20:13	1
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:13	1
Barium	**0.40**	**J**	2.0	0.37	ug/L		11/01/21 09:00	11/10/21 20:13	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 20:13	1
Boron	<58		100	58	ug/L		11/01/21 09:00	11/10/21 20:13	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 20:13	1
Calcium	<0.19		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 20:13	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 20:13	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 20:13	1
Lead	<0.21		0.50	0.21	ug/L		11/01/21 09:00	11/10/21 20:13	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 20:13	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 20:13	1
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 20:13	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 20:13	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		11/08/21 15:30	11/10/21 10:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			11/01/21 12:29	1
pH	**6.2**	**HF**	0.1	0.1	SU			10/28/21 17:30	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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.
¤	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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-334811/3
Matrix: Water
Analysis Batch: 334811

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			11/02/21 16:31	1
Fluoride	<0.055		0.10	0.055	mg/L			11/02/21 16:31	1
Sulfate	<0.49		1.0	0.49	mg/L			11/02/21 16:31	1

Lab Sample ID: LCS 310-334811/4
Matrix: Water
Analysis Batch: 334811

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	10.2		mg/L		102	90 - 110
Fluoride	2.00	2.17		mg/L		108	90 - 110
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: 310-218390-2 MS
Matrix: Water
Analysis Batch: 334811

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
Chloride	14		25.0	37.2		mg/L		92	80 - 120
Fluoride	1.3	F1	5.00	2.93	F1	mg/L		33	80 - 120
Sulfate	<2.5		25.0	25.5		mg/L		102	80 - 120

Lab Sample ID: 310-218390-2 MSD
Matrix: Water
Analysis Batch: 334811

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
Chloride	14		25.0	37.4		mg/L		93	80 - 120	1	15
Fluoride	1.3	F1	5.00	3.04	F1	mg/L		36	80 - 120	4	15
Sulfate	<2.5		25.0	25.7		mg/L		103	80 - 120	1	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-333483/1-A
Matrix: Water
Analysis Batch: 335099

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:01	1
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 19:01	1
Barium	0.628	J	2.0	0.37	ug/L		11/01/21 09:00	11/10/21 19:01	1
Beryllium	<0.27		1.0	0.27	ug/L		11/01/21 09:00	11/10/21 19:01	1
Boron	<58		100	58	ug/L		11/01/21 09:00	11/10/21 19:01	1
Cadmium	<0.051		0.10	0.051	ug/L		11/01/21 09:00	11/10/21 19:01	1
Calcium	<0.19		0.50	0.19	mg/L		11/01/21 09:00	11/10/21 19:01	1
Chromium	<1.1		5.0	1.1	ug/L		11/01/21 09:00	11/10/21 19:01	1
Cobalt	<0.19		0.50	0.19	ug/L		11/01/21 09:00	11/10/21 19:01	1
Lead	0.274	J	0.50	0.21	ug/L		11/01/21 09:00	11/10/21 19:01	1
Lithium	<2.5		10	2.5	ug/L		11/01/21 09:00	11/10/21 19:01	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 19:01	1

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

Lab Sample ID: MB 310-333483/1-A
Matrix: Water
Analysis Batch: 335099

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.96		5.0	0.96	ug/L		11/01/21 09:00	11/10/21 19:01	1
Thallium	<0.26		1.0	0.26	ug/L		11/01/21 09:00	11/10/21 19:01	1

Lab Sample ID: LCS 310-333483/2-A
Matrix: Water
Analysis Batch: 335099

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	186		ug/L		93	80 - 120
Arsenic	200	193		ug/L		96	80 - 120
Barium	100	101		ug/L		101	80 - 120
Beryllium	100	91.9		ug/L		92	80 - 120
Boron	200	175		ug/L		87	80 - 120
Cadmium	100	94.8		ug/L		95	80 - 120
Calcium	2.00	1.65		mg/L		82	80 - 120
Chromium	100	96.5		ug/L		97	80 - 120
Cobalt	100	95.5		ug/L		96	80 - 120
Lead	200	192		ug/L		96	80 - 120
Lithium	200	181		ug/L		90	80 - 120
Molybdenum	200	189		ug/L		95	80 - 120
Selenium	400	343		ug/L		86	80 - 120
Thallium	200	208		ug/L		104	80 - 120

Lab Sample ID: 310-218390-1 MS
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<1.1		200	188		ug/L		94	75 - 125
Arsenic	7.1		200	205		ug/L		99	75 - 125
Barium	160		100	270		ug/L		105	75 - 125
Beryllium	<0.27		100	93.6		ug/L		94	75 - 125
Boron	260		200	428		ug/L		86	75 - 125
Cadmium	<0.051		100	97.2		ug/L		97	75 - 125
Calcium	68		2.00	70.4	4	mg/L		115	75 - 125
Chromium	<1.1		100	95.4		ug/L		95	75 - 125
Cobalt	0.23	J	100	97.1		ug/L		97	75 - 125
Lead	0.37	J	200	197		ug/L		98	75 - 125
Lithium	6.7	J	200	186		ug/L		90	75 - 125
Molybdenum	6.2		200	201		ug/L		97	75 - 125
Selenium	<0.96		400	374		ug/L		94	75 - 125
Thallium	<0.26		200	204		ug/L		102	75 - 125

Lab Sample ID: 310-218390-1 MSD
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<1.1		200	194		ug/L		97	75 - 125	3	20

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

Lab Sample ID: 310-218390-1 MSD
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	7.1		200	210		ug/L		102	75 - 125	2	20
Barium	160		100	268		ug/L		104	75 - 125	0	20
Beryllium	<0.27		100	96.1		ug/L		96	75 - 125	3	20
Boron	260		200	437		ug/L		90	75 - 125	2	20
Cadmium	<0.051		100	99.6		ug/L		100	75 - 125	3	20
Calcium	68		2.00	69.7	4	mg/L		77	75 - 125	1	20
Chromium	<1.1		100	97.8		ug/L		98	75 - 125	2	20
Cobalt	0.23	J	100	98.7		ug/L		98	75 - 125	2	20
Lead	0.37	J	200	201		ug/L		100	75 - 125	2	20
Lithium	6.7	J	200	190		ug/L		92	75 - 125	2	20
Molybdenum	6.2		200	205		ug/L		100	75 - 125	2	20
Selenium	<0.96		400	380		ug/L		95	75 - 125	1	20
Thallium	<0.26		200	213		ug/L		106	75 - 125	4	20

Lab Sample ID: 310-218390-11 DU
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-307A
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.1		<1.1		ug/L		NC	20
Arsenic	1.3	J	1.37	J	ug/L		5	20
Barium	130		126		ug/L		0.9	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Boron	300		296		ug/L		0.2	20
Cadmium	<0.051		<0.051		ug/L		NC	20
Calcium	70		69.7		mg/L		0.4	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	0.77		0.789		ug/L		2	20
Lead	0.21	J	<0.21		ug/L		NC	20
Lithium	<2.5		<2.5		ug/L		NC	20
Molybdenum	6.3		6.31		ug/L		0.3	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 310-334730/1-A
Matrix: Water
Analysis Batch: 335048

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 334730

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		11/08/21 15:30	11/10/21 09:59	1

Lab Sample ID: LCS 310-334730/2-A
Matrix: Water
Analysis Batch: 335048

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 334730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.60		ug/L		96	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 310-218390-2 MS
Matrix: Water
Analysis Batch: 335048

Client Sample ID: MW-302
Prep Type: Total/NA
Prep Batch: 334730

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.15		1.67	1.47		ug/L		88	80 - 120

Lab Sample ID: 310-218390-2 MSD
Matrix: Water
Analysis Batch: 335048

Client Sample ID: MW-302
Prep Type: Total/NA
Prep Batch: 334730

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.15		1.67	1.50		ug/L		90	80 - 120	2	20

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

Lab Sample ID: MB 310-333779/1
Matrix: Water
Analysis Batch: 333779

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			11/01/21 10:42	1

Lab Sample ID: LCS 310-333779/2
Matrix: Water
Analysis Batch: 333779

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	968		mg/L		97	90 - 110

Lab Sample ID: MB 310-333807/1
Matrix: Water
Analysis Batch: 333807

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			11/01/21 12:29	1

Lab Sample ID: LCS 310-333807/2
Matrix: Water
Analysis Batch: 333807

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	942		mg/L		94	90 - 110

Lab Sample ID: MB 310-333985/1
Matrix: Water
Analysis Batch: 333985

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			11/02/21 14:30	1

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

Lab Sample ID: LCS 310-333985/2
Matrix: Water
Analysis Batch: 333985

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	908		mg/L		91	90 - 110		

Lab Sample ID: 310-218390-2 DU
Matrix: Water
Analysis Batch: 333985

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

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	450			442		mg/L				2	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-333360/52
Matrix: Water
Analysis Batch: 333360

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		

HPLC/IC

Analysis Batch: 334811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	9056A	
310-218390-2	MW-302	Total/NA	Water	9056A	
310-218390-3	MW-303	Total/NA	Water	9056A	
310-218390-4	MW-304	Total/NA	Water	9056A	
310-218390-5	MW-305	Total/NA	Water	9056A	
310-218390-6	MW-306	Total/NA	Water	9056A	
310-218390-7	MW-302A	Total/NA	Water	9056A	
310-218390-8	MW-304A	Total/NA	Water	9056A	
310-218390-9	MW-306A	Total/NA	Water	9056A	
310-218390-10	MW-307	Total/NA	Water	9056A	
310-218390-11	MW-307A	Total/NA	Water	9056A	
310-218390-12	MW-20	Total/NA	Water	9056A	
310-218390-13	MW-6	Total/NA	Water	9056A	
310-218390-14	Field Blank	Total/NA	Water	9056A	
MB 310-334811/3	Method Blank	Total/NA	Water	9056A	
LCS 310-334811/4	Lab Control Sample	Total/NA	Water	9056A	
310-218390-2 MS	MW-302	Total/NA	Water	9056A	
310-218390-2 MSD	MW-302	Total/NA	Water	9056A	

Metals

Prep Batch: 333483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	3005A	
310-218390-2	MW-302	Total/NA	Water	3005A	
310-218390-3	MW-303	Total/NA	Water	3005A	
310-218390-4	MW-304	Total/NA	Water	3005A	
310-218390-5	MW-305	Total/NA	Water	3005A	
310-218390-6	MW-306	Total/NA	Water	3005A	
310-218390-7	MW-302A	Total/NA	Water	3005A	
310-218390-8	MW-304A	Total/NA	Water	3005A	
310-218390-9	MW-306A	Total/NA	Water	3005A	
310-218390-10	MW-307	Total/NA	Water	3005A	
310-218390-11	MW-307A	Total/NA	Water	3005A	
310-218390-12	MW-20	Total/NA	Water	3005A	
310-218390-13	MW-6	Total/NA	Water	3005A	
310-218390-14	Field Blank	Total/NA	Water	3005A	
MB 310-333483/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-333483/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-218390-1 MS	MW-301	Total/NA	Water	3005A	
310-218390-1 MSD	MW-301	Total/NA	Water	3005A	
310-218390-11 DU	MW-307A	Total/NA	Water	3005A	

Prep Batch: 334730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	7470A	
310-218390-2	MW-302	Total/NA	Water	7470A	
310-218390-3	MW-303	Total/NA	Water	7470A	
310-218390-4	MW-304	Total/NA	Water	7470A	
310-218390-5	MW-305	Total/NA	Water	7470A	
310-218390-6	MW-306	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 334730 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-7	MW-302A	Total/NA	Water	7470A	
310-218390-8	MW-304A	Total/NA	Water	7470A	
310-218390-9	MW-306A	Total/NA	Water	7470A	
310-218390-10	MW-307	Total/NA	Water	7470A	
310-218390-11	MW-307A	Total/NA	Water	7470A	
310-218390-12	MW-20	Total/NA	Water	7470A	
310-218390-13	MW-6	Total/NA	Water	7470A	
310-218390-14	Field Blank	Total/NA	Water	7470A	
MB 310-334730/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-334730/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-218390-2 MS	MW-302	Total/NA	Water	7470A	
310-218390-2 MSD	MW-302	Total/NA	Water	7470A	

Analysis Batch: 335048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	7470A	334730
310-218390-2	MW-302	Total/NA	Water	7470A	334730
310-218390-3	MW-303	Total/NA	Water	7470A	334730
310-218390-4	MW-304	Total/NA	Water	7470A	334730
310-218390-5	MW-305	Total/NA	Water	7470A	334730
310-218390-6	MW-306	Total/NA	Water	7470A	334730
310-218390-7	MW-302A	Total/NA	Water	7470A	334730
310-218390-8	MW-304A	Total/NA	Water	7470A	334730
310-218390-9	MW-306A	Total/NA	Water	7470A	334730
310-218390-10	MW-307	Total/NA	Water	7470A	334730
310-218390-11	MW-307A	Total/NA	Water	7470A	334730
310-218390-12	MW-20	Total/NA	Water	7470A	334730
310-218390-13	MW-6	Total/NA	Water	7470A	334730
310-218390-14	Field Blank	Total/NA	Water	7470A	334730
MB 310-334730/1-A	Method Blank	Total/NA	Water	7470A	334730
LCS 310-334730/2-A	Lab Control Sample	Total/NA	Water	7470A	334730
310-218390-2 MS	MW-302	Total/NA	Water	7470A	334730
310-218390-2 MSD	MW-302	Total/NA	Water	7470A	334730

Analysis Batch: 335099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	6020A	333483
310-218390-2	MW-302	Total/NA	Water	6020A	333483
310-218390-3	MW-303	Total/NA	Water	6020A	333483
310-218390-4	MW-304	Total/NA	Water	6020A	333483
310-218390-5	MW-305	Total/NA	Water	6020A	333483
310-218390-6	MW-306	Total/NA	Water	6020A	333483
310-218390-7	MW-302A	Total/NA	Water	6020A	333483
310-218390-8	MW-304A	Total/NA	Water	6020A	333483
310-218390-9	MW-306A	Total/NA	Water	6020A	333483
310-218390-10	MW-307	Total/NA	Water	6020A	333483
310-218390-11	MW-307A	Total/NA	Water	6020A	333483
310-218390-12	MW-20	Total/NA	Water	6020A	333483
310-218390-13	MW-6	Total/NA	Water	6020A	333483
310-218390-14	Field Blank	Total/NA	Water	6020A	333483
MB 310-333483/1-A	Method Blank	Total/NA	Water	6020A	333483

Metals (Continued)

Analysis Batch: 335099 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-333483/2-A	Lab Control Sample	Total/NA	Water	6020A	333483
310-218390-1 MS	MW-301	Total/NA	Water	6020A	333483
310-218390-1 MSD	MW-301	Total/NA	Water	6020A	333483
310-218390-11 DU	MW-307A	Total/NA	Water	6020A	333483

General Chemistry

Analysis Batch: 333360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-218390-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-218390-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-218390-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-218390-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-218390-6	MW-306	Total/NA	Water	SM 4500 H+ B	
310-218390-7	MW-302A	Total/NA	Water	SM 4500 H+ B	
310-218390-8	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-218390-9	MW-306A	Total/NA	Water	SM 4500 H+ B	
310-218390-10	MW-307	Total/NA	Water	SM 4500 H+ B	
310-218390-11	MW-307A	Total/NA	Water	SM 4500 H+ B	
310-218390-12	MW-20	Total/NA	Water	SM 4500 H+ B	
310-218390-13	MW-6	Total/NA	Water	SM 4500 H+ B	
310-218390-14	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-333360/52	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 333779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	SM 2540C	
310-218390-3	MW-303	Total/NA	Water	SM 2540C	
310-218390-4	MW-304	Total/NA	Water	SM 2540C	
310-218390-8	MW-304A	Total/NA	Water	SM 2540C	
MB 310-333779/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-333779/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 333807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-12	MW-20	Total/NA	Water	SM 2540C	
310-218390-13	MW-6	Total/NA	Water	SM 2540C	
310-218390-14	Field Blank	Total/NA	Water	SM 2540C	
MB 310-333807/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-333807/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 333985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-2	MW-302	Total/NA	Water	SM 2540C	
310-218390-5	MW-305	Total/NA	Water	SM 2540C	
310-218390-6	MW-306	Total/NA	Water	SM 2540C	
310-218390-7	MW-302A	Total/NA	Water	SM 2540C	
310-218390-9	MW-306A	Total/NA	Water	SM 2540C	
310-218390-10	MW-307	Total/NA	Water	SM 2540C	
310-218390-11	MW-307A	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 333985 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-333985/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-333985/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-218390-2 DU	MW-302	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 337468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	Field Sampling	
310-218390-2	MW-302	Total/NA	Water	Field Sampling	
310-218390-3	MW-303	Total/NA	Water	Field Sampling	
310-218390-4	MW-304	Total/NA	Water	Field Sampling	
310-218390-5	MW-305	Total/NA	Water	Field Sampling	
310-218390-6	MW-306	Total/NA	Water	Field Sampling	
310-218390-7	MW-302A	Total/NA	Water	Field Sampling	
310-218390-8	MW-304A	Total/NA	Water	Field Sampling	
310-218390-9	MW-306A	Total/NA	Water	Field Sampling	
310-218390-10	MW-307	Total/NA	Water	Field Sampling	
310-218390-11	MW-307A	Total/NA	Water	Field Sampling	
310-218390-12	MW-20	Total/NA	Water	Field Sampling	
310-218390-13	MW-6	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-301
Lab Sample ID: 310-218390-1
Date Collected: 10/26/21 17:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 17:02	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:07	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:03	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333779	11/01/21 10:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:03	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/26/21 17:50	SLD	TAL CF

Client Sample ID: MW-302
Lab Sample ID: 310-218390-2
Date Collected: 10/27/21 10:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 17:33	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:28	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:05	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333985	11/02/21 14:30	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:04	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/27/21 10:50	SLD	TAL CF

Client Sample ID: MW-303
Lab Sample ID: 310-218390-3
Date Collected: 10/26/21 13:45
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 18:20	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:30	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:16	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333779	11/01/21 10:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:08	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/26/21 13:45	SLD	TAL CF

Client Sample ID: MW-304
Lab Sample ID: 310-218390-4
Date Collected: 10/26/21 11:45
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 19:06	JNR	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-304
Lab Sample ID: 310-218390-4
Date Collected: 10/26/21 11:45
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:33	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:18	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333779	11/01/21 10:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:09	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/26/21 11:45	SLD	TAL CF

Client Sample ID: MW-305
Lab Sample ID: 310-218390-5
Date Collected: 10/27/21 10:55
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 19:22	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:36	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:20	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333985	11/02/21 14:30	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:10	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/27/21 10:55	SLD	TAL CF

Client Sample ID: MW-306
Lab Sample ID: 310-218390-6
Date Collected: 10/27/21 12:15
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 19:38	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:38	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:22	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333985	11/02/21 14:30	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:11	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/27/21 12:15	SLD	TAL CF

Client Sample ID: MW-302A
Lab Sample ID: 310-218390-7
Date Collected: 10/27/21 09:20
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 19:53	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:41	SAP	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-302A
Lab Sample ID: 310-218390-7
Date Collected: 10/27/21 09:20
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:24	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333985	11/02/21 14:30	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:14	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/27/21 09:20	SLD	TAL CF

Client Sample ID: MW-304A
Lab Sample ID: 310-218390-8
Date Collected: 10/26/21 13:10
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 20:09	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:44	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:27	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333779	11/01/21 10:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:22	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/26/21 13:10	SLD	TAL CF

Client Sample ID: MW-306A
Lab Sample ID: 310-218390-9
Date Collected: 10/27/21 13:30
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 20:24	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:46	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:29	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333985	11/02/21 14:30	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:24	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/27/21 13:30	SLD	TAL CF

Client Sample ID: MW-307
Lab Sample ID: 310-218390-10
Date Collected: 10/27/21 14:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 20:40	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:00	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:31	EAM	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-307
Lab Sample ID: 310-218390-10
Date Collected: 10/27/21 14:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	333985	11/02/21 14:30	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:25	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/27/21 14:50	SLD	TAL CF

Client Sample ID: MW-307A
Lab Sample ID: 310-218390-11
Date Collected: 10/27/21 12:35
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 20:55	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:03	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:37	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333985	11/02/21 14:30	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:27	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/27/21 12:35	SLD	TAL CF

Client Sample ID: MW-20
Lab Sample ID: 310-218390-12
Date Collected: 10/26/21 11:00
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 21:11	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:08	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:39	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333807	11/01/21 12:29	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:28	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	337468	10/26/21 11:00	SLD	TAL CF

Client Sample ID: MW-6
Lab Sample ID: 310-218390-13
Date Collected: 10/26/21 15:10
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334811	11/02/21 21:27	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:10	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:42	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333807	11/01/21 12:29	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:29	ARG	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-6
Lab Sample ID: 310-218390-13
Date Collected: 10/26/21 15:10
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1	337468	10/26/21 15:10	SLD	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-218390-14
Date Collected: 10/26/21 11:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	334811	11/02/21 22:13	JNR	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:13	SAP	TAL CF
Total/NA	Prep	7470A			334730	11/08/21 15:30	EAM	TAL CF
Total/NA	Analysis	7470A		1	335048	11/10/21 10:44	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333807	11/01/21 12:29	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	333360	10/28/21 17:30	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
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

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

Method Summary

Client: SCS Engineers
Job ID: 310-218390-1
Project/Site: Lansing Gen Station - 25220070.00

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

Groundwater Monitoring Results - Field Parameters
Lansing Generating Station / SCS Engineers Project #25221070.0
October 2021

Sample	Sample Date/Time	Groundwater Elevation (ft AMSL)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)
MW-6	10/26/2021 / 1510	668.14	9.9	7.70	9.34	601	136.2	0.00
MW-20	10/25/2021 / 1100	649.34	13.3	7.72	0.17	989	147.5	0.84
MW-301	10/26/2021 / 1750	627.00	16.1	8.11	0.10	534	-159.7	0.81
MW-302	10/27/2021 / 1050	628.86	15.7	6.89	1.07	1075	-128.1	3.35
MW-302A	10/27/2021 / 920	623.10	12.0	7.15	7.27	627.0	159.1	0.00
MW-303	10/26/2021 / 1345	638.68	24.8	7.45	0.17	452	125.8	0.65
MW-304	10/26/2021 / 1145	621.29	12.1	7.29	8.32	562.3	171.3	0.00
MW-304A	10/26/2021 / 1310	623.87	13.4	7.94	2.53	526.8	157.1	2.78
MW-305	10/27/2021 / 1055	626.41	16.3	7.29	0.08	643.0	-128.5	0.27
MW-306	10/27/2021 / 1215	619.91	16.6	6.86	0.11	1778	-126.3	2.72
MW-306A	10/27/2021 / 1330	620.17	14.6	7.34	1.23	663	78.8	0.59
MW-307	10/27/21 / 1450	634.90	16.4	8.11	0.93	361.2	-123.4	0.00
MW-307A	10/27/21 / 1234	626.25	12.9	7.29	1.39	625.4	47.7	0.00

Abbreviations:
AMSL = above mean sea level
µmhos/cm = microSiemens per centimeter
mg/L = milligrams per liter
mV = millivolts
ORP = Oxidation Reduction (REDOX)
NTU = Nephelometric Turbidity Units

Laboratory Notes/Qualifiers:
none

Created by: NDK Date: 4/20/2021
Last revision by: RM Date: 11/4/2021
Checked by: MDB Date: 11/5/2021

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\D84274O8\[October 2021_Lansing_CCR_Field.xlsx]Data

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310-218390 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 4 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 5.4 Corrected Temp (°C): 5.4

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 3 of 4	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☑ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☑ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.5 Corrected Temp (°C): 4.5

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? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 1 of 4
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.5 Corrected Temp (°C): 2.5

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive | STATE IA | Project:

Receipt Information

Date/Time Received: DATE 10-28-21 | TIME 0827 | Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Container

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 2 of 4
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.6 | Corrected Temp (°C): 3.6

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? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

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Client Information	Sampler: Paul A. Grove	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-65046-16399.1
Client Contact: Rosa Cruz	Phone: [redacted]	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: 8450 Hickman Road Suite 27	Due Date Requested:			
City: Clive	TAT Requested (days):			
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: rcruz@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, ~~25221070~~ 252200 70.00	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (5)	6020A - Dissolved Metals (2-3) See Spread Sheet	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D		
MW-301	10-26-21	17:50	G	Water	N		X	X	X		
MW-302	10-27-21	10:50		Water							
MW-303	10-26-21	13:45		Water							
MW-304	10-26-21	11:45		Water							
MW-305	10-27-21	10:55		Water							
MW-306	10-27-21	12:15		Water							
MW-302A	10-27-21	9:20		Water							
MW-304A	10-26-21	13:10		Water							
MW-306A	10-27-21	13:30		Water							
MW-307	↓	14:50		Water							
MW-307A	↓	12:35	↓	Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Paul A. Grove	10-28-21 8:27	SCS		10/28/21 8:27	
Relinquished by	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins Environment Testing America

Client Information	Sampler: Paul A. Grover	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No.: 310-65046-16399.2
Client Contact: Rosa Cruz	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: SCS Engineers	PWSID:	Analysis Requested		Job #:
Address: 8450 Hickman Road Suite 27	Due Date Requested:			
City: Clive	TAT Requested (days):			
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: rcruz@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, ~~25221070~~ 25220070.00	Project #: 31011020			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

See Spread Sheet

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (5)	6020A - Dissolved Metals (2-3)	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	D	D	X	
MW-20	10-26-21	11:00	G	Water	N		X	X	X		
MW-6	↓	15:10	↓	Water	↓		X	X	X		
Field Blank	↓	11:50	↓	Water	N		X	X	X		
				Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Paul A. Grover	Date/Time: 10-28-21 8:27	Company: SCS	Received by: [signature]	Date/Time: 10/28/21 / 8:27	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

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

Ver: 01/16/2019

970 549

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218390-1

Login Number: 218390
List Number: 1
Creator: Bindert, Zach T

List Source: Eurofins TestAmerica, Cedar Falls

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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-218390-3
Client Project/Site: Lansing Gen Station - 25220070.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
11/30/2021 4:42:31 PM

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

Table of Contents

Job ID: 310-218390-3

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-218390-3

Comments
No additional comments.

Receipt
The samples were received on 10/28/2021 8:27 AM. 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 2.5º C, 3.6º C, 4.5º C and 5.4º C.

RAD
Methods 903.0, RA-06-RC: Ra-226 batch 160-534859: 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 (310-218390-1), MW-302 (310-218390-2), MW-303 (310-218390-3), MW-304 (310-218390-4), MW-305 (310-218390-5), MW-306 (310-218390-6), MW-302A (310-218390-7), MW-304A (310-218390-8), MW-306A (310-218390-9), MW-307 (310-218390-10), MW-307A (310-218390-11), MW-20 (310-218390-12), MW-6 (310-218390-13), Field Blank (310-218390-14), (LCS 160-534859/1-A), (LCSD 160-534859/2-A) and (MB 160-534859/23-A)

Methods 904.0, RA-06-RC: Radium 228 batch 534863
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 (310-218390-1), MW-302 (310-218390-2), MW-303 (310-218390-3), MW-304 (310-218390-4), MW-305 (310-218390-5), MW-306 (310-218390-6), MW-302A (310-218390-7), MW-304A (310-218390-8), MW-306A (310-218390-9), MW-307 (310-218390-10), MW-307A (310-218390-11), MW-20 (310-218390-12), MW-6 (310-218390-13), Field Blank (310-218390-14), (LCS 160-534863/1-A), (LCSD 160-534863/2-A) and (MB 160-534863/23-A)

Method PrecSep_0: Radium-228 Prep Batch 160-534863
The following samples were prepared at a reduced aliquot due to Matrix: MW-302 (310-218390-2) and MW-306 (310-218390-6). 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 160-534863
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-218390-1), MW-303 (310-218390-3), MW-304 (310-218390-4), MW-305 (310-218390-5), MW-302A (310-218390-7), MW-304A (310-218390-8), MW-306A (310-218390-9), MW-307 (310-218390-10), MW-307A (310-218390-11), MW-20 (310-218390-12), MW-6 (310-218390-13) and Field Blank (310-218390-14). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-534859
The following samples were prepared at a reduced aliquot due to Matrix: MW-302 (310-218390-2) and MW-306 (310-218390-6). 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 160-534859
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-218390-1), MW-303 (310-218390-3), MW-304 (310-218390-4), MW-305 (310-218390-5), MW-302A (310-218390-7), MW-304A (310-218390-8), MW-306A (310-218390-9), MW-307 (310-218390-10), MW-307A (310-218390-11), MW-20 (310-218390-12), MW-6 (310-218390-13) and Field Blank (310-218390-14). 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: Lansing Gen Station - 25220070.00

Job ID: 310-218390-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-218390-1	MW-301	Water	10/26/21 17:50	10/28/21 09:01
310-218390-2	MW-302	Water	10/27/21 10:50	10/28/21 09:01
310-218390-3	MW-303	Water	10/26/21 13:45	10/28/21 09:01
310-218390-4	MW-304	Water	10/26/21 11:45	10/28/21 09:01
310-218390-5	MW-305	Water	10/27/21 10:55	10/28/21 09:01
310-218390-6	MW-306	Water	10/27/21 12:15	10/28/21 09:01
310-218390-7	MW-302A	Water	10/27/21 09:20	10/28/21 09:01
310-218390-8	MW-304A	Water	10/26/21 13:10	10/28/21 09:01
310-218390-9	MW-306A	Water	10/27/21 13:30	10/28/21 09:01
310-218390-10	MW-307	Water	10/27/21 14:50	10/28/21 09:01
310-218390-11	MW-307A	Water	10/27/21 12:35	10/28/21 09:01
310-218390-12	MW-20	Water	10/26/21 11:00	10/28/21 09:01
310-218390-13	MW-6	Water	10/26/21 15:10	10/28/21 09:01
310-218390-14	Field Blank	Water	10/26/21 11:50	10/28/21 09:01

Detection Summary

Client: SCS Engineers
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-301 — Lab Sample ID: 310-218390-1

No Detections.

Client Sample ID: MW-302 — Lab Sample ID: 310-218390-2

No Detections.

Client Sample ID: MW-303 — Lab Sample ID: 310-218390-3

No Detections.

Client Sample ID: MW-304 — Lab Sample ID: 310-218390-4

No Detections.

Client Sample ID: MW-305 — Lab Sample ID: 310-218390-5

No Detections.

Client Sample ID: MW-306 — Lab Sample ID: 310-218390-6

No Detections.

Client Sample ID: MW-302A — Lab Sample ID: 310-218390-7

No Detections.

Client Sample ID: MW-304A — Lab Sample ID: 310-218390-8

No Detections.

Client Sample ID: MW-306A — Lab Sample ID: 310-218390-9

No Detections.

Client Sample ID: MW-307 — Lab Sample ID: 310-218390-10

No Detections.

Client Sample ID: MW-307A — Lab Sample ID: 310-218390-11

No Detections.

Client Sample ID: MW-20 — Lab Sample ID: 310-218390-12

No Detections.

Client Sample ID: MW-6 — Lab Sample ID: 310-218390-13

No Detections.

Client Sample ID: Field Blank — Lab Sample ID: 310-218390-14

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-301
Date Collected: 10/26/21 17:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-1
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	0.259		0.127	0.129	1.00	0.166	pCi/L	11/03/21 11:24	11/28/21 18:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*89.0*		*40 - 110*	*11/03/21 11:24*	*11/28/21 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	0.555		0.262	0.267	1.00	0.369	pCi/L	11/03/21 12:12	11/22/21 17:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*89.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:40*	*1*
Y Carrier	*78.1*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:40*	*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	0.814		0.291	0.297	5.00	0.369	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-302
Date Collected: 10/27/21 10:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-2
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	0.907		0.226	0.240	1.00	0.209	pCi/L	11/03/21 11:24	11/28/21 18:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*93.5*		*40 - 110*	*11/03/21 11:24*	*11/28/21 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	0.680		0.395	0.400	1.00	0.600	pCi/L	11/03/21 12:12	11/22/21 17:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*93.5*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:40*	*1*
Y Carrier	*80.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:40*	*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	1.59		0.455	0.466	5.00	0.600	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-303
Date Collected: 10/26/21 13:45
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-3
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	**0.278**		0.123	0.126	1.00	0.150	pCi/L	11/03/21 11:24	11/28/21 18:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*91.5*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:57*	*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	0.0804	U	0.249	0.249	1.00	0.434	pCi/L	11/03/21 12:12	11/22/21 17:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*91.5*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:40*	*1*
Y Carrier	*77.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:40*	*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	0.359	U	0.278	0.279	5.00	0.434	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-304
Date Collected: 10/26/21 11:45
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-4
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	0.331		0.134	0.137	1.00	0.159	pCi/L	11/03/21 11:24	11/28/21 18:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*92.0*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:57*	*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	0.539		0.280	0.284	1.00	0.410	pCi/L	11/03/21 12:12	11/22/21 17:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*92.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*1*
Y Carrier	*80.4*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*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	0.870		0.310	0.315	5.00	0.410	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-305
Date Collected: 10/27/21 10:55
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-5
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	0.550		0.160	0.167	1.00	0.155	pCi/L	11/03/21 11:24	11/28/21 18:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*88.3*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:57*	*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	0.879		0.383	0.392	1.00	0.561	pCi/L	11/03/21 12:12	11/22/21 17:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*88.3*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*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	1.43		0.415	0.426	5.00	0.561	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-306
Date Collected: 10/27/21 12:15
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-6
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	0.814		0.228	0.240	1.00	0.225	pCi/L	11/03/21 11:24	11/28/21 18:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*86.3*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:57*	*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	1.29		0.443	0.459	1.00	0.583	pCi/L	11/03/21 12:12	11/22/21 17:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*86.3*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*1*
Y Carrier	*78.1*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*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	2.10		0.498	0.518	5.00	0.583	pCi/L		11/30/21 15:53	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-302A
Lab Sample ID: 310-218390-7
Date Collected: 10/27/21 09:20
Matrix: Water
Date Received: 10/28/21 09:01

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.233		0.120	0.122	1.00	0.157	pCi/L	11/03/21 11:24	11/28/21 18:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*92.0*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:58*	*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	0.778		0.310	0.318	1.00	0.429	pCi/L	11/03/21 12:12	11/22/21 17:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*92.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*1*
Y Carrier	*77.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*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	1.01		0.332	0.341	5.00	0.429	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-304A
Date Collected: 10/26/21 13:10
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-8
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	**0.245**		0.124	0.126	1.00	0.164	pCi/L	11/03/21 11:24	11/28/21 18:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*92.5*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:58*	*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	0.454	U	0.351	0.354	1.00	0.559	pCi/L	11/03/21 12:12	11/22/21 17:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*92.5*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*1*
Y Carrier	*78.9*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:46*	*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	**0.698**		0.372	0.376	5.00	0.559	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-306A
Date Collected: 10/27/21 13:30
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-9
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	**0.279**		0.159	0.161	1.00	0.219	pCi/L	11/03/21 11:24	11/28/21 18:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*65.8*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:58*	*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	0.403	U	0.541	0.542	1.00	0.900	pCi/L	11/03/21 12:12	11/22/21 17:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*65.8*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:48*	*1*
Y Carrier	*62.1*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:48*	*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	0.682	U	0.564	0.565	5.00	0.900	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-307
Date Collected: 10/27/21 14:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-10
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	**0.421**		0.136	0.142	1.00	0.136	pCi/L	11/03/21 11:24	11/28/21 18:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*94.3*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:58*	*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	0.322	U	0.286	0.288	1.00	0.460	pCi/L	11/03/21 12:12	11/22/21 17:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*94.3*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:48*	*1*
Y Carrier	*80.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:48*	*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	**0.743**		0.317	0.321	5.00	0.460	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-307A
Date Collected: 10/27/21 12:35
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-11
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	0.412		0.136	0.141	1.00	0.133	pCi/L	11/03/21 11:24	11/28/21 18:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*92.3*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:58*	*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	0.545		0.280	0.284	1.00	0.413	pCi/L	11/03/21 12:12	11/22/21 17:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*92.3*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:48*	*1*
Y Carrier	*82.2*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:48*	*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	0.957		0.311	0.317	5.00	0.413	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-20
Date Collected: 10/26/21 11:00
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-12
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	**0.305**		0.125	0.128	1.00	0.147	pCi/L	11/03/21 11:24	11/28/21 18:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.0*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:58*	*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	0.124	U	0.245	0.245	1.00	0.418	pCi/L	11/03/21 12:12	11/22/21 17:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*90.0*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:49*	*1*
Y Carrier	*84.1*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:49*	*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	**0.428**		0.275	0.276	5.00	0.418	pCi/L		11/30/21 15:53	1

Client Sample ID: MW-6
Lab Sample ID: 310-218390-13

Date Collected: 10/26/21 15:10
Matrix: Water

Date Received: 10/28/21 09:01

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.232		0.126	0.128	1.00	0.170	pCi/L	11/03/21 11:24	11/28/21 18:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*93.3*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:59*	*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	0.547		0.286	0.291	1.00	0.426	pCi/L	11/03/21 12:12	11/22/21 17:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*93.3*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:49*	*1*
Y Carrier	*83.4*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:49*	*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	0.779		0.313	0.318	5.00	0.426	pCi/L		11/30/21 15:53	1

Client Sample ID: Field Blank
Lab Sample ID: 310-218390-14

Date Collected: 10/26/21 11:50
Matrix: Water

Date Received: 10/28/21 09:01

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0200	U	0.0849	0.0850	1.00	0.160	pCi/L	11/03/21 11:24	11/28/21 18:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.8*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:59*	*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	0.260	0.261	1.00	0.430	pCi/L	11/03/21 12:12	11/22/21 17:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*90.8*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:49*	*1*
Y Carrier	*83.4*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:49*	*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	0.232	U	0.274	0.274	5.00	0.430	pCi/L		11/30/21 15:53	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

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.
¤	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

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-534859/23-A
Matrix: Water
Analysis Batch: 539027

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534859

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.1667		0.106	0.107	1.00	0.150	pCi/L	11/03/21 11:24	11/28/21 18:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*96.8*		*40 - 110*	*11/03/21 11:24*	*11/28/21 18:50*	*1*

Lab Sample ID: LCS 160-534859/1-A
Matrix: Water
Analysis Batch: 539026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534859

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium 226			11.3	10.26		1.10	1.00	0.140	pCi/L	91	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*89.3*		*40 - 110*

Lab Sample ID: LCSD 160-534859/2-A
Matrix: Water
Analysis Batch: 539026

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 534859

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium 226			11.3	11.29		1.19	1.00	0.133	pCi/L	100	75 - 125	0.45	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Barium	*92.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-534863/23-A
Matrix: Water
Analysis Batch: 538176

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534863

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.3625	U	0.237	0.239	1.00	0.364	pCi/L	11/03/21 12:12	11/22/21 17:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*96.8*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:50*	*1*
Y Carrier	*89.3*		*40 - 110*	*11/03/21 12:12*	*11/22/21 17:50*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-534863/1-A
Matrix: Water
Analysis Batch: 538185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534863

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium 228			9.12	8.913		1.10	1.00	0.452	pCi/L	98	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba	*89.3*		*40 - 110*
Y Carrier	*72.5*		*40 - 110*

Lab Sample ID: LCSD 160-534863/2-A
Matrix: Water
Analysis Batch: 538185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 534863

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium 228			9.12	10.10		1.21	1.00	0.403	pCi/L	111	75 - 125	0.52	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba	*92.5*		*40 - 110*
Y Carrier	*71.0*		*40 - 110*

Rad

Prep Batch: 534859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	PrecSep-21	
310-218390-2	MW-302	Total/NA	Water	PrecSep-21	
310-218390-3	MW-303	Total/NA	Water	PrecSep-21	
310-218390-4	MW-304	Total/NA	Water	PrecSep-21	
310-218390-5	MW-305	Total/NA	Water	PrecSep-21	
310-218390-6	MW-306	Total/NA	Water	PrecSep-21	
310-218390-7	MW-302A	Total/NA	Water	PrecSep-21	
310-218390-8	MW-304A	Total/NA	Water	PrecSep-21	
310-218390-9	MW-306A	Total/NA	Water	PrecSep-21	
310-218390-10	MW-307	Total/NA	Water	PrecSep-21	
310-218390-11	MW-307A	Total/NA	Water	PrecSep-21	
310-218390-12	MW-20	Total/NA	Water	PrecSep-21	
310-218390-13	MW-6	Total/NA	Water	PrecSep-21	
310-218390-14	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-534859/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-534859/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-534859/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 534863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	PrecSep_0	
310-218390-2	MW-302	Total/NA	Water	PrecSep_0	
310-218390-3	MW-303	Total/NA	Water	PrecSep_0	
310-218390-4	MW-304	Total/NA	Water	PrecSep_0	
310-218390-5	MW-305	Total/NA	Water	PrecSep_0	
310-218390-6	MW-306	Total/NA	Water	PrecSep_0	
310-218390-7	MW-302A	Total/NA	Water	PrecSep_0	
310-218390-8	MW-304A	Total/NA	Water	PrecSep_0	
310-218390-9	MW-306A	Total/NA	Water	PrecSep_0	
310-218390-10	MW-307	Total/NA	Water	PrecSep_0	
310-218390-11	MW-307A	Total/NA	Water	PrecSep_0	
310-218390-12	MW-20	Total/NA	Water	PrecSep_0	
310-218390-13	MW-6	Total/NA	Water	PrecSep_0	
310-218390-14	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-534863/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-534863/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-534863/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-301
Lab Sample ID: 310-218390-1
Date Collected: 10/26/21 17:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539026	11/28/21 18:46	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538185	11/22/21 17:40	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-302
Lab Sample ID: 310-218390-2
Date Collected: 10/27/21 10:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539026	11/28/21 18:46	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538185	11/22/21 17:40	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-303
Lab Sample ID: 310-218390-3
Date Collected: 10/26/21 13:45
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:57	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538185	11/22/21 17:40	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-304
Lab Sample ID: 310-218390-4
Date Collected: 10/26/21 11:45
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:57	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538004	11/22/21 17:46	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-305
Lab Sample ID: 310-218390-5
Date Collected: 10/27/21 10:55
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:57	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538004	11/22/21 17:46	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-306
Lab Sample ID: 310-218390-6
Date Collected: 10/27/21 12:15
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:57	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538004	11/22/21 17:46	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-302A
Lab Sample ID: 310-218390-7
Date Collected: 10/27/21 09:20
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:58	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538004	11/22/21 17:46	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-304A
Lab Sample ID: 310-218390-8
Date Collected: 10/26/21 13:10
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:58	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538004	11/22/21 17:46	EMH	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-306A
Lab Sample ID: 310-218390-9
Date Collected: 10/27/21 13:30
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:58	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 17:48	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-307
Lab Sample ID: 310-218390-10
Date Collected: 10/27/21 14:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:58	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 17:48	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-307A
Lab Sample ID: 310-218390-11
Date Collected: 10/27/21 12:35
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:58	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 17:48	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: MW-20
Lab Sample ID: 310-218390-12
Date Collected: 10/26/21 11:00
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:58	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 17:49	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

Client Sample ID: MW-6
Lab Sample ID: 310-218390-13
Date Collected: 10/26/21 15:10
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:59	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 17:49	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	MLK	TAL SL

Client Sample ID: Field Blank
Lab Sample ID: 310-218390-14
Date Collected: 10/26/21 11:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534859	11/03/21 11:24	BMP	TAL SL
Total/NA	Analysis	903.0		1	539029	11/28/21 18:59	EMH	TAL SL
Total/NA	Prep	PrecSep_0			534863	11/03/21 12:12	BMP	TAL SL
Total/NA	Analysis	904.0		1	538176	11/22/21 17:49	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	539554	11/30/21 15:53	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
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

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: Lansing Gen Station - 25220070.00

Job ID: 310-218390-3

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

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310-218390 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 4 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 5.4 Corrected Temp (°C): 5.4

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 3 of 4	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☑ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☑ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.5 Corrected Temp (°C): 4.5

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? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive | STATE IA | Project:

Receipt Information

Date/Time Received: DATE 10-28-21 | TIME 0827 | Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 1 of 4
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): 0.0

Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.5 | Corrected Temp (°C): 2.5

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive | STATE IA | Project:

Receipt Information

Date/Time Received: DATE 10-28-21 | TIME 0827 | Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Container

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 2 of 4
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.6 | Corrected Temp (°C): 3.6

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? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing America

Client Information	Sampler: Paul A. Groves	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-65046-16399.1
Client Contact: Rosa Cruz	Phone: [redacted]	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: 8450 Hickman Road Suite 27	Due Date Requested:			
City: Clive	TAT Requested (days):			
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: rcruz@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, ~~25221070~~ 252200 70.00	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (5)	6020A - Dissolved Metals (2-3)	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	D	X	
MW-301	10-26-21	17:50	G	Water	N		X	X	X		
MW-302	10-27-21	10:50		Water							
MW-303	10-26-21	13:45		Water							
MW-304	10-26-21	11:45		Water							
MW-305	10-27-21	10:55		Water							
MW-306	10-27-21	12:15		Water							
MW-302A	10-27-21	9:20		Water							
MW-304A	10-26-21	13:10		Water							
MW-306A	10-27-21	13:30		Water							
MW-307	↓	14:50		Water							
MW-307A	↓	12:35	↓	Water							

See Spread Sheet

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Paul A. Groves	10-28-21 8:27	SCS		10/28/21 18:27	
2						
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

11/30/2021

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins Environment Testing America

Client Information	Sampler: Paul A. Grover	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-65046-16399.2
Client Contact: Rosa Cruz	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: 8450 Hickman Road Suite 27	Due Date Requested:			
City: Clive	TAT Requested (days):			
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: rcruz@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, ~~25221070~~ 25220070.00	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (5)	6020A - Dissolved Metals (2-3)	See Spread Sheet	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D			
MW-20	10-26-21	11:00	G	Water	N		X	X	X			
MW-6	↓	15:10	↓	Water	↓		X	X	X			
Field Blank	↓	11:50	↓	Water	N		X	X	X			
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Paul A. Grover	10-28-21 8:27	SCS		10/28/21 8:27	
2						
3						

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

Ver: 01/16/2019

Page 35 of 38

11/30/2021

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218390-3

Login Number: 218390
List Number: 1
Creator: Bindert, Zach T

List Source: Eurofins TestAmerica, Cedar Falls

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	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218390-3

Login Number: 218390
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/29/21 05:34 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
Job ID: 310-218390-3
Project/Site: Lansing Gen Station - 25220070.00

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-218390-1	MW-301	89.0
310-218390-2	MW-302	93.5
310-218390-3	MW-303	91.5
310-218390-4	MW-304	92.0
310-218390-5	MW-305	88.3
310-218390-6	MW-306	86.3
310-218390-7	MW-302A	92.0
310-218390-8	MW-304A	92.5
310-218390-9	MW-306A	65.8
310-218390-10	MW-307	94.3
310-218390-11	MW-307A	92.3
310-218390-12	MW-20	90.0
310-218390-13	MW-6	93.3
310-218390-14	Field Blank	90.8
LCS 160-534859/1-A	Lab Control Sample	89.3
LCSD 160-534859/2-A	Lab Control Sample Dup	92.5
MB 160-534859/23-A	Method Blank	96.8

Tracer/Carrier Legend

Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-218390-1	MW-301	89.0	78.1
310-218390-2	MW-302	93.5	80.0
310-218390-3	MW-303	91.5	77.0
310-218390-4	MW-304	92.0	80.4
310-218390-5	MW-305	88.3	78.9
310-218390-6	MW-306	86.3	78.1
310-218390-7	MW-302A	92.0	77.0
310-218390-8	MW-304A	92.5	78.9
310-218390-9	MW-306A	65.8	62.1
310-218390-10	MW-307	94.3	80.0
310-218390-11	MW-307A	92.3	82.2
310-218390-12	MW-20	90.0	84.1
310-218390-13	MW-6	93.3	83.4
310-218390-14	Field Blank	90.8	83.4
LCS 160-534863/1-A	Lab Control Sample	89.3	72.5
LCSD 160-534863/2-A	Lab Control Sample Dup	92.5	71.0
MB 160-534863/23-A	Method Blank	96.8	89.3

Tracer/Carrier Legend

Ba = Ba
Y = Y Carrier

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-218390-2
Client Project/Site: Lansing Gen Station - 25220070.00 MNA
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
11/12/2021 1:22:55 PM

Sandie Fredrick, Project Manager II
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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.

Table of Contents

Case Narrative

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Job ID: 310-218390-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-218390-2

Comments
REVISED REPORT: Dissolved As added per client.

Receipt
The samples were received on 10/28/2021 8:27 AM. 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 2.5º C, 3.6º C, 4.5º C and 5.4º 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.

Sample Summary

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-218390-1	MW-301	Water	10/26/21 17:50	10/28/21 09:01
310-218390-2	MW-302	Water	10/27/21 10:50	10/28/21 09:01
310-218390-3	MW-303	Water	10/26/21 13:45	10/28/21 09:01
310-218390-4	MW-304	Water	10/26/21 11:45	10/28/21 09:01
310-218390-5	MW-305	Water	10/27/21 10:55	10/28/21 09:01
310-218390-6	MW-306	Water	10/27/21 12:15	10/28/21 09:01
310-218390-7	MW-302A	Water	10/27/21 09:20	10/28/21 09:01
310-218390-8	MW-304A	Water	10/26/21 13:10	10/28/21 09:01
310-218390-9	MW-306A	Water	10/27/21 13:30	10/28/21 09:01
310-218390-10	MW-307	Water	10/27/21 14:50	10/28/21 09:01
310-218390-11	MW-307A	Water	10/27/21 12:35	10/28/21 09:01
310-218390-12	MW-20	Water	10/26/21 11:00	10/28/21 09:01
310-218390-13	MW-6	Water	10/26/21 15:10	10/28/21 09:01
310-218390-14	Field Blank	Water	10/26/21 11:50	10/28/21 09:01

Detection Summary

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-301 — Lab Sample ID: 310-218390-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	640		100	36	ug/L	1		6020A	Total/NA
Magnesium	18000		500	100	ug/L	1		6020A	Total/NA
Manganese	530		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3700		500	150	ug/L	1		6020A	Total/NA
Sodium	13000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	6.8		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	430		100	36	ug/L	1		6020A	Dissolved
Manganese	530		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	260		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	260		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-218390-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	35000		100	36	ug/L	1		6020A	Total/NA
Magnesium	39000		500	100	ug/L	1		6020A	Total/NA
Manganese	2700		10	4.4	ug/L	1		6020A	Total/NA
Potassium	4300		500	150	ug/L	1		6020A	Total/NA
Sodium	18000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	48		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	33000		100	36	ug/L	1		6020A	Dissolved
Manganese	2600		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	550		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	550		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303 — Lab Sample ID: 310-218390-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	38	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	16000		500	100	ug/L	1		6020A	Total/NA
Manganese	39		10	4.4	ug/L	1		6020A	Total/NA
Potassium	2800		500	150	ug/L	1		6020A	Total/NA
Sodium	15000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	2.2		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	69	J	100	36	ug/L	1		6020A	Dissolved
Manganese	38		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	220		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	220		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304 — Lab Sample ID: 310-218390-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	32000		500	100	ug/L	1		6020A	Total/NA
Potassium	1300		500	150	ug/L	1		6020A	Total/NA
Sodium	4000		1000	610	ug/L	1		6020A	Total/NA
Iron	67	J	100	36	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	370		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	370		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-305 — Lab Sample ID: 310-218390-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	7300		100	36	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-305 (Continued) — Lab Sample ID: 310-218390-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	30000		500	100	ug/L	1		6020A	Total/NA
Manganese	1500		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1600		500	150	ug/L	1		6020A	Total/NA
Sodium	6700		1000	610	ug/L	1		6020A	Total/NA
Arsenic	3.7		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	6900		100	36	ug/L	1		6020A	Dissolved
Manganese	1400		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	330		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	330		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 310-218390-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	33000		100	36	ug/L	1		6020A	Total/NA
Magnesium	36000		500	100	ug/L	1		6020A	Total/NA
Manganese	4100		10	4.4	ug/L	1		6020A	Total/NA
Potassium	6200		500	150	ug/L	1		6020A	Total/NA
Sodium	140000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	8.4		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	33000		100	36	ug/L	1		6020A	Dissolved
Manganese	4100		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	880		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	880		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302A — Lab Sample ID: 310-218390-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	41	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	35000		500	100	ug/L	1		6020A	Total/NA
Potassium	1000		500	150	ug/L	1		6020A	Total/NA
Sodium	6300		1000	610	ug/L	1		6020A	Total/NA
Iron	38	J	100	36	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-304A — Lab Sample ID: 310-218390-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	15000		500	100	ug/L	1		6020A	Total/NA
Potassium	650		500	150	ug/L	1		6020A	Total/NA
Sodium	55000		1000	610	ug/L	1		6020A	Total/NA
Molybdenum	120		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	210		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	210		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306A — Lab Sample ID: 310-218390-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1800		100	36	ug/L	1		6020A	Total/NA
Magnesium	33000		500	100	ug/L	1		6020A	Total/NA
Manganese	1000		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1200		500	150	ug/L	1		6020A	Total/NA
Sodium	9800		1000	610	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-306A (Continued) — Lab Sample ID: 310-218390-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1500		100	36	ug/L	1		6020A	Dissolved
Manganese	1000		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	330		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	330		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-218390-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	95	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	12000		500	100	ug/L	1		6020A	Total/NA
Manganese	230		10	4.4	ug/L	1		6020A	Total/NA
Potassium	2600		500	150	ug/L	1		6020A	Total/NA
Sodium	11000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	2.6		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	110		100	36	ug/L	1		6020A	Dissolved
Manganese	240		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	86		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	86		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-218390-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	160		100	36	ug/L	1		6020A	Total/NA
Magnesium	33000		500	100	ug/L	1		6020A	Total/NA
Manganese	720		10	4.4	ug/L	1		6020A	Total/NA
Potassium	2500		500	150	ug/L	1		6020A	Total/NA
Sodium	14000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	1.4	J	2.0	0.75	ug/L	1		6020A	Dissolved
Iron	170		100	36	ug/L	1		6020A	Dissolved
Manganese	720		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-20 — Lab Sample ID: 310-218390-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	870		100	36	ug/L	1		6020A	Total/NA
Magnesium	30000		500	100	ug/L	1		6020A	Total/NA
Manganese	2500		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3700		500	150	ug/L	1		6020A	Total/NA
Sodium	34000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	3.3		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	800		100	36	ug/L	1		6020A	Dissolved
Manganese	2600		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	400		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	400		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 310-218390-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	35000		500	100	ug/L	1		6020A	Total/NA
Potassium	1100		500	150	ug/L	1		6020A	Total/NA
Sodium	4500		1000	610	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-6 (Continued) — Lab Sample ID: 310-218390-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-218390-14

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-301
Lab Sample ID: 310-218390-1
Date Collected: 10/26/21 17:50
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	640		100	36	ug/L		11/01/21 09:00	11/10/21 19:07	1
Magnesium	18000		500	100	ug/L		11/01/21 09:00	11/10/21 19:07	1
Manganese	530		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:07	1
Potassium	3700		500	150	ug/L		11/01/21 09:00	11/10/21 19:07	1
Sodium	13000		1000	610	ug/L		11/01/21 09:00	11/10/21 19:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.8		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:53	1
Iron	430		100	36	ug/L		11/01/21 09:00	11/10/21 20:53	1
Manganese	530		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	260		10	4.6	mg/L			11/08/21 11:57	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/08/21 11:57	1
Total Alkalinity as CaCO3	260		10	4.6	mg/L			11/08/21 11:57	1

Client Sample ID: MW-302
Date Collected: 10/27/21 10:50
Date Received: 10/28/21 09:01

Lab Sample ID: 310-218390-2
Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	35000		100	36	ug/L		11/01/21 09:00	11/10/21 19:28	1
Magnesium	39000		500	100	ug/L		11/01/21 09:00	11/10/21 19:28	1
Manganese	2700		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:28	1
Potassium	4300		500	150	ug/L		11/01/21 09:00	11/10/21 19:28	1
Sodium	18000		1000	610	ug/L		11/01/21 09:00	11/10/21 19:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	48		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:59	1
Iron	33000		100	36	ug/L		11/01/21 09:00	11/10/21 20:59	1
Manganese	2600		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	550		10	4.6	mg/L			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	550		10	4.6	mg/L			11/09/21 08:36	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-303
Lab Sample ID: 310-218390-3
Date Collected: 10/26/21 13:45
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	38	J	100	36	ug/L		11/01/21 09:00	11/10/21 19:30	1
Magnesium	16000		500	100	ug/L		11/01/21 09:00	11/10/21 19:30	1
Manganese	39		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:30	1
Potassium	2800		500	150	ug/L		11/01/21 09:00	11/10/21 19:30	1
Sodium	15000		1000	610	ug/L		11/01/21 09:00	11/10/21 19:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.2		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:01	1
Iron	69	J	100	36	ug/L		11/01/21 09:00	11/10/21 21:01	1
Manganese	38		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	220		10	4.6	mg/L			11/08/21 11:57	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/08/21 11:57	1
Total Alkalinity as CaCO3	220		10	4.6	mg/L			11/08/21 11:57	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-304
Lab Sample ID: 310-218390-4
Date Collected: 10/26/21 11:45
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 19:33	1
Magnesium	**32000**		500	100	ug/L		11/01/21 09:00	11/10/21 19:33	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:33	1
Potassium	**1300**		500	150	ug/L		11/01/21 09:00	11/10/21 19:33	1
Sodium	**4000**		1000	610	ug/L		11/01/21 09:00	11/10/21 19:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:04	1
Iron	**67**	**J**	100	36	ug/L		11/01/21 09:00	11/10/21 21:04	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**370**		10	4.6	mg/L			11/08/21 11:57	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/08/21 11:57	1
Total Alkalinity as CaCO3	**370**		10	4.6	mg/L			11/08/21 11:57	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-305
Lab Sample ID: 310-218390-5
Date Collected: 10/27/21 10:55
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7300		100	36	ug/L		11/01/21 09:00	11/10/21 19:36	1
Magnesium	30000		500	100	ug/L		11/01/21 09:00	11/10/21 19:36	1
Manganese	1500		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:36	1
Potassium	1600		500	150	ug/L		11/01/21 09:00	11/10/21 19:36	1
Sodium	6700		1000	610	ug/L		11/01/21 09:00	11/10/21 19:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.7		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:07	1
Iron	6900		100	36	ug/L		11/01/21 09:00	11/10/21 21:07	1
Manganese	1400		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	330		5.0	2.3	mg/L			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	330		5.0	2.3	mg/L			11/09/21 08:36	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-306
Lab Sample ID: 310-218390-6
Date Collected: 10/27/21 12:15
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	33000		100	36	ug/L		11/01/21 09:00	11/10/21 19:38	1
Magnesium	36000		500	100	ug/L		11/01/21 09:00	11/10/21 19:38	1
Manganese	4100		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:38	1
Potassium	6200		500	150	ug/L		11/01/21 09:00	11/10/21 19:38	1
Sodium	140000		1000	610	ug/L		11/01/21 09:00	11/10/21 19:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.4		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:20	1
Iron	33000		100	36	ug/L		11/01/21 09:00	11/10/21 21:20	1
Manganese	4100		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	880		10	4.6	mg/L			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	880		10	4.6	mg/L			11/09/21 08:36	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-302A
Lab Sample ID: 310-218390-7
Date Collected: 10/27/21 09:20
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**41**	**J**	100	36	ug/L		11/01/21 09:00	11/10/21 19:41	1
Magnesium	**35000**		500	100	ug/L		11/01/21 09:00	11/10/21 19:41	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:41	1
Potassium	**1000**		500	150	ug/L		11/01/21 09:00	11/10/21 19:41	1
Sodium	**6300**		1000	610	ug/L		11/01/21 09:00	11/10/21 19:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:23	1
Iron	**38**	**J**	100	36	ug/L		11/01/21 09:00	11/10/21 21:23	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**300**		10	4.6	mg/L			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	**300**		10	4.6	mg/L			11/09/21 08:36	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-304A
Lab Sample ID: 310-218390-8
Date Collected: 10/26/21 13:10
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 19:44	1
Magnesium	**15000**		500	100	ug/L		11/01/21 09:00	11/10/21 19:44	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:44	1
Potassium	**650**		500	150	ug/L		11/01/21 09:00	11/10/21 19:44	1
Sodium	**55000**		1000	610	ug/L		11/01/21 09:00	11/10/21 19:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:26	1
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 21:26	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:26	1
Molybdenum	**120**		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 21:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**210**		10	4.6	mg/L			11/08/21 11:57	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/08/21 11:57	1
Total Alkalinity as CaCO3	**210**		10	4.6	mg/L			11/08/21 11:57	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-306A
Lab Sample ID: 310-218390-9
Date Collected: 10/27/21 13:30
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1800**		100	36	ug/L		11/01/21 09:00	11/10/21 19:46	1
Magnesium	**33000**		500	100	ug/L		11/01/21 09:00	11/10/21 19:46	1
Manganese	**1000**		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:46	1
Potassium	**1200**		500	150	ug/L		11/01/21 09:00	11/10/21 19:46	1
Sodium	**9800**		1000	610	ug/L		11/01/21 09:00	11/10/21 19:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:28	1
Iron	**1500**		100	36	ug/L		11/01/21 09:00	11/10/21 21:28	1
Manganese	**1000**		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**330**		10	4.6	mg/L			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	**330**		10	4.6	mg/L			11/09/21 08:36	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-307
Lab Sample ID: 310-218390-10
Date Collected: 10/27/21 14:50
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	95	J	100	36	ug/L		11/01/21 09:00	11/10/21 20:00	1
Magnesium	12000		500	100	ug/L		11/01/21 09:00	11/10/21 20:00	1
Manganese	230		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:00	1
Potassium	2600		500	150	ug/L		11/01/21 09:00	11/10/21 20:00	1
Sodium	11000		1000	610	ug/L		11/01/21 09:00	11/10/21 20:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.6		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:31	1
Iron	110		100	36	ug/L		11/01/21 09:00	11/10/21 21:31	1
Manganese	240		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	86		5.0	2.3	mg/L			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	86		5.0	2.3	mg/L			11/09/21 08:36	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-307A
Lab Sample ID: 310-218390-11
Date Collected: 10/27/21 12:35
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	160		100	36	ug/L		11/01/21 09:00	11/10/21 20:03	1
Magnesium	33000		500	100	ug/L		11/01/21 09:00	11/10/21 20:03	1
Manganese	720		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:03	1
Potassium	2500		500	150	ug/L		11/01/21 09:00	11/10/21 20:03	1
Sodium	14000		1000	610	ug/L		11/01/21 09:00	11/10/21 20:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.4	J	2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:34	1
Iron	170		100	36	ug/L		11/01/21 09:00	11/10/21 21:34	1
Manganese	720		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	310		10	4.6	mg/L			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	310		10	4.6	mg/L			11/09/21 08:36	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-20
Lab Sample ID: 310-218390-12
Date Collected: 10/26/21 11:00
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	870		100	36	ug/L		11/01/21 09:00	11/10/21 20:08	1
Magnesium	30000		500	100	ug/L		11/01/21 09:00	11/10/21 20:08	1
Manganese	2500		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:08	1
Potassium	3700		500	150	ug/L		11/01/21 09:00	11/10/21 20:08	1
Sodium	34000		1000	610	ug/L		11/01/21 09:00	11/10/21 20:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.3		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:36	1
Iron	800		100	36	ug/L		11/01/21 09:00	11/10/21 21:36	1
Manganese	2600		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	400		10	4.6	mg/L			11/08/21 11:57	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/08/21 11:57	1
Total Alkalinity as CaCO3	400		10	4.6	mg/L			11/08/21 11:57	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-6
Lab Sample ID: 310-218390-13
Date Collected: 10/26/21 15:10
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 20:10	1
Magnesium	**35000**		500	100	ug/L		11/01/21 09:00	11/10/21 20:10	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:10	1
Potassium	**1100**		500	150	ug/L		11/01/21 09:00	11/10/21 20:10	1
Sodium	**4500**		1000	610	ug/L		11/01/21 09:00	11/10/21 20:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:39	1
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 21:39	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**380**		10	4.6	mg/L			11/08/21 11:57	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/08/21 11:57	1
Total Alkalinity as CaCO3	**380**		10	4.6	mg/L			11/08/21 11:57	1

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: Field Blank
Lab Sample ID: 310-218390-14
Date Collected: 10/26/21 11:50
Matrix: Water
Date Received: 10/28/21 09:01

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 20:13	1
Magnesium	<100		500	100	ug/L		11/01/21 09:00	11/10/21 20:13	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:13	1
Potassium	<150		500	150	ug/L		11/01/21 09:00	11/10/21 20:13	1
Sodium	<610		1000	610	ug/L		11/01/21 09:00	11/10/21 20:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 21:42	1
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 21:42	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 21:42	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 21:42	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			11/03/21 10:40	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/03/21 10:40	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/03/21 10:40	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

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.

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

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-333483/1-A
Matrix: Water
Analysis Batch: 335099

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	<100		500	100	ug/L		11/01/21 09:00	11/10/21 19:01	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 19:01	1
Potassium	<150		500	150	ug/L		11/01/21 09:00	11/10/21 19:01	1
Sodium	<610		1000	610	ug/L		11/01/21 09:00	11/10/21 19:01	1

Lab Sample ID: MB 310-333483/1-A
Matrix: Water
Analysis Batch: 335188

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		11/01/21 09:00	11/11/21 14:20	1

Lab Sample ID: LCS 310-333483/2-A
Matrix: Water
Analysis Batch: 335099

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	2000	1710		ug/L		85	80 - 120
Manganese	100	89.6		ug/L		90	80 - 120
Potassium	2000	1740		ug/L		87	80 - 120
Sodium	2000	1730		ug/L		87	80 - 120

Lab Sample ID: 310-218390-1 MS
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	640		200	857		ug/L		107	75 - 125
Magnesium	18000		2000	20600	4	ug/L		122	75 - 125
Manganese	530		100	642	4	ug/L		108	75 - 125
Potassium	3700		2000	5820		ug/L		104	75 - 125
Sodium	13000		2000	14900	4	ug/L		85	75 - 125

Lab Sample ID: 310-218390-1 MSD
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	640		200	846		ug/L		102	75 - 125	1	20
Magnesium	18000		2000	20000	4	ug/L		92	75 - 125	3	20
Manganese	530		100	623	4	ug/L		89	75 - 125	3	20
Potassium	3700		2000	5880		ug/L		107	75 - 125	1	20
Sodium	13000		2000	14800	4	ug/L		81	75 - 125	1	20

Lab Sample ID: 310-218390-11 DU
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-307A
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	160		158		ug/L		0.3	20

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

Lab Sample ID: 310-218390-11 DU
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-307A
Prep Type: Total/NA
Prep Batch: 333483

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Magnesium	33000			33100		ug/L				0.3	20
Manganese	720			727		ug/L				0.8	20
Potassium	2500			2520		ug/L				2	20
Sodium	14000			14600		ug/L				3	20

Lab Sample ID: MB 310-333485/1-A
Matrix: Water
Analysis Batch: 335099

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333485

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		11/01/21 09:00	11/10/21 20:48	1
Iron	<36		100	36	ug/L		11/01/21 09:00	11/10/21 20:48	1
Manganese	<4.4		10	4.4	ug/L		11/01/21 09:00	11/10/21 20:48	1
Molybdenum	<1.3		2.0	1.3	ug/L		11/01/21 09:00	11/10/21 20:48	1

Lab Sample ID: LCS 310-333485/2-A
Matrix: Water
Analysis Batch: 335099

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333485

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			200	188		ug/L		94	80 - 120		
Iron			200	206		ug/L		103	80 - 120		
Manganese			100	90.6		ug/L		91	80 - 120		
Molybdenum			200	188		ug/L		94	80 - 120		

Lab Sample ID: 310-218390-1 DU
Matrix: Water
Analysis Batch: 335099

Client Sample ID: MW-301
Prep Type: Dissolved
Prep Batch: 333485

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Arsenic	6.8			6.86		ug/L				0.2	20
Iron	430			443		ug/L				3	20
Manganese	530			522		ug/L				1	20
Molybdenum	6.1			6.02		ug/L				2	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-334120/1
Matrix: Water
Analysis Batch: 334120

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			11/03/21 10:40	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/03/21 10:40	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/03/21 10:40	1

Method: 2320B - Alkalinity (Low Level) (Continued)

Lab Sample ID: LCS 310-334120/2
Matrix: Water
Analysis Batch: 334120

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

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-334691/1
Matrix: Water
Analysis Batch: 334691

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			11/08/21 11:57	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/08/21 11:57	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/08/21 11:57	1

Lab Sample ID: LCS 310-334691/2
Matrix: Water
Analysis Batch: 334691

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	1060		mg/L		106	90 - 110

Lab Sample ID: 310-218390-1 MS
Matrix: Water
Analysis Batch: 334691

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	260		200	511		mg/L		123	71 - 130

Lab Sample ID: 310-218390-1 MSD
Matrix: Water
Analysis Batch: 334691

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	260		200	520		mg/L		128	71 - 130	2	10

Lab Sample ID: MB 310-334776/1
Matrix: Water
Analysis Batch: 334776

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			11/09/21 08:36	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/09/21 08:36	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/09/21 08:36	1

Lab Sample ID: LCS 310-334776/2
Matrix: Water
Analysis Batch: 334776

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	998		mg/L		100	90 - 110

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 310-218390-2 MS
Matrix: Water
Analysis Batch: 334776

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		
Total Alkalinity as CaCO3	550		200	744		mg/L		98	71 - 130		

Lab Sample ID: 310-218390-2 MSD
Matrix: Water
Analysis Batch: 334776

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
Total Alkalinity as CaCO3	550		200	760		mg/L		106	71 - 130	2	10

Metals

Prep Batch: 333483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	3005A	
310-218390-2	MW-302	Total/NA	Water	3005A	
310-218390-3	MW-303	Total/NA	Water	3005A	
310-218390-4	MW-304	Total/NA	Water	3005A	
310-218390-5	MW-305	Total/NA	Water	3005A	
310-218390-6	MW-306	Total/NA	Water	3005A	
310-218390-7	MW-302A	Total/NA	Water	3005A	
310-218390-8	MW-304A	Total/NA	Water	3005A	
310-218390-9	MW-306A	Total/NA	Water	3005A	
310-218390-10	MW-307	Total/NA	Water	3005A	
310-218390-11	MW-307A	Total/NA	Water	3005A	
310-218390-12	MW-20	Total/NA	Water	3005A	
310-218390-13	MW-6	Total/NA	Water	3005A	
310-218390-14	Field Blank	Total/NA	Water	3005A	
MB 310-333483/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-333483/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-218390-1 MS	MW-301	Total/NA	Water	3005A	
310-218390-1 MSD	MW-301	Total/NA	Water	3005A	
310-218390-11 DU	MW-307A	Total/NA	Water	3005A	

Prep Batch: 333485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Dissolved	Water	3005A	
310-218390-2	MW-302	Dissolved	Water	3005A	
310-218390-3	MW-303	Dissolved	Water	3005A	
310-218390-4	MW-304	Dissolved	Water	3005A	
310-218390-5	MW-305	Dissolved	Water	3005A	
310-218390-6	MW-306	Dissolved	Water	3005A	
310-218390-7	MW-302A	Dissolved	Water	3005A	
310-218390-8	MW-304A	Dissolved	Water	3005A	
310-218390-9	MW-306A	Dissolved	Water	3005A	
310-218390-10	MW-307	Dissolved	Water	3005A	
310-218390-11	MW-307A	Dissolved	Water	3005A	
310-218390-12	MW-20	Dissolved	Water	3005A	
310-218390-13	MW-6	Dissolved	Water	3005A	
310-218390-14	Field Blank	Dissolved	Water	3005A	
MB 310-333485/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-333485/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-218390-1 DU	MW-301	Dissolved	Water	3005A	

Analysis Batch: 335099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Dissolved	Water	6020A	333485
310-218390-1	MW-301	Total/NA	Water	6020A	333483
310-218390-2	MW-302	Dissolved	Water	6020A	333485
310-218390-2	MW-302	Total/NA	Water	6020A	333483
310-218390-3	MW-303	Dissolved	Water	6020A	333485
310-218390-3	MW-303	Total/NA	Water	6020A	333483
310-218390-4	MW-304	Dissolved	Water	6020A	333485
310-218390-4	MW-304	Total/NA	Water	6020A	333483
310-218390-5	MW-305	Dissolved	Water	6020A	333485

Metals (Continued)

Analysis Batch: 335099 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-5	MW-305	Total/NA	Water	6020A	333483
310-218390-6	MW-306	Dissolved	Water	6020A	333485
310-218390-6	MW-306	Total/NA	Water	6020A	333483
310-218390-7	MW-302A	Dissolved	Water	6020A	333485
310-218390-7	MW-302A	Total/NA	Water	6020A	333483
310-218390-8	MW-304A	Dissolved	Water	6020A	333485
310-218390-8	MW-304A	Total/NA	Water	6020A	333483
310-218390-9	MW-306A	Dissolved	Water	6020A	333485
310-218390-9	MW-306A	Total/NA	Water	6020A	333483
310-218390-10	MW-307	Dissolved	Water	6020A	333485
310-218390-10	MW-307	Total/NA	Water	6020A	333483
310-218390-11	MW-307A	Dissolved	Water	6020A	333485
310-218390-11	MW-307A	Total/NA	Water	6020A	333483
310-218390-12	MW-20	Dissolved	Water	6020A	333485
310-218390-12	MW-20	Total/NA	Water	6020A	333483
310-218390-13	MW-6	Dissolved	Water	6020A	333485
310-218390-13	MW-6	Total/NA	Water	6020A	333483
310-218390-14	Field Blank	Dissolved	Water	6020A	333485
310-218390-14	Field Blank	Total/NA	Water	6020A	333483
MB 310-333483/1-A	Method Blank	Total/NA	Water	6020A	333483
MB 310-333485/1-A	Method Blank	Total/NA	Water	6020A	333485
LCS 310-333483/2-A	Lab Control Sample	Total/NA	Water	6020A	333483
LCS 310-333485/2-A	Lab Control Sample	Total/NA	Water	6020A	333485
310-218390-1 MS	MW-301	Total/NA	Water	6020A	333483
310-218390-1 MSD	MW-301	Total/NA	Water	6020A	333483
310-218390-1 DU	MW-301	Dissolved	Water	6020A	333485
310-218390-11 DU	MW-307A	Total/NA	Water	6020A	333483

Analysis Batch: 335188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-333483/1-A	Method Blank	Total/NA	Water	6020A	333483

General Chemistry

Analysis Batch: 334120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-14	Field Blank	Total/NA	Water	2320B	
MB 310-334120/1	Method Blank	Total/NA	Water	2320B	
LCS 310-334120/2	Lab Control Sample	Total/NA	Water	2320B	

Analysis Batch: 334691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1	MW-301	Total/NA	Water	SM 2320B	
310-218390-3	MW-303	Total/NA	Water	SM 2320B	
310-218390-4	MW-304	Total/NA	Water	SM 2320B	
310-218390-8	MW-304A	Total/NA	Water	SM 2320B	
310-218390-12	MW-20	Total/NA	Water	SM 2320B	
310-218390-13	MW-6	Total/NA	Water	SM 2320B	
MB 310-334691/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-334691/2	Lab Control Sample	Total/NA	Water	SM 2320B	
310-218390-1 MS	MW-301	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 334691 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-1 MSD	MW-301	Total/NA	Water	SM 2320B	

Analysis Batch: 334776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218390-2	MW-302	Total/NA	Water	SM 2320B	
310-218390-5	MW-305	Total/NA	Water	SM 2320B	
310-218390-6	MW-306	Total/NA	Water	SM 2320B	
310-218390-7	MW-302A	Total/NA	Water	SM 2320B	
310-218390-9	MW-306A	Total/NA	Water	SM 2320B	
310-218390-10	MW-307	Total/NA	Water	SM 2320B	
310-218390-11	MW-307A	Total/NA	Water	SM 2320B	
MB 310-334776/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-334776/2	Lab Control Sample	Total/NA	Water	SM 2320B	
310-218390-2 MS	MW-302	Total/NA	Water	SM 2320B	
310-218390-2 MSD	MW-302	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-301
Lab Sample ID: 310-218390-1
Date Collected: 10/26/21 17:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 20:53	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:07	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334691	11/08/21 11:57	JMH2	TAL CF

Client Sample ID: MW-302
Lab Sample ID: 310-218390-2
Date Collected: 10/27/21 10:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 20:59	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:28	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334776	11/09/21 08:36	WJF	TAL CF

Client Sample ID: MW-303
Lab Sample ID: 310-218390-3
Date Collected: 10/26/21 13:45
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:01	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:30	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334691	11/08/21 11:57	JMH2	TAL CF

Client Sample ID: MW-304
Lab Sample ID: 310-218390-4
Date Collected: 10/26/21 11:45
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:04	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:33	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334691	11/08/21 11:57	JMH2	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-305
Lab Sample ID: 310-218390-5
Date Collected: 10/27/21 10:55
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:07	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:36	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334776	11/09/21 08:36	WJF	TAL CF

Client Sample ID: MW-306
Lab Sample ID: 310-218390-6
Date Collected: 10/27/21 12:15
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:20	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:38	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334776	11/09/21 08:36	WJF	TAL CF

Client Sample ID: MW-302A
Lab Sample ID: 310-218390-7
Date Collected: 10/27/21 09:20
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:23	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:41	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334776	11/09/21 08:36	WJF	TAL CF

Client Sample ID: MW-304A
Lab Sample ID: 310-218390-8
Date Collected: 10/26/21 13:10
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:26	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:44	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334691	11/08/21 11:57	JMH2	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-306A
Lab Sample ID: 310-218390-9
Date Collected: 10/27/21 13:30
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:28	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 19:46	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334776	11/09/21 08:36	WJF	TAL CF

Client Sample ID: MW-307
Lab Sample ID: 310-218390-10
Date Collected: 10/27/21 14:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:31	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:00	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334776	11/09/21 08:36	WJF	TAL CF

Client Sample ID: MW-307A
Lab Sample ID: 310-218390-11
Date Collected: 10/27/21 12:35
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:34	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:03	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334776	11/09/21 08:36	WJF	TAL CF

Client Sample ID: MW-20
Lab Sample ID: 310-218390-12
Date Collected: 10/26/21 11:00
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:36	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:08	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334691	11/08/21 11:57	JMH2	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

Client Sample ID: MW-6
Lab Sample ID: 310-218390-13
Date Collected: 10/26/21 15:10
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:39	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:10	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334691	11/08/21 11:57	JMH2	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-218390-14
Date Collected: 10/26/21 11:50
Matrix: Water
Date Received: 10/28/21 09:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333485	11/01/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	335099	11/10/21 21:42	SAP	TAL CF
Total/NA	Prep	3005A			333483	11/01/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	335099	11/10/21 20:13	SAP	TAL CF
Total/NA	Analysis	2320B		1	334120	11/03/21 10:40	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
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

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

Method Summary

Client: SCS Engineers
Job ID: 310-218390-2
Project/Site: Lansing Gen Station - 25220070.00 MNA

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

eurofins | Environment Testing TestAmerica

310-218390 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 4 of 4
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 5.4 Corrected Temp (°C): 5.4

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 3 of 4	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☑ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☑ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.5 Corrected Temp (°C): 4.5

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? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 1 of 4
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 2.5 Corrected Temp (°C): 2.5

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? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Clive STATE IA Project:

Receipt Information

Date/Time Received: DATE 10-28-21 TIME 0827 Received By: CC

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Container

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 2 of 4	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.6 Corrected Temp (°C): 3.6

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

eurofins | Environment Testing America

Client Information	Sampler: Paul A. Grove	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-65046-16399.1
Client Contact: Rosa Cruz	Phone: [redacted]	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: 8450 Hickman Road Suite 27	Due Date Requested:			
City: Clive	TAT Requested (days):			
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 25221070			
Email: rcruz@scsengineers.com	WO #:			
Project Name: Lansing Gen Station, ~~25221070~~ 252200 70.00	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (5)	6020A - Dissolved Metals (2-3) See Spread Sheet	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D		
MW-301	10-26-21	17:50	G	Water	N		X	X	X		
MW-302	10-27-21	10:50		Water							
MW-303	10-26-21	13:45		Water							
MW-304	10-26-21	11:45		Water							
MW-305	10-27-21	10:55		Water							
MW-306	10-27-21	12:15		Water							
MW-302A	10-27-21	9:20		Water							
MW-304A	10-26-21	13:10		Water							
MW-306A	10-27-21	13:30		Water							
MW-307	↓	14:50		Water							
MW-307A	↓	12:35	↓	Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Paul A. Grove	10-28-21 8:27	SCS		10/28/21 18:27	
2						
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

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11/22/2021 (Rev. 1)

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC 214

eurofins Environment Testing America

Client Information	Sampler: Paul A. Grover	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-65046-16399.2
Client Contact: Rosa Cruz	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: SCS Engineers	PWSID:			Job #:

Address: 8450 Hickman Road Suite 27	Due Date Requested:	
City: Clive	TAT Requested (days):	
State, Zip: IA, 50325	Compliance Project: Δ Yes Δ No	
Phone:	PO #: 25221070	
Email: rcruz@scsengineers.com	WO #:	
Project Name: Lansing Gen Station, ~~25221070~~ 25220070.00	Project #: 31011020	
Site:	SSOW#:	

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carb/Bicarb	6020A - Total Metals (5)	6020A - Dissolved Metals (2-3) See Sprea Sheet	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D		
MW-20	10-26-21	11:00	G	Water	N		X	X	X		
MW-6		15:10		Water			X	X	X		
Field Blank		11:50		Water	N		X	X	X		
				Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Paul A. Grover	10-28-21 8:27	SCS		10/28/21 8:27	
2						
3						

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

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218390-2

Login Number: 218390
List Number: 1
Creator: Bindert, Zach T

List Source: Eurofins TestAmerica, Cedar Falls

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	

Appendix D

Historical Monitoring Results

Single Location

Name: IPL - Lansing

Location ID: MW-6

Number of Sampling Dates: 20

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/27/2016	1/18/2017	4/19/2017	6/19/2017	8/15/2017	10/16/2017	4/16/2018	4/26/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/20/2020	8/19/2020	10/20/2020	4/7/2021	10/26/2021
Boron	ug/L	25.7	<50	<50	<50	<50	31.9	42.1	40	41.2	--	29.8	42.9	40.2	<110	<110	<73	--	<80	<58	64
Calcium	mg/L	64	72.6	68.9	68.6	68.6	67.8	64.6	68.2	66.9	--	72.7	66.5	69.6	67	70	72	--	69	71	72
Chloride	mg/L	7.5	7.6	8.1	6.8	6.5	6.3	6.2	6.5	6.5	--	6.5	7.3	6.6	6.7	6.9	7.7	6.8	5.6	7	6.8
Fluoride	mg/L	0.094	0.15	0.082	0.12	0.092	<0.1	0.1	0.12	0.14	--	0.084	0.12	<0.19	0.63	<0.23	<0.23	--	<0.23	0.34	<0.28
Field pH	Std. Units	7.44	7.64	7.25	7.56	7.62	7.48	7.4	7.48	7.03	--	7.34	7.18	7.06	7.59	7.46	7.34	7.98	7.42	7.39	7.7
Sulfate	mg/L	23	22.2	22.5	25.2	24.8	25.5	27.4	26.9	25.8	--	26.4	24.8	25.5	26	24	27	25	25	23	25
Total Dissolved Solids	mg/L	382	328	352	337	324	350	337	333	318	--	343	351	319	340	280	580	--	300	290	240
Antimony	ug/L	0.18	<0.058	<0.058	<0.058	<0.058	<0.026	0.027	0.037	--	--	<0.026	<0.15	<0.078	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	<4.5	0.28	0.26	0.19	0.23	0.28	0.18	0.28	--	--	0.23	0.26	0.24	<0.75	<0.75	<0.88	--	<0.88	<0.75	<0.75
Barium	ug/L	45.5	45.6	43.8	44.6	46.5	45.4	41.9	44	--	--	44.1	43.1	43	43	46	46	--	45	49	47
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	<0.08	<0.012	<0.012	<0.012	--	--	<0.012	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	<0.029	<0.018	<0.018	<0.018	--	--	<0.018	--	<0.033	<0.077	--	<0.039	--	<0.049	<0.051	<0.051
Chromium	ug/L	<0.96	0.82	0.81	0.81	1.1	0.76	0.68	0.71	--	--	0.66	0.97	0.73	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	<0.1	<0.5	<0.5	<0.5	<0.5	0.034	0.021	<0.014	--	--	<0.014	<0.15	<0.062	<0.091	<0.091	<0.091	--	<0.091	<0.091	<0.19
Lead	ug/L	<1.9	<0.19	<0.19	<0.19	<0.19	0.13	<0.033	0.065	--	--	<0.033	<0.12	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21	<0.21
Lithium	ug/L	<2.5	<4.9	<4.9	<4.9	<4.9	<2.9	<2.9	3	--	--	<4.6	--	<4.6	<2.7	<2.7	<2.3	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	--	<0.09	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.5	0.25	0.24	0.31	0.21	0.25	0.26	0.31	--	--	0.26	0.28	<0.57	<1.1	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3
Selenium	ug/L	<5.8	0.57	0.46	0.54	0.36	0.5	0.36	0.52	--	--	0.47	0.5	0.46	<1	--	<1	--	<1	<0.96	<0.96
Thallium	ug/L	0.18	<0.5	<0.5	<0.5	<0.5	0.11	<0.036	0.29	--	--	<0.036	--	<0.099	<0.27	--	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	1.51	0.458	0.724	0.6	0.397	0.0972	1.06	0.826	--	1.35	--	0.974	1.37	--	0.495	--	--	0.644	0.359	0.779
Radium-226	pCi/L	0.599	0.232	0.0668	0.126	0	-0.07	0.457	0.633	--	0	--	0.547	0.705	--	0.237	--	--	0.0266	0.109	0.232
Radium-228	pCi/L	0.913	0.226	0.657	0.474	0.397	0.0972	0.606	0.193	--	1.35	--	0.427	0.668	--	0.259	--	--	0.618	0.249	0.547
Collected By		--	--	0	--	0	0	0	0	0	--	0	--	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	8	7.7	7.4	7.7	8.1	7.8	7.2	7.5	7.5	--	7.7	7.5	7.4	7.5	7.5	7.5	--	7.4	7.5	7.5
Field Oxidation Potential	mV	166.8	243.7	45.8	122	163	321	251	142	282	--	34.6	233	119	274	88.9	119.6	113.9 millivolts	68.5	186.2	136.2
Field Specific Conductance	umhos/cm	606.4	596.2	582.4	590	589	589	580	588	591	--	569.1	609	587	618	590	597	597	575.5	599	601
Field Temperature	deg C	9.6	9.7	9.9	10	8	10.3	11.2	11.4	10.2	--	11.1	10.5	11.5	10	10	10	9.8	9.7	10	9.9
Groundwater Elevation	feet	662.28	662.08	663.21	670.82	666.28	669.82	670.65	670.61	669.58	--	667.96	668.13	664.71	672.78	675.54	674.47	674.64	673.37	671.08	668.14
Oxygen, Dissolved	mg/L	9.44	7.7	4.98	8.6	9.8	7.1	3.7	5.8	8.8	--	3.46	7.4	9.1	8.7	10.29	9.2	9.45	8.23	9.06	9.34
Turbidity	NTU	--	0.41	0.01	2.1	0	1.71	1.35	0	0	--	0.81	1.77	0.01	0.75	0.7	0.01	0	0	0	0
Collected Date		--	--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	300	310	380
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	49	<36
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.6	25	5.1	<4.4
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	74000	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05	<50	<36	<36
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	37000	36000	35000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.004	<4	<4.4	<4.4
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1100	1100	1100
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4500	4600	4500
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	300	310	380
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	<4.4	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	<0.75
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.7	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-301

Number of Sampling Dates: 20

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/26/2016	1/17/2017	4/19/2017	6/19/2017	8/15/2017	10/16/2017	4/16/2018	6/4/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/19/2020	8/18/2020	10/19/2020	4/8/2021	10/26/2021
Boron	ug/L	739	436	417	554	471	405	333	365	436	198	--	279	357	250	360	150	--	260	160	260
Calcium	mg/L	41	39.1	45.1	55.5	56.4	61.7	59.5	66.4	65.9	64.5	--	65.1	72.5	73	68	56	--	57	58	68
Chloride	mg/L	25.5	18.5	18.2	15.8	16	18.3	18	16.2	17.3	20.2	--	17.7	15.9	17	14	17	15	15	18	17
Fluoride	mg/L	0.3	0.32	0.25	0.26	0.21	0.19	0.23	0.26	0.24	0.24	--	0.23	0.27	0.9	0.23	0.56	--	<0.23	0.38	<0.28
Field pH	Std. Units	7.96	8.23	7.86	8.1	8.37	8.5	8.25	8.19	7.66	8.39	8.1	8.08	8.16	8.47	8.11	7.85	8.33	8.06	8.04	8.11
Sulfate	mg/L	62.2	38.8	37.5	45.7	55.6	48.7	44.7	49.4	52.7	49.3	--	53.2	64.4	51	56	34	44	48	27	49
Total Dissolved Solids	mg/L	280	176	218	246	271	289	278	285	289	--	300	326	320	350	310	480	--	280	240	210
Antimony	ug/L	0.078	0.086	<0.058	<0.058	0.088	<0.026	0.08	0.079	--	0.071	--	0.16	0.085	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	<4.5	2.3	2.8	3.5	3.8	3.1	3	3.8	--	3.9	--	4.4	5.4	5.4	5.6	3.8	--	6	5	7.1
Barium	ug/L	146	139	182	220	227	182	175	196	--	163	--	156	155	160	180	140	--	150	140	160
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	<0.08	<0.012	<0.012	<0.012	--	<0.012	--	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	<0.029	0.021	<0.018	<0.018	--	<0.018	--	--	<0.033	<0.077	--	<0.039	--	<0.049	0.06	<0.051
Chromium	ug/L	<0.96	<0.34	<0.34	0.35	0.49	0.97	0.21	0.23	--	1.1	--	<0.19	0.09	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	0.13	<0.5	<0.5	<0.5	<0.5	0.098	0.074	0.07	--	0.086	--	0.16	0.11	0.11	0.11	0.11	--	0.11	0.11	0.23
Lead	ug/L	<1.9	<0.19	0.23	<0.19	0.23	0.36	0.041	<0.033	--	0.037	--	<0.12	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21	0.37
Lithium	ug/L	5	5.3	5	6.4	<4.9	<2.9	4.2	7.3	--	<4.6	--	--	9.1	8.7	8	7	--	7.9	7.1	6.7
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	0.31	--	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	2.5	5.5	5	8.1	9.3	6.9	5.5	6.8	--	4.4	--	5.6	10.3	11	10	8.1	5.8	7.5	6.8	6.2
Selenium	ug/L	<5.8	<0.18	<0.18	<0.18	<0.18	0.12	0.1	0.13	--	<0.086	--	0.22	0.18	<1	--	<1	--	<1	<0.96	<0.96
Thallium	ug/L	0.064	<0.5	<0.5	<0.5	<0.5	0.14	0.05	0.31	--	<0.036	--	--	<0.099	<0.27	--	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	0.436	0.525	0.126	1.03	0.647	0.752	0.453	1.86	--	0.689	--	1.66	0.556	--	0.488	--	--	0.889	0.244	0.814
Radium-226	pCi/L	0.349	0.111	0.126	0.236	0.334	0.374	0.0591	1.03	--	0	--	0.692	0.115	--	0.372	--	--	0.339	0.0913	0.259
Radium-228	pCi/L	0.087	0.414	-0.0306	0.791	0.313	0.378	0.394	0.826	--	0.689	--	0.972	0.441	--	0.116	--	--	0.55	0.153	0.555
Collected By		--	--	0	--	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.8	8	7.8	7.8	7.8	7.8	7.7	8.1	7.9	8	--	8.1	8	7.9	8.1	8.1	--	8.1	8	8.1
Field Oxidation Potential	mV	-94.9	-134.2	-166.3	-156	-98	-181	-230	-178	-221	-40	-145.5	-149	-180	-171	-156.8	-77.6	-115.3	-97	-10.1	-159.7
Field Specific Conductance	umhos/cm	431.4	355.2	377.4	456	491	471	468	498	497	505	507	524	545	539	501.8	474	476	488.8	461	534
Field Temperature	deg C	13.6	8.9	13.3	15.4	12.3	10.6	12.2	14.7	17	9.5	12.2	14.6	17.4	11.3	15.6	11.3	15	14.7	11.5	16.1
Groundwater Elevation	feet	623.54	622.19	624.76	624.97	624.09	624.7	624.89	624.09	625.7	624.29	624.62	624.51	625.73	629.19	626.54	624.46	625.02	624.42	624.02	627
Oxygen, Dissolved	mg/L	1.08	0.34	0.16	0	1.6	0.3	0	0	0	1	0.89	0.2	0.3	0.2	0.13	0.75	0.16	0.42	0.27	0.1
Turbidity	NTU	--	1.9	2	6.79	4.27	3.04	0.2	4.87	0.05	8.31	2.72	5.5	9.19	9.33	1.36	1.39	1.65	0.75	0	0.81
Collected Date		--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--	--	--	1426	--	--	--	--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	160	220	260
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	110	320	430
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	810	530	650	530
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62000	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	500	740	640
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18000	19000	18000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	560	670	530
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3600	2600	3700
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11000	13000	13000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	160	220	260
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	<4.6	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.5	--	--	6.8
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-302

Number of Sampling Dates: 20

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/26/2016	1/17/2017	4/19/2017	6/19/2017	8/15/2017	10/16/2017	4/16/2018	6/4/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/20/2020	8/19/2020	10/19/2020	4/9/2021	10/27/2021
Boron	ug/L	564	468	579	673	576	527	558	645	708	489	--	648	694	690	690	480	--	640	460	630
Calcium	mg/L	95.1	96.5	97.8	110	116	112	110	118	116	120	--	116	122	130	130	120	--	110	120	120
Chloride	mg/L	17	14.9	15.1	15.5	15.7	12.9	14.4	15	13.9	13	--	13.9	13.5	13	12	14	12	11	11	14
Fluoride	mg/L	0.26	0.28	0.22	0.26	0.21	0.22	0.25	0.25	0.28	0.24	--	0.23	0.27	0.79	0.24	0.25	--	<0.23	0.31	1.3
Field pH	Std. Units	7.15	7.41	6.86	7.12	7.25	7.25	7.03	6.96	7.1	7.26	6.97	6.92	6.93	7.66	7.15	6.93	7.18	7.06	7.08	6.89
Sulfate	mg/L	9.8	0.72	0.29	0.32	<0.15	<0.5	<0.5	<0.5	<0.5	<0.24	--	<0.24	<0.24	<1.8	<1.8	<3.6	<3.6	<3.6	<2.5	<2.5
Total Dissolved Solids	mg/L	503	422	438	499	497	503	512	517	507	--	535	562	518	450	480	710	--	490	470	450
Antimony	ug/L	0.091	<0.058	<0.058	<0.058	0.14	<0.026	0.048	0.069	--	0.035	--	<0.15	<0.078	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	33.9	30.4	41	50.2	45	31.7	36.7	47.3	--	30.8	--	47.6	50.4	37	53	33	--	48	33	51
Barium	ug/L	483	479	540	648	706	559	597	660	--	789	--	661	603	690	740	610	--	630	630	680
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	0.1	0.016	<0.012	0.012	--	<0.012	--	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	0.074	<0.018	<0.018	<0.018	--	<0.018	--	--	<0.033	<0.077	--	<0.039	--	<0.049	0.06	0.076
Chromium	ug/L	<0.96	0.56	0.39	0.56	3.5	1	0.51	0.44	--	0.35	--	0.49	0.39	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	1.6	1.1	1.2	1.1	3.2	1.1	1.2	1.2	--	1.1	--	1.1	1.1	1.5	1.3	1	--	0.86	1	1.1
Lead	ug/L	<1.9	<0.19	0.32	<0.19	3.3	0.36	0.14	0.075	--	0.084	--	0.23	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21	1
Lithium	ug/L	<2.5	<4.9	<4.9	<4.9	<4.9	<2.9	<2.9	<2.9	--	<4.6	--	--	<4.6	<2.7	<2.7	<2.3	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	0.35	--	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.5	0.81	0.98	1.2	1.1	0.87	0.91	1.2	--	0.91	--	1.2	1.5	<1.1	1.4	<1.1	<1.1	<1.1	1.7	1.4
Selenium	ug/L	<5.8	0.2	0.22	0.28	0.36	0.25	0.19	0.31	--	<0.086	--	0.3	0.26	<1	--	<1	--	<1	1.2	<0.96
Thallium	ug/L	0.25	<0.5	<0.5	<0.5	<0.5	0.042	<0.036	0.14	--	<0.036	--	--	<0.099	<0.27	--	<0.26	--	--	2.5	0.31
Total Radium	pCi/L	1.46	2.14	2.07	1.73	1.49	1.25	2.75	1.68	--	1.96	--	2.09	3.52	--	1.48	--	--	1.41	1.57	1.59
Radium-226	pCi/L	0.415	0.985	0.969	0.539	0.514	0.672	1.36	0.619	--	0.776	--	1.23	1.67	--	0.807	--	--	0.531	0.747	0.907
Radium-228	pCi/L	1.04	1.15	1.1	1.19	0.978	0.576	1.39	1.06	--	1.18	--	0.858	1.85	--	0.675	--	--	0.88	0.819	0.68
Collected By		--	--	0	--	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.3	7.2	7	7	6.9	7.2	7.2	7	7	7.3	--	7	6.9	7	7	7	--	7.1	7	7
Field Oxidation Potential	mV	-150.3	-163.3	-141.5	-171	-154	-172	-189	-181	-179	-152	-179.3	-164	-43.9	-159	-160	-161.5	-173 millivolts	-182.5	-171.2	-128.1
Field Specific Conductance	umhos/cm	918	875	891	1004	1036	971	1017	1053	1045	1098	1068	1095	1039	1089	1049	1070	1039	1074	1043	1075
Field Temperature	deg C	12.7	7.8	14.2	15.6	9.3	7.6	11.4	15.7	16.2	6	10.8	15.3	16.99	7.1	15.9	8.7	16.2	14.4	7.5	15.7
Groundwater Elevation	feet	627.88	626.93	628.6	628.35	627.32	628.98	627.75	627.28	628.75	628.98	628.27	627.62	628.59	629.99	630.04	627.68	627.53	627.14	627.87	628.86
Oxygen, Dissolved	mg/L	0.08	0.1	0.03	0	0.2	0	0	0	0	0.8	0.12	0.1	0.48	0.2	0.11	0.19	0.05	0.1	0.03	1.07
Turbidity	NTU	--	4.98	2.6	11.14	93.1	3.36	4.61	4.28	3.96	5.25	1.46	11.23	5.92	18.39	4.71	4.16	4	2.96	3.15	3.35
Collected Date		--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--	--	--	1511	--	--	--	--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	530	540	540	550
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32000	30000	33000	33000
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2800	2500	2400	2600
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130000	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33000	36000	35000
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	42000	41000	39000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2700	2500	2700
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4300	3200	4300
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17000	16000	18000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	530	540	540	550
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<7.6	<3.8	<4.6	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46	44	33	48
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-302A

Number of Sampling Dates: 6

Parameter Name	Units	5/20/2020	7/6/2020	8/19/2020	10/19/2020	4/9/2021	10/27/2021
Boron	ug/L	190	250	--	160	170	140
Calcium	mg/L	79	78	--	72	75	75
Chloride	mg/L	7.8	6.9	7.1	6	6.7	6.9
Fluoride	mg/L	<0.23	<0.23	--	<0.23	<0.28	<0.28
Field pH	Std. Units	7.27	7.22	7.41	7.33	7.25	7.15
Sulfate	mg/L	53	47	49	47	45	50
Total Dissolved Solids	mg/L	520	350	--	350	330	280
Antimony	ug/L	<0.58	<0.51	--	--	<1.1	<1.1
Arsenic	ug/L	<0.88	<0.88	--	<0.88	<0.75	<0.75
Barium	ug/L	51	47	--	46	51	48
Beryllium	ug/L	<0.27	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.039	<0.049	--	<0.049	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1	--	1.2	<1.1	<1.1
Cobalt	ug/L	0.41	0.098	--	<0.091	<0.091	<0.19
Lead	ug/L	0.48	0.14	--	<0.11	<0.21	0.22
Lithium	ug/L	<2.3	<2.5	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.1	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3
Selenium	ug/L	1.3	1.1	--	<1	1.2	1
Thallium	ug/L	<0.26	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	--	0.0963	--	0.732	0.714	1.01
Radium-226	pCi/L	--	0.0963	--	0.229	0.076	0.233
Radium-228	pCi/L	--	-0.00723	--	0.503	0.638	0.778
pH at 25 Degrees C	Std. Units	7.4	7.6	--	7.4	7.4	7.6
Field Oxidation Potential	mV	126.9	47	74.1 millivolts	125.4	104.7	159.1
Field Specific Conductance	umhos/cm	644	641	638	650.1	597	627
Field Temperature	deg C	11.7	11.7	11.8	11.4	11.1	12
Groundwater Elevation	feet	623.19	624.2	623.52	623.03	623.12	623.1
Oxygen, Dissolved	mg/L	6.55	6.6	6.23	6.46	7.88	7.27
Turbidity	NTU	11.9	4.68	0.19	0.58	0.86	0
Total Alkalinity as CaCO3	mg/L	--	--	290	300	300	300
Iron, dissolved	ug/L	--	--	330	56	440	38
Manganese, dissolved	ug/L	--	--	38	10	59	<4.4
Calcium, total	ug/L	--	--	--	81000	--	--
Iron, total	ug/L	--	--	--	<50	47	41
Magnesium, total	ug/L	--	--	--	38000	37000	35000
Manganese, total	ug/L	--	--	--	<4	4.5	<4.4
Potassium, total	ug/L	--	--	--	1000	1000	1000
Sodium, total	ug/L	--	--	--	6700	7000	6300
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	290	300	300	300
Carbonate Alkalinity as CaCO3	mg/L	--	--	<3.8	<3.8	<4.2	<4.6
Arsenic, dissolved	ug/L	--	--	<0.88	--	--	<0.75
Molybdenum, dissolved	ug/L	--	--	<1.1	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-303

Number of Sampling Dates: 20

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/26/2016	1/17/2017	4/19/2017	6/20/2017	8/15/2017	10/16/2017	4/16/2018	6/4/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/19/2020	8/18/2020	10/19/2020	4/8/2021	10/26/2021
Boron	ug/L	178	178	405	235	133	177	390	386	592	144	--	675	474	150	520	150	--	370	120	170
Calcium	mg/L	38.2	48.6	64.5	67.1	72.5	60.1	62.2	42	84.7	54.6	--	46	35.3	49	46	54	--	34	47	49
Chloride	mg/L	18.7	16.8	18.1	17.7	21.9	16.1	17.3	18.4	17.2	24.1	--	14.6	16.3	18	16	15	16	15	21	25
Fluoride	mg/L	0.43	0.32	0.37	0.31	0.22	0.24	0.36	0.48	0.25	0.32	--	0.47	0.72	1	0.42	0.38	--	<0.23	0.52	<0.28
Field pH	Std. Units	8.03	8.07	7.12	7.93	8.16	8.19	7.93	7.78	7.2	8	7.59	7.66	7.91	7.95	7.83	7.67	7.65	7.77	8	7.45
Sulfate	mg/L	30.8	35.8	56	62.2	67.9	43.7	71.9	43.4	69.9	43.5	--	52.5	29.1	35	39	42	33	20	25	28
Total Dissolved Solids	mg/L	240	200	317	340	350	317	346	219	379	--	256	262	181	280	210	450	--	180	210	150
Antimony	ug/L	0.22	0.27	0.55	0.25	0.19	0.26	0.34	0.26	--	0.16	--	0.34	0.19	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	<4.5	1.4	1.4	1.8	1.8	2.4	2.5	2.5	--	1.2	--	2.3	2.3	1.4	2.5	1.4	--	3.2	1.5	2.2
Barium	ug/L	102	122	178	169	174	159	214	147	--	173	--	194	121	160	220	210	--	190	170	240
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	<0.08	<0.012	<0.012	<0.012	--	0.046	--	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	0.042	0.018	<0.018	<0.018	--	<0.018	--	--	<0.033	<0.077	--	<0.039	--	<0.049	<0.051	<0.051
Chromium	ug/L	<0.96	0.52	<0.34	<0.34	0.81	0.71	0.36	0.36	--	0.51	--	0.44	0.089	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	0.14	<0.5	<0.5	<0.5	<0.5	0.09	0.22	0.14	--	0.14	--	0.36	0.21	<0.091	0.12	<0.091	--	0.098	<0.091	<0.19
Lead	ug/L	<1.9	<0.19	0.2	<0.19	0.24	0.078	0.085	<0.033	--	<0.033	--	0.24	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21	<0.21
Lithium	ug/L	5.1	6.2	13.9	10.4	5.9	4.7	10.4	16.1	--	<4.6	--	--	8.1	3.3	9.1	4.2	--	9.5	3.5	11
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	<0.09	--	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.5	5	16.8	16.1	10.7	7.6	15.9	11.8	--	7.3	--	21.6	12	6.2	9.8	3.1	23	10	4.8	7.1
Selenium	ug/L	<5.8	1.2	0.9	0.6	1.9	0.63	0.67	0.59	--	3.3	--	0.38	0.39	<1	--	1.4	--	<1	1.1	<0.96
Thallium	ug/L	0.14	<0.5	<0.5	<0.5	<0.5	<0.036	<0.036	0.17	--	<0.036	--	--	<0.099	<0.27	--	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	0.926	0.73	0.768	1.24	0.416	0.339	0.639	0.477	--	0.787	--	0.929	1.87	--	0.463	--	--	0.27	0.243	0.359
Radium-226	pCi/L	-0.132	0.18	0.372	0.653	-0.077	0.339	0.217	0.155	--	0.359	--	0.929	0.664	--	0.444	--	--	0.217	0.125	0.278
Radium-228	pCi/L	0.926	0.555	0.396	0.582	0.416	-0.167	0.422	0.322	--	0.428	--	-0.073	1.21	--	0.0185	--	--	0.0528	0.118	0.0804
Collected By		--	--	0	--	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	8	8	7.6	7.8	7.7	8.1	7.7	7.9	7.4	8	--	8	7.9	8	8	7.9	--	7.9	8	7.7
Field Oxidation Potential	mV	84.2	133.2	-27.2	10	221	81	9	-75	49	53	68	-71	139	-76	156	28.9	25.8	38.4	78.4	125.8
Field Specific Conductance	umhos/cm	375.2	409	535	776	614	520	567	423	687	552	431	425	328	448	409	464	468	340.3	425	452
Field Temperature	deg C	8.5	6.7	30.4	22.1	6.3	10.5	24.8	31.7	25.2	4.1	17	31.5	28.5	4.2	25.2	6.3	30.4	23.5	3.7	24.8
Groundwater Elevation	feet	638.79	638.07	639.33	638.65	638.1	639.2	638.77	637.86	638.79	638.62	638.81	637.85	637.32	638.22	638.03	637.98	638.22	636.96	638.07	638.68
Oxygen, Dissolved	mg/L	2.38	2.63	0.15	8.1	3	1.4	0	0	1.9	3.5	0.36	0.4	0.4	1.4	0.27	1.29	0.15	0.58	2.03	0.17
Turbidity	NTU	--	2.13	0.39	3.02	2.53	0	0	0	0	0.4	1.08	4.51	2.62	6.6	0.58	0	1.62	0	0	0.65
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190	120	170	220
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	320	69
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	160	66	38
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35000	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05	<50	<36	38
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13000	18000	16000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180	30	39
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2200	1500	2800
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12000	13000	15000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190	120	170	220
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	<3.8	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	2.2
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-304

Number of Sampling Dates: 7

Parameter Name	Units	6/20/2019	10/2/2019	5/20/2020	8/19/2020	10/19/2020	4/9/2021	10/26/2021
Boron	ug/L	<110	<110	<73	--	<80	64	<58
Calcium	mg/L	82	72	70	--	66	69	71
Chloride	mg/L	5.9	7	6.2	7.7	6.2	6.5	6.9
Fluoride	mg/L	<0.23	<0.23	<0.23	--	<0.23	<0.28	<0.28
Field pH	Std. Units	7.01	7.16	7.32	7.55	7.16	7.27	7.29
Sulfate	mg/L	20	17	17	15	16	15	18
Total Dissolved Solids	mg/L	350	300	470	--	270	290	200
Antimony	ug/L	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	<0.75	<0.75	<0.88	--	<0.88	<0.75	<0.75
Barium	ug/L	54	47	42	--	42	43	44
Beryllium	ug/L	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.077	--	<0.039	--	<0.049	<0.051	<0.051
Chromium	ug/L	1.6	1	8.2	--	<1.1	<1.1	<1.1
Cobalt	ug/L	1.1	0.19	0.22	--	<0.091	<0.091	0.22
Lead	ug/L	1.2	0.35	<0.27	--	<0.11	<0.21	0.23
Lithium	ug/L	<2.7	<2.7	<2.3	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.1	<1.1	<1.1	1.2	<1.1	<1.3	<1.3
Selenium	ug/L	<1	--	<1	--	<1	<0.96	<0.96
Thallium	ug/L	<0.27	--	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	0.356	0.9	--	--	0.139	0.497	0.87
Radium-226	pCi/L	0.217	0.246	--	--	-0.0496	0.0825	0.331
Radium-228	pCi/L	0.139	0.653	--	--	0.139	0.415	0.539
pH at 25 Degrees C	Std. Units	7.4	7	7.3	--	7.3	7.4	7.4
Field Oxidation Potential	mV	41	107.3	104.9	109.6 millivolts	155.6	160.3	171.3
Field Specific Conductance	umhos/cm	593	578.4	574	583	601.9	520	562.3
Field Temperature	deg C	10.6	12.4	9	11.8	11.8	8.8	12.1
Groundwater Elevation	feet	0	623.79	621.57	621.75	621.4	621.46	621.29
Oxygen, Dissolved	mg/L	6.2	7.51	7.78	6.76	6.84	8.69	8.32
Turbidity	NTU	104	3.51	3.72	1.06	0.42	0	0
Total Alkalinity as CaCO3	mg/L	280	--	--	300	310	300	370
Iron, dissolved	ug/L	--	--	--	<50	<50	<36	67
Manganese, dissolved	ug/L	--	--	--	6.9	4.1	10	<4.4
Calcium, total	ug/L	--	--	--	--	75000	--	--
Iron, total	ug/L	--	--	--	51	<50	37	<36
Magnesium, total	ug/L	--	--	--	--	35000	33000	32000
Manganese, total	ug/L	--	--	--	--	6	5.9	<4.4
Potassium, total	ug/L	--	--	--	--	1300	1200	1300
Sodium, total	ug/L	--	--	--	--	6100	4900	4000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	300	310	300	370
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<3.8	<3.8	<4.2	<4.6
Arsenic, dissolved	ug/L	--	--	--	<0.88	--	--	<0.75
Molybdenum, dissolved	ug/L	--	--	--	1.6	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-304A

Number of Sampling Dates: 8

Parameter Name	Units	5/20/2020	7/6/2020	8/19/2020	10/19/2020	2/23/2021	4/9/2021	7/12/2021	10/26/2021
Boron	ug/L	1800	1700	--	1700	--	1400	--	1300
Calcium	mg/L	54	41	--	35	--	43	--	35
Chloride	mg/L	15	13	13	12	--	13	--	15
Fluoride	mg/L	0.57	0.42	--	<0.23	--	0.53	--	<0.28
Field pH	Std. Units	8.04	7.9	8.48	7.89	8.01	7.78	8.09	7.94
Sulfate	mg/L	83	77	76	76	--	77	--	91
Total Dissolved Solids	mg/L	680	330	--	310	--	300	--	240
Antimony	ug/L	<0.58	<0.51	--	--	--	<1.1	--	<1.1
Arsenic	ug/L	1.3	<0.88	--	<0.88	--	0.78	--	<0.75
Barium	ug/L	67	34	--	28	--	36	--	26
Beryllium	ug/L	<0.27	<0.27	--	--	--	<0.27	--	<0.27
Cadmium	ug/L	0.19	0.098	--	0.073	--	0.096	--	<0.051
Chromium	ug/L	2.2	1.1	--	<1.1	--	1.6	--	<1.1
Cobalt	ug/L	3.2	0.83	--	0.43	--	0.88	--	<0.19
Lead	ug/L	4.3	1.2	--	0.48	--	1.1	--	0.37
Lithium	ug/L	2.7	<2.5	--	<2.5	--	<2.5	--	<2.5
Mercury	ug/L	<0.1	<0.1	--	--	--	<0.15	--	<0.15
Molybdenum	ug/L	110	140	140	130	120	110	100	120
Selenium	ug/L	<1	<1	--	<1	--	<0.96	--	<0.96
Thallium	ug/L	<0.26	<0.26	--	--	--	<0.26	--	<0.26
Total Radium	pCi/L	--	0.573	--	0.157	--	0.468	--	0.698
Radium-226	pCi/L	--	0.221	--	0.117	--	0.0845	--	0.245
Radium-228	pCi/L	--	0.352	--	0.0402	--	0.384	--	0.454
pH at 25 Degrees C	Std. Units	8	8	--	8	--	8	--	8.1
Field Oxidation Potential	mV	61.8	-15.8	50.5 millivolts	162.7	44.9	151.6	80.3	157.1
Field Specific Conductance	umhos/cm	529	541	533	547.4	534	533	543.1	526.8
Field Temperature	deg C	12.6	19.1	14	10.1	9.1	10.1	13.8	13.4
Groundwater Elevation	feet	624.88	625.76	0	624.41	625.04	624.31	623.87	623.87
Oxygen, Dissolved	mg/L	0.48	0.3	0.27	0.78	0.39	0.41	0.48	2.53
Turbidity	NTU	585.9	181.9	236.2	90.29	116.6	165.2	36.09	2.78
Total Alkalinity as CaCO3	mg/L	--	--	190	190	--	180	--	210
Iron, dissolved	ug/L	--	--	<50	55	--	<36	--	<36
Manganese, dissolved	ug/L	--	--	16	7.3	--	6.2	--	<4.4
Calcium, total	ug/L	--	--	--	35000	--	--	--	--
Iron, total	ug/L	--	--	--	270	--	580	--	<36
Magnesium, total	ug/L	--	--	--	16000	--	18000	--	15000
Manganese, total	ug/L	--	--	--	26	--	54	--	<4.4
Potassium, total	ug/L	--	--	--	680	--	710	--	650
Sodium, total	ug/L	--	--	--	63000	--	58000	--	55000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	190	190	--	180	--	210
Carbonate Alkalinity as CaCO3	mg/L	--	--	<7.6	<3.8	--	<4.6	--	<4.6
Arsenic, dissolved	ug/L	--	--	<0.88	--	--	--	--	<0.75
Molybdenum, dissolved	ug/L	--	--	160	140	140	120	--	120

Single Location

Name: IPL - Lansing

Location ID: MW-305

Number of Sampling Dates: 7

Parameter Name	Units	6/20/2019	10/2/2019	5/19/2020	8/18/2020	10/20/2020	4/9/2021	10/27/2021
Boron	ug/L	180	190	210	--	220	140	200
Calcium	mg/L	92	97	82	--	76	79	79
Chloride	mg/L	6.8	3.2	7.5	6.9	6	4.8	6.6
Fluoride	mg/L	<0.23	<0.23	0.23	--	<0.23	<0.28	<0.28
Field pH	Std. Units	7.19	7.03	6.9	7.23	7.24	7.17	7.29
Sulfate	mg/L	24	26	<3.6	<3.6	<3.6	29	14
Total Dissolved Solids	mg/L	440	380	540	--	320	300	260
Antimony	ug/L	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	2.2	3.4	3.6	--	5.6	1.7	3.9
Barium	ug/L	170	190	220	--	200	150	200
Beryllium	ug/L	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.077	--	<0.039	--	<0.049	<0.051	<0.051
Chromium	ug/L	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	0.52	0.27	0.32	--	0.12	0.29	<0.19
Lead	ug/L	<0.27	<0.27	<0.27	--	<0.11	<0.21	0.29
Lithium	ug/L	3.4	4.6	<2.3	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	1.7	1.6	<1.1	1.8	<1.1	<1.3	<1.3
Selenium	ug/L	<1	--	<1	--	<1	1.4	<0.96
Thallium	ug/L	<0.27	--	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	0.553	0.557	--	--	0.377	0.474	1.43
Radium-226	pCi/L	0.181	0.38	--	--	0.296	0.301	0.55
Radium-228	pCi/L	0.372	0.178	--	--	0.0809	0.173	0.879
pH at 25 Degrees C	Std. Units	7.2	7.2	7.2	--	7.2	7.3	7.3
Field Oxidation Potential	mV	27	-105.6	-138	-162.9	-145.4	-25.8	-128.5
Field Specific Conductance	umhos/cm	638	635	684	654	634	574	643
Field Temperature	deg C	15.5	19	9.8	19	15.6	7.1	16.3
Groundwater Elevation	feet	0	629.77	627.24	626.98	626.54	627.02	626.41
Oxygen, Dissolved	mg/L	0.2	0.21	0.48	0.07	0.22	2.1	0.08
Turbidity	NTU	9.6	8.87	20.44	27.27	3.65	14.88	0.27
Total Alkalinity as CaCO3	mg/L	290	--	--	340	340	280	330
Iron, dissolved	ug/L	--	--	--	11000	10000	3700	6900
Manganese, dissolved	ug/L	--	--	--	2000	1800	1100	1400
Calcium, total	ug/L	--	--	--	--	87000	--	--
Iron, total	ug/L	--	--	--	--	12000	5900	7300
Magnesium, total	ug/L	--	--	--	--	32000	25000	30000
Manganese, total	ug/L	--	--	--	--	1800	1200	1500
Potassium, total	ug/L	--	--	--	--	1800	1300	1600
Sodium, total	ug/L	--	--	--	--	7700	5900	6700
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	340	340	280	330
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<7.6	<3.8	<4.6	<2.3
Arsenic, dissolved	ug/L	--	--	--	6.4	--	--	3.7
Molybdenum, dissolved	ug/L	--	--	--	2.8	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-306

Number of Sampling Dates: 11

Parameter Name	Units	6/20/2019	10/2/2019	12/5/2019	2/5/2020	5/19/2020	8/18/2020	10/20/2020	2/23/2021	4/9/2021	7/12/2021	10/27/2021
Boron	ug/L	860	660	--	--	720	--	720	--	650	--	580
Calcium	mg/L	240	260	--	--	340	--	260	--	290	--	210
Chloride	mg/L	24	40	--	--	32	28	27	--	33	--	34
Fluoride	mg/L	<0.23	<0.23	--	--	<0.23	--	<0.23	--	<0.28	--	<0.28
Field pH	Std. Units	6.87	9	6.76	6.95	6.66	7.12	6.88	6.87	6.85	7.51	6.86
Sulfate	mg/L	280	140	--	--	430	260	220	--	240	--	95
Total Dissolved Solids	mg/L	1200	1300	--	--	3400	--	1100	--	1300	--	960
Antimony	ug/L	<0.53	--	--	--	<0.58	--	--	--	<1.1	--	<1.1
Arsenic	ug/L	8.6	12	9.3	9.4	8.5	--	10	9	8	8.2	8.6
Barium	ug/L	280	540	--	--	260	--	250	--	280	--	320
Beryllium	ug/L	<0.27	--	--	--	<0.27	--	--	--	<0.27	--	<0.27
Cadmium	ug/L	<0.077	--	--	--	<0.039	--	<0.049	--	<0.051	--	<0.051
Chromium	ug/L	<0.98	<0.98	--	--	<1.1	--	<1.1	--	1.3	--	<1.1
Cobalt	ug/L	1	0.98	--	--	0.53	--	0.24	--	0.35	--	0.3
Lead	ug/L	0.52	<0.27	--	--	<0.27	--	<0.11	--	<0.21	--	1.1
Lithium	ug/L	19	25	--	--	25	--	26	--	24	--	22
Mercury	ug/L	<0.1	--	--	--	<0.1	--	--	--	<0.15	--	<0.15
Molybdenum	ug/L	<1.1	<1.1	--	--	<1.1	<1.1	<1.1	--	<1.3	--	<1.3
Selenium	ug/L	<1	--	--	--	<1	--	<1	--	<0.96	--	<0.96
Thallium	ug/L	<0.27	--	--	--	<0.26	--	--	--	<0.26	--	<0.26
Total Radium	pCi/L	0.897	1.79	--	--	--	--	1.16	--	1.09	--	2.1
Radium-226	pCi/L	0.432	0.902	--	--	--	--	0.459	--	0.436	--	0.814
Radium-228	pCi/L	0.465	0.889	--	--	--	--	0.696	--	0.659	--	1.29
pH at 25 Degrees C	Std. Units	6.9	7.2	--	--	6.9	--	6.8	--	7.2	--	7
Field Oxidation Potential	mV	22	-1205	-127	-127.7	-137	-139.1	-142.3	-127.2	-134.2	-128.3	-126.3
Field Specific Conductance	umhos/cm	1632	1998	2196	2477	2332	1911	1832	2055	1994	2006	1778
Field Temperature	deg C	13.8	16.33	16.3	13.7	12.7	15	16.2	13.6	12.6	14.4	16.6
Groundwater Elevation	feet	0	622.47	620.6	620.83	620.43	620.37	619.92	619.76	620.03	619.83	619.91
Oxygen, Dissolved	mg/L	1	0.27	0.9	0.23	0.3	0.1	0.26	0.12	0.05	0.37	0.11
Turbidity	NTU	25.9	3.67	10.26	4.43	2.63	0.16	3.08	3.11	0.09	0.13	2.72
Total Alkalinity as CaCO3	mg/L	620	--	--	--	--	850	800	--	880	--	880
Iron, dissolved	ug/L	--	--	--	--	--	44000	39000	--	41000	--	33000
Manganese, dissolved	ug/L	--	--	--	--	--	5100	4800	--	5300	--	4100
Calcium, total	ug/L	--	--	--	--	--	--	280000	--	--	--	--
Iron, total	ug/L	--	--	--	--	--	--	40000	--	44000	--	33000
Magnesium, total	ug/L	--	--	--	--	--	--	46000	--	50000	--	36000
Manganese, total	ug/L	--	--	--	--	--	--	4800	--	5500	--	4100
Potassium, total	ug/L	--	--	--	--	--	--	7100	--	6100	--	6200
Sodium, total	ug/L	--	--	--	--	--	--	110000	--	98000	--	140000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	850	800	--	880	--	880
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	<7.6	<3.8	--	<4.6	--	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	9.4	--	8.8	7.8	--	8.4
Molybdenum, dissolved	ug/L	--	--	--	--	--	<1.1	--	--	--	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-306A

Number of Sampling Dates: 6

Parameter Name	Units	5/19/2020	7/6/2020	8/18/2020	10/20/2020	4/9/2021	10/27/2021
Boron	ug/L	290	340	--	280	280	240
Calcium	mg/L	83	82	--	76	78	80
Chloride	mg/L	7.8	7.1	7.4	7.2	7.2	7.7
Fluoride	mg/L	<0.23	<0.23	--	<0.23	<0.28	<0.28
Field pH	Std. Units	6.99	7.04	7.38	7.18	7.21	7.34
Sulfate	mg/L	44	40	41	41	39	42
Total Dissolved Solids	mg/L	610	360	--	350	350	280
Antimony	ug/L	<0.58	<0.51	--	--	<1.1	<1.1
Arsenic	ug/L	<0.88	<0.88	--	<0.88	<0.75	<0.75
Barium	ug/L	61	58	--	58	62	59
Beryllium	ug/L	<0.27	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.039	<0.049	--	<0.049	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	0.33	0.18	--	0.22	0.17	0.21
Lead	ug/L	<0.27	<0.11	--	<0.11	<0.21	0.32
Lithium	ug/L	<2.3	<2.5	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.1	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3
Selenium	ug/L	<1	<1	--	<1	<0.96	0.99
Thallium	ug/L	<0.26	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	--	0.525	--	0.124	0.408	0.682
Radium-226	pCi/L	--	0.0377	--	-0.201	0.12	0.279
Radium-228	pCi/L	--	0.487	--	0.124	0.288	0.403
pH at 25 Degrees C	Std. Units	7.4	7.5	--	7.4	7.4	7.4
Field Oxidation Potential	mV	-21.7	-55.8	21.2	-38.5	-8.5	78.8
Field Specific Conductance	umhos/cm	697	683	654	681	669	663
Field Temperature	deg C	14.6	15.3	15.5	14.4	14.2	14.6
Groundwater Elevation	feet	620.4	621.66	620.63	620.17	620.14	620.17
Oxygen, Dissolved	mg/L	1.18	1.24	1.16	1.3	1.68	1.23
Turbidity	NTU	4.15	1.4	2.71	1.56	0.01	0.59
Total Alkalinity as CaCO3	mg/L	--	--	330	320	320	330
Iron, dissolved	ug/L	--	--	1900	1600	1600	1500
Manganese, dissolved	ug/L	--	--	1200	1100	1100	1000
Calcium, total	ug/L	--	--	--	85000	--	--
Iron, total	ug/L	--	--	--	1900	1800	1800
Magnesium, total	ug/L	--	--	--	37000	35000	33000
Manganese, total	ug/L	--	--	--	1100	1100	1000
Potassium, total	ug/L	--	--	--	1200	1200	1200
Sodium, total	ug/L	--	--	--	11000	10000	9800
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	330	320	320	330
Carbonate Alkalinity as CaCO3	mg/L	--	--	<7.6	<1.9	<4.6	<4.6
Arsenic, dissolved	ug/L	--	--	<0.88	--	--	<0.75
Molybdenum, dissolved	ug/L	--	--	<1.1	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-307
Number of Sampling Dates: 3

Parameter Name	Units	7/12/2021	8/13/2021	10/27/2021
Boron	ug/L	220	250	280
Calcium	mg/L	55	47	38
Chloride	mg/L	15	16	17
Fluoride	mg/L	<0.28	<0.28	<0.28
Field pH	Std. Units	8.25	7.86	8.11
Sulfate	mg/L	44	42	70
Total Dissolved Solids	mg/L	210	230	130
Antimony	ug/L	<1.1	<1.1	<1.1
Arsenic	ug/L	2.1	2.4	2.5
Barium	ug/L	310	300	240
Beryllium	ug/L	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.051	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1	<1.1
Cobalt	ug/L	0.15	0.15	<0.19
Lead	ug/L	<0.21	<0.21	<0.21
Lithium	ug/L	13	13	12
Mercury	ug/L	<0.15	<0.15	<0.15
Molybdenum	ug/L	5.5	7.2	12
Selenium	ug/L	<0.96	<0.96	<0.96
Thallium	ug/L	<0.26	<0.26	<0.26
Total Radium	pCi/L	0.499	1.91	0.743
Radium-226	pCi/L	--	0.289	0.421
Radium-228	pCi/L	--	1.62	0.322
pH at 25 Degrees C	Std. Units	8.2	8.1	8.2
Field Oxidation Potential	mV	-40.6	-17.5	-123.4
Field Specific Conductance	umhos/cm	449.6	437	361.2
Field Temperature	deg C	15.2	17.4	16.4
Groundwater Elevation	feet	630.95	630.01	634.9
Oxygen, Dissolved	mg/L	0.47	0.17	0.93
Turbidity	NTU	0	0	0
Total Alkalinity as CaCO3	mg/L	170	--	86
Iron, dissolved	ug/L	110	--	110
Manganese, dissolved	ug/L	300	--	240
Iron, total	ug/L	140	--	95
Magnesium, total	ug/L	17000	--	12000
Manganese, total	ug/L	310	--	230
Potassium, total	ug/L	3600	--	2600
Sodium, total	ug/L	13000	--	11000
Bicarbonate Alkalinity as CaCO3	mg/L	170	--	86
Carbonate Alkalinity as CaCO3	mg/L	<4.1	--	<2.3
Arsenic, dissolved	ug/L	2	--	2.6
Molybdenum, dissolved	ug/L	5.2	--	--
Ra-228	pCi/L	0.328	--	--
Ra-226	pCi/L	0.171	--	--

Single Location

Name: IPL - Lansing

Location ID: MW-307A

Number of Sampling Dates: 3

Parameter Name	Units	7/12/2021	8/13/2021	10/27/2021
Boron	ug/L	370	380	300
Calcium	mg/L	67	62	70
Chloride	mg/L	6.8	7.2	8.1
Fluoride	mg/L	<0.28	<0.28	<0.28
Field pH	Std. Units	7.83	7.35	7.29
Sulfate	mg/L	30	32	33
Total Dissolved Solids	mg/L	280	290	230
Antimony	ug/L	<1.1	<1.1	<1.1
Arsenic	ug/L	<0.75	0.76	1.3
Barium	ug/L	120	120	130
Beryllium	ug/L	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.051	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1	<1.1
Cobalt	ug/L	0.54	0.57	0.77
Lead	ug/L	<0.21	<0.21	0.21
Lithium	ug/L	<2.5	<2.5	<2.5
Mercury	ug/L	<0.15	<0.15	<0.15
Molybdenum	ug/L	6.8	6.6	6.3
Selenium	ug/L	<0.96	<0.96	<0.96
Thallium	ug/L	<0.26	<0.26	<0.26
Total Radium	pCi/L	0.509	0.258	0.957
Radium-226	pCi/L	--	0.163	0.412
Radium-228	pCi/L	--	0.0954	0.545
pH at 25 Degrees C	Std. Units	7.5	7.6	7.6
Field Oxidation Potential	mV	73.1	54.3	47.7
Field Specific Conductance	umhos/cm	615.6	612.3	625.4
Field Temperature	deg C	13.2	12.5	12.9
Groundwater Elevation	feet	625.27	625.48	626.25
Oxygen, Dissolved	mg/L	0.27	0.17	1.39
Turbidity	NTU	0	0	0
Total Alkalinity as CaCO3	mg/L	310	--	310
Iron, dissolved	ug/L	<36	--	170
Manganese, dissolved	ug/L	600	--	720
Iron, total	ug/L	<36	--	160
Magnesium, total	ug/L	33000	--	33000
Manganese, total	ug/L	620	--	720
Potassium, total	ug/L	3000	--	2500
Sodium, total	ug/L	16000	--	14000
Bicarbonate Alkalinity as CaCO3	mg/L	310	--	310
Carbonate Alkalinity as CaCO3	mg/L	<4.2	--	<4.6
Arsenic, dissolved	ug/L	<0.75	--	1.4
Molybdenum, dissolved	ug/L	7.3	--	--
Ra-228	pCi/L	0.245	--	--
Ra-226	pCi/L	0.265	--	--

Appendix E

Alternative Source Demonstration

Alternative Source Demonstration
February, April, and July 2021
Assessment Monitoring

Lansing Generating Station
2320 Power Plant Drive
Lansing, Iowa

Prepared for:

Interstate Power and Light Company
4902 N. Biltmore Lane
Madison, Wisconsin 53718

SCS ENGINEERS

25221070.00 September 3, 2021

2830 Dairy Drive
Madison, WI 53718-6751
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PE CERTIFICATION

 9/3/21	I, Eric J. Nelson, hereby certify that that the information in this alternative source demonstration is accurate and meets the requirements of 40 CFR 257.95(g)(3)(ii). This certification is based on my review of the groundwater data and related site information available for the Lansing Generating Station. I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. 9/03/2021 (signature) (date) Eric J. Nelson (printed or typed name) License number 23136 My license renewal date is December 31, 2022. Pages or sheets covered by this seal: Alternative Source Demonstration, February, April, and July, 2021 Assessment Monitoring Lansing Generating Station, Lansing, Iowa

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1.0 INTRODUCTION

This Alternative Source Demonstration (ASD) 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 (USEPA) in the Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, dated April 17, 2015 (USEPA, 2015), and subsequent amendments. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.95(g)(3)(ii). The applicable sections of the Rule are provided below in *italics*.

This report was prepared to also fulfill the requirements of 40 CFR 257.100 for inactive CCR surface impoundments.

1.1 §257.95(G)(3) ALTERNATIVE SOURCE DEMONSTRATION REQUIREMENTS

(3) Within 90 days of finding that any of the constituents listed in appendix IV to this part have been detected at a statistically significant level exceeding the groundwater protection standards the owner or operator must either:

> *(i) Initiate an assessment of corrective measures as required by § 257.96; or*
>
> *(ii) Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in Appendix III and Appendix IV of this part are at or below background as specified in paragraph (e) of this section. 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 or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority.*

An ASD is completed when there are exceedances of one or more benchmarks established within the groundwater monitoring program. The ASD is completed to determine if any other sources are likely causes of the identified exceedance(s) of established benchmark(s) at the site. This ASD was performed in response to the determination that molybdenum was present at a statistically significant level (SSL) above the groundwater protection standard (GPS) during assessment monitoring under the CCR Rule. Molybdenum was first determined to be present at an SSL above the GPS in the statistical evaluation of the February 2021 sampling event (results received in March 2021), which was completed on June 7, 2021.

Molybdenum was detected above the GPS in samples collected from monitoring well MW-304A in February, April, and July 2021. The February and July 2021 sampling events were supplemental to provide more details on site conditions, while the April 2021 sampling event was part of the

semiannual assessment monitoring at Lansing Generating Station (LAN). This ASD addresses the molybdenum results for MW-304A for all three events.

1.2 SITE INFORMATION AND MAP

LAN is located along the west bank of the Mississippi River, south of the City of Lansing, in Allamakee County, Iowa. The address of the plant is 2320 Power Plant Drive in Lansing, Iowa (**Figure 1**). The facility includes a coal-fired generating plant, a coal combustion residuals (CCR) landfill, and a CCR settling pond. The plant was originally constructed in 1948, with additional units added in 1957 and 1976. In October 2020, IPL announced that LAN would cease coal combustion and retire by the end of 2022.

The groundwater monitoring system at LAN is a multi-unit system monitoring two existing CCR Units that are contiguous:

- LAN Landfill (existing landfill)
- LAN Upper Ash Pond (existing surface impoundment)

The LAN Landfill is operated under a sanitary disposal project permit (Permit #03-SDP-05-01P) administered by the Iowa Department of Natural Resources (IDNR). A separate groundwater monitoring system has been established to monitor the landfill for the state permit. After the plant retires, the landfill will close by installing a state-permitted final cover design that meets the CCR Rule minimum design requirements in 40 CFR 257.102(d)(3).

The LAN Upper Ash Pond is operated with discharges regulated under individual National Pollutant Discharge Elimination System (NPDES) Permit Number IA0300100. The LAN Upper Ash Pond will close to comply with the requirements of 40 CFR 257.101(a) and 103(f)(2). The pond will complete closure by October 17, 2023.

A map showing the CCR Units and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR groundwater monitoring program is provided as **Figure 2**. Monitoring wells installed for the state monitoring program for the CCR landfill are also shown on **Figure 2**.

1.3 SAMPLE COLLECTION AND ANALYSIS

In addition to the semiannual assessment monitoring event in April 2021, two supplemental sampling events were completed in February and July 2021. Both supplemental monitoring events were performed to collect select samples from monitoring wells MW-304A and MW-306 to evaluate whether Appendix IV parameters are present at either well at an SSL above the GPS. As part of the July supplemental sampling event initial groundwater samples for the Appendix III and Appendix IV parameters were also collected from the newly installed monitoring wells MW-307 and MW-307A. The results for the 2021 monitoring events are summarized in **Table 1.**

The laboratory report for the July 2021 event includes the results for Appendix III and Appendix IV parameters from the new wells in addition to the selected parameters for wells MW-304A and MW-306. The field parameters results were compiled by SCS Engineers (SCS) and provided to the laboratory for inclusion in the laboratory reports. Additional parameters were included in the monitoring event to support the characterization of aquifer conditions and evaluation of monitored natural attenuation (MNA) as part of the selection of remedy process under 40 CFR 257.97. The results are also summarized in **Table 1** and the July 2021 laboratory report is included in **Appendix A**.

1.4 STATISTICALLY SIGNIFICANT LEVELS ABOVE GPS IDENTIFIED

The Appendix IV parameters were compared to the GPS values established under 40 CFR 257.95(h) in **Table 1**. The only assessment monitoring parameters for which a monitoring result exceeded the GPS at a SSLs was molybdenum in the sample from MW-304A and arsenic in the sample from MW-302. The arsenic SSLs at MW-302 is consistent with previous results and is being addressed through the selection of remedy process.

Molybdenum exceeded the GPS in the samples from MW-304A for all three sampling events (**Table 2**), the April 2021 semiannual assessment monitoring event and the supplemental sampling events in February and July 2021. The molybdenum levels also exceeded the upper prediction limit (UPL) established based on background monitoring at the upgradient well.

United States Environmental Protection Agency's Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act (RCRA) Facilities (EPA 530-R-09-007, March 2009) recommends the use of confidence intervals for comparison of assessment monitoring data to fixed GPS values. Specifically, the suggested approach for comparing assessment groundwater monitoring data to GPS values based on long-term chronic health risk, such as drinking water Maximum Contaminant Levels (MCLs), is to compare the lower confidence limit around the arithmetic mean with the fixed GPS.

A lower confidence limit (LCL) evaluation was completed for molybdenum and the LCLs were calculated with Sanitas™ using historical concentrations measured since assessment monitoring began in April 2018. The LCL for the mean for molybdenum exceeded the GPS at delineation well MW-304A; therefore, molybdenum is present at a SSL above the GPS at this well. See **Section 3.3** for more details on the statistical evaluation of molybdenum.

Thallium exceeded the GPS in the April 2021 sample at MW-302; however, no thallium SSL was observed at MW-302 based on a LCL evaluation.

1.5 OVERVIEW OF ALTERNATIVE SOURCE DEMONSTRATION APPROACH

This ASD report includes:

- Background information (**Section 2.0**).
- Evaluation of potential that GPS exceedances are due to methodology or analysis (**Section 3.0**).
- Evaluation of potential that GPS exceedances are due to natural sources or man-made sources other than the LAN Landfill or LAN Upper Ash Pond CCR Units (**Section 4.0**).
- ASD conclusions (**Section 5.0**).
- Monitoring recommendations (**Section 6.0**).

Historical molybdenum concentrations in samples from background and compliance sampling at the LAN CCR Rule monitoring wells are provided in **Table 2**. Historical concentration trends are shown in **Appendix B**. Laboratory reports for the eight background monitoring events were included in the 2018 Annual Groundwater Monitoring and Corrective Action Report submitted in August 2019 (SCS, 2019). The laboratory reports for the February, April, and July 2021 assessment monitoring events will be included in the 2021 Annual Groundwater Monitoring and Corrective Action Report due in January 2022.

2.0 BACKGROUND

To provide context for the ASD, the following background information is provided prior to the ASD sections:

- Geologic and hydrogeologic setting
- CCR Rule monitoring system
- Other monitoring wells

2.1 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.1.1 Regional Information

The uppermost geologic formation beneath LAN that meets the definition of the "uppermost aquifer," as defined under 40 CFR 257.53, is the shallow alluvial aquifer in combination with the hydraulically connected lower Cambrian-Ordovician sandstone unit (Jordan sandstone).

The uppermost bedrock unit in the site area is the Jordan aquifer, which is the lower Cambrian-Ordovician sandstone interbedded with dolostone. The thickness of the Jordan aquifer varies from 50 to more than 120 feet thick in most areas of Allamakee County. Underlying the Cambrian-Ordovician sandstone are the Cambrian confining beds comprised of dolostone, siltstone, and shale. The Cambrian confining beds overly the Dresbach Aquifer, comprised of shaly sandstone. A summary of the regional hydrogeologic stratigraphy is presented in **Appendix C**. A regional bedrock surface hydrogeologic map, hydrogeologic cross sections, and a contour map of the top of the Cambrian-Ordovician sandstone in northeastern Iowa are also included in **Appendix C**. The bedrock surface elevation is highly variable due to erosion.

The Mississippi River and associated alluvial aquifers are a major source of surface water and shallow groundwater in the area. The alluvial aquifer is up to 60 feet thick within the deeply incised valley where LAN is located, but is thin to absent on the surrounding bluffs and hilltops. The lower Cambrian-Ordovician sandstone unit (Jordan sandstone) is the shallowest regional bedrock aquifer. The October 1989 IDNR Water Atlas No. 8 states that the Jordan aquifer is commonly the source of municipal and industrial high-capacity wells in the region. A summary of the regional groundwater units is included in **Appendix C**.

A map showing the regional potentiometric surface in the Jordan sandstone is presented in **Appendix C**. This map shows the potentiometric surface near the site area as sloping to the east-northeast.

2.1.2 Site Information

Monitoring wells MW-301 through MW-306, and MW302A, MW-304A, and MW-306A were installed to intersect the surficial alluvium aquifer at the site. The unconsolidated material found at these well locations is generally sand and silt. The total boring depths were between 16 and 56 feet below ground surface (bgs) and bedrock was not encountered in these borings. Upgradient well MW-6 was previously installed for a state groundwater monitoring program, which is required as part of the solid waste permit for the CCR landfill. MW-6 was installed to a total depth of 93.5 feet bgs and intersects the water table, which is in the Jordan sandstone aquifer at this well location.

Monitoring wells MW-307, MW-307A, MW-308, and MW-309 were installed on June 22 through 23, 2021. Initial groundwater samples were collected from MW-307 and MW-307A in July 2021, as part

of a supplemental sampling event, as noted above. Monitoring wells MW-307 and MW-307A were installed to provide information on horizontal and vertical groundwater flow, and the distribution of target groundwater quality parameters. Monitoring wells MW-308 and MW-309 were installed to provide information on horizontal groundwater flow, and groundwater sample collection is not currently planned at these two wells. Wells MW-308 and MW-309 were not installed as part of the monitoring system required by 40 CFR 257.91.

Boring logs for MW-6 and MW-301 through MW-309 are included in **Appendix D**.

2.2 CCR RULE MONITORING SYSTEM

The original groundwater monitoring system established in accordance with the CCR Rule consists of one upgradient (background) monitoring well and three downgradient (compliance) monitoring wells. The background monitoring well is MW-6. The three initial downgradient monitoring wells are MW-301, MW-302, and MW-303, which were installed in November 2015. Three additional downgradient monitoring wells, MW-304, MW-305, and MW-306, were installed in May 2019, and three deeper piezometers MW-302A, MW-304A, and MW-306A were installed in December 2019 in accordance with the requirements of 40 CFR 257.95(g)(1). As noted above, the monitoring wells MW-307, MW-308, and MW-309 as well as piezometer MW-307A were installed in June 2021. The CCR Rule wells were installed in the upper portion of the uppermost aquifer at LAN. Well depths range from approximately 14.5 to 91 feet bgs.

The downgradient wells were installed as close as practicable to the pond boundaries considering the site layout (**Figure 2**).

2.3 OTHER MONITORING WELLS

Twenty-one groundwater monitoring wells currently exist at the LAN as part of the monitoring system developed for the state monitoring program. The well locations are shown on **Figure 2**. These monitoring wells are used to monitor groundwater conditions at the site.

Monitoring wells for the state monitoring program are also installed in the surficial alluvium aquifer. The state monitoring system includes water table wells and deeper piezometers. Well depths range from approximately 21.5 to 117 feet, measured from the top of the well casing.

2.4 GROUNDWATER FLOW DIRECTION

The flow direction in the shallow unconsolidated aquifer at LAN is generally to the north-northwest (**Figure 3** and **Figure 5**). The flow in the Jordan sandstone immediately beneath the landfill and pond is also likely to the north-northwest due to the influence of incoming groundwater from the bluffs flanking the valley with ultimate discharge to the Mississippi River. Deeper groundwater within the alluvium flows to the north-northeast as shown in **Figure 4** and **Figure 6**. The August 2021 maps provide more groundwater flow details at the site, with the installation of monitoring wells MW-307, MW-307A, MW-308, and MW-309 in June 2021. The groundwater elevation data for the CCR monitoring wells are provided in **Table 3**.

As indicated by comparing groundwater levels at the three well nests, vertical gradients are variable. The vertical gradient at well nest MW-302/MW-302A indicates downward flow. The vertical gradient is strongly upward at the MW-304/MW-304A nest and slightly upward at the MW-306/MW-306A nest.

3.0 METHODOLOGY AND ANALYSIS REVIEW

To evaluate the potential that the GPS exceedance is due to a source other than the regulated CCR Units, SCS used a two-step evaluation process. First, the sample collection, field and laboratory analysis, and statistical evaluation were reviewed to identify potential errors or analysis that led to an exceedance of the benchmark. Second, potential alternative sources, including natural variation and man-made sources other than the CCR Unit, were evaluated. This section of the report provides the findings of the methodology and analysis review. Section 4.0 of the report addresses the potential alternative sources.

3.1 SAMPLING AND FIELD ANALYSIS REVIEW

Field notes and sampling results were reviewed to determine if a sampling error may have caused or contributed to the observed GPS exceedances. Potential field sampling errors or issues could include mislabeling of samples, improper sample handling, missed holding times, cross contamination during sampling, or other field error. Field blank sample results were also reviewed for an indication of potential contamination from sampling equipment or containers. Based on the review of the field notes and results, SCS did not identify an indication that the concentrations exceeding the GPS were due to a sampling error.

Because molybdenum is a laboratory parameter, there is little potential for a field analysis error to contribute to a GPS exceedance for this parameter.

3.2 LABORATORY ANALYSIS REVIEW

The laboratory reports for the February, April, and July 2021 assessment monitoring events were reviewed to determine if a laboratory analysis error or issue may have caused or contributed to the observed molybdenum concentrations above the GPS. The laboratory report review included reviewing the laboratory quality control flags and narrative, verifying that correct methods were used and desired detection limits were achieved, and checking the field and laboratory blank sample results.

Based on the review of the laboratory reports, SCS did not identify an indication that the GPS exceedances were due to a laboratory analysis error. There were no laboratory quality control flags or issues identified in the laboratory reports that affect the usability of the data for assessment monitoring.

A time series plot of the molybdenum analytical data was also reviewed for anomalous results that might indicate a possible sampling or laboratory error (e.g., dilution error or incorrect sample labeling). The time series plot is provided in Appendix B. Molybdenum concentrations at MW-304A increased after the initial monitoring event in May 2020 but have followed a decreasing trend since the August 2020 sampling event. No anomalous results suggesting a sampling or laboratory error were identified in the review of the times series plot.

3.3 STATISTICAL EVALUATION REVIEW

As noted above, USEPA's Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (EPA 530-R-09-007, March 2009) recommends the use of confidence intervals for comparison of assessment monitoring data to fixed GPS values. Specifically, the suggested approach for comparing assessment groundwater monitoring data to GPS values based on long-term chronic

health risk, such as drinking water MCLs, is to compare the LCL around the arithmetic mean with the fixed GPS.

The LCL for molybdenum at MW-304A was calculated with Sanitas™ using historical concentrations measured since assessment monitoring began in April 2018. The LCL for the mean for molybdenum slightly exceeded the GPS at monitoring well MW-304A; therefore, molybdenum was determined to be present at an SSL above the GPS at this well. The LCL was first determined to exceed the GPS based on the evaluation of the February 2021 results, and the updated LCL including the April and July 2021 results also exceeded the GPS. The evaluation is provided in **Appendix E**.

Although the LCL calculated based on all seven monitoring events to date exceeded the GPS, the data have shown a consistent decreasing trend over the last five rounds, since August 2020, with the most recent result equal to the GPS of 100 micrograms per liter (ug/L). For evaluation of data with a trend, the Unified Guidance recommends the use of confidence bands around a trend line; however, this option is not available in Sanitas with fewer than eight sampling events. Another option for data with a shift is to calculate the LCL using a moving window approach, based on only the most recent results. For MW-304A, the LCL calculated with only the most recent four results is below the GPS (see **Appendix E**); however, this is a relatively short window for analysis.

Based on the review of the statistical evaluation, the initial finding that molybdenum was present at an SSL above the GPS was correct based on the available data; however, concentrations have decreased and additional data from future monitoring events may support a determination that molybdenum is no longer at an SSL above the GPS.

3.4 SUMMARY OF THE METHODOLOGY AND ANALYSIS REVIEW FINDINGS

In summary, the methodology and analysis review did not result in any changes to the determination that molybdenum was present at an SSL above the GPS at MW-304A; however, the downward trend in the molybdenum concentrations combined with the option for a statistical evaluation with a confidence band approach once additional results are obtained suggests that the SSL may not be confirmed in the future.

4.0 ALTERNATIVE SOURCES

This section of the report discusses the potential alternative sources for the molybdenum GPS exceedance at MW-304A, identifies the possible alternative source(s), and presents lines of evidences indicating that an alternative source is most likely the cause of the observed GPS exceedance for molybdenum.

4.1 POTENTIAL CAUSES OF STATISTICALLY SIGNIFICANT INCREASE

4.1.1 Natural Variation

If concentrations of a constituent that is naturally present in the aquifer vary spatially, then the potential exists that concentrations at downgradient wells may be higher than upgradient concentrations due to natural variation. Furthermore, as the monitoring network is expanded to include deeper piezometers and/or wells that may not be downgradient from the upgradient background well, the concentrations at these wells may vary significantly from the background conditions established for the original well network.

Regional data on background concentrations of molybdenum are limited because molybdenum is not routinely monitored in private or public water supply wells. The limited available data indicate that there is natural variation of molybdenum concentrations in the Cambrian-Ordovician aquifer in the vicinity of the site. A 1989 US Geological Survey (USGS) Professional Paper the noted that "several wells in northeastern and north-central Iowa inexplicably have molybdenum concentrations of more than 10 µg/L" (Siegel, 1989). SCS searched the online Water Quality Portal (WQP), which is accessible at www.waterqualitydata.us and allows users to search for data collected by state, federal, tribal, and local agencies. This search was focused on sites within 50 miles of LAN and yielded results within the Cambrian-Ordovician aquifer system ranging from "not detected" to 18 µg/L. While these concentrations are lower than the observed molybdenum concentrations in samples from MW-304A, they demonstrate the variability in natural background for this parameter. Given the limited data available, the regional data may not capture the full range of natural molybdenum concentrations.

4.1.2 Man-made Alternative Sources

Man-made sources other than the Upper Ash Pond and Landfill CCR Units that could potentially contribute to the molybdenum GPS exceedance at MW-304A could include the closed Lower Ash Pond, the coal storage area, impacts associated with roads or rail lines, or other on-site or off-site sources. Based on the groundwater flow directions and groundwater quality data, none of these sources appears to be the primary cause of the observed GPS exceedance.

4.2 LINES OF EVIDENCE

Based on the regional and local information discussed below, molybdenum concentrations above the GPS in well MW-304A are most likely due to natural background conditions in the Cambrian-Ordovician Aquifer, rather than a release from the Upper Ash Pond or Landfill CCR Units. Lines of evidence supporting this conclusion include the following:

1. No molybdenum GPS exceedances have been detected at monitoring wells located adjacent to the Upper Ash Pond or Landfill, as would be expected if the Upper Ash Pond or Landfill was the source of elevated molybdenum at well MW-304A.

2. An evaluation of the groundwater flow paths during 2021 sampling events indicates that groundwater flow at depth in the area of monitoring well MW-304A is to the northeast and the vertical gradient is upward, so MW-304A does not appear to be downgradient from the CCR units.

3. Analysis of major anions and cations indicates that the water quality in the deep piezometer, MW-304A, is different from the water quality in the other CCR Rule monitoring wells, suggesting it is on a different flow path.

4.2.1 Distribution of Molybdenum in Groundwater

No molybdenum GPS exceedances have been detected at monitoring wells located adjacent to the Upper Ash Pond or Landfill, as would be expected if the Upper Ash Pond or Landfill was the source of elevated molybdenum at well MW-304A.

No molybdenum GPS exceedances have been detected in samples from the compliance monitoring wells installed at the downgradient waste boundary of the CCR Units (MW-301, MW-302, and MW-303), or in the other shallow and deep monitoring wells added to the monitoring network to

evaluate arsenic impacts at the site. Molybdenum concentrations at supplemental monitoring well MW-20, installed between the Landfill and the Upper Ash Pond are also below the GPS. Molybdenum has only been detected at concentrations above the GPS in deeper well MW-304A installed on the west side of the valley near the bluff. Molybdenum results for all CCR monitoring wells, including background monitoring results, are summarized in **Table 2** and shown on the time series plots in **Appendix B**.

Additionally, an evaluation of molybdenum was completed for the state wells in 2013 as part of the state monitoring program, including nine monitoring wells surrounding the Upper Ash Pond and Landfill. The molybdenum monitoring results for the state monitoring wells are also provided in **Table 2**. After two rounds of molybdenum results were complete, the state agreed to remove molybdenum as a required constituent from the state monitoring program because all molybdenum results were below the detection limit of 20 ug/L. The state monitoring wells were voluntarily resampled for molybdenum in April 2021 and all results were either non-detect or less than 8 ug/L.

The current and historical molybdenum monitoring results for both state and CCR Rule monitoring wells indicate that the Upper Ash Pond and Landfill are not likely sources of the molybdenum GPS exceedance at MW-304A.

4.2.2 Groundwater Flow Direction

An evaluation of the groundwater flow paths during 2021 sampling events indicates that groundwater flow at depth in the area of monitoring well MW-304A is to the northeast and the vertical gradient is upward, so MW-304A not downgradient from the CCR units. Water Table flow maps and potentiometric surface maps generated from the April and August 2021 sampling events (**Figure 3** through **Figure 6**) show that for both events the groundwater flow direction in the MW-304A area differs between the shallow and deep groundwater measurements.

The potentiometric surface, developed with the deep piezometers (MW-302A, MW-303A, MW-304A, and MW-306A), indicates groundwater flow is to the northeast in the area of MW-304A (**Figure 4** and **Figure 6**), while the water table maps show the shallow groundwater flow is to the north-northwest. As shown in **Table 3**, the water level in piezometer MW-304A is typically more than 2.5 feet higher than the water level in water table monitoring well MW-304, indicating a strong upward gradient and upward component of flow. This may reflect groundwater from the bluff to the southwest flowing upward to discharge to the Mississippi River. A similar upward gradient is observed at state monitoring well nest MW-2/MW-3, located between the bluff and the river northeast of the CCR units.

4.2.3 Water Quality Evaluation

Analysis of major anions and cations indicates that the water quality in the deep piezometer, MW-304A, is different from the water quality in the other CCR Rule monitoring wells, suggesting it is on a different flow path.

The Piper and Stiff Diagrams in **Appendix F** show major cations and anions in groundwater samples from shallow and deep monitoring wells. These plots show the dominant ions detected in samples from MW-304A are different than all the monitoring wells sampled at the site.

In the Piper Diagram, MW-304A plots in the center of the cation ternary plot and the other wells are grouped close to the left side (low sodium). Relative to the other monitoring wells, MW-304A is significantly higher in sodium and lower in calcium and magnesium. In the anion ternary plot, all of

the wells plot along the left side (low chloride), but MW-304A is shifted upwards along the carbonate-bicarbonate line. Relative to the other monitoring wells, MW-304A is higher in sulfate and lower in carbonate-bicarbonate.

In the Stiff diagrams, MW-304A plots as a significantly different shape than the other monitoring wells, primarily due to the higher sodium relative to calcium and magnesium at MW-304A. On the anion side of the Stiff diagrams, the plot for MW-304A shows less dominance of carbonate-bicarbonate with more contribution from sulfate relative to the other wells.

The difference in the major anions and cations between MW-304A and the other wells suggests that this well may not be downgradient from or along the same flow path as the upgradient well and the monitoring wells closer to the CCR Units. This finding is consistent with the apparent horizontal and vertical flow directions at the location and depth of MW-304A. Flow appears to be moving upward and to the northeast, from the bedrock bluff southwest of the site toward the river, and the water quality at MW-304A may be strongly influenced by the water quality in the deeper bedrock southwest of the site.

5.0 ALTERNATIVE SOURCE DEMONSTRATION CONCLUSIONS

The lines of evidence discussed above regarding the source of molybdenum concentration above the GPS in downgradient piezometer MW-304A demonstrates that these results are likely due to naturally occurring molybdenum in the Cambrian-Ordovician aquifer at the LAN site.

6.0 SITE GROUNDWATER MONITORING RECOMMENDATIONS

In accordance with section 257.95(g)(3) of the CCR Rule, the Upper Ash Pond and Landfill may continue with assessment monitoring based on this ASD, and molybdenum does not need to be addressed in the selection of remedy for the Upper Ash Pond and Landfill. The ASD report will be included in the 2021 Annual Report due in January 2022.

7.0 REFERENCES

Horick, Paul, J., 1989, "Water Source of Northeast Iowa, "Iowa Department of Natural Resources Water Atlas No. 8, October 1989.

Iowa Geologic Survey, "Age Determinations as Used on COSUNA charts published by AAPG-USGS, Iowa Geologic Survey Water Atlas No. 4.

SCS Engineers, 2019, 2018 Annual Groundwater Monitoring and Corrective Action Report, Lansing Generating Station, Lansing, IA, 2019.

Siegel, D.I., Geochemistry of the Cambrian-Ordovician aquifer System in the Northern Midwest, United States: U.S. Geological Survey Professional Paper 1405-D, 1989.

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

Tables

Table 1. Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25221070.00

Parameter Name	UPL Method	UPL	GPS	Background Well	Compliance Wells					Delineation Well			Compliance Wells				Delineation Well		
				MW-6	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A			MW-305	MW-306			MW-306A	MW-307	MW-307A
				4/7/2021	4/8/2021	4/9/2021	4/8/2021	4/9/2021	4/9/2021	2/23/2021	4/9/2021	7/12/2021	4/9/2021	2/23/2021	4/9/2021	7/12/2021	4/9/2021	7/12/2021	7/12/2021
Appendix III																			
Boron, ug/L	P*	100		<58	160	460	170	120	64 J	--	1,400	--	140	--	650	--	280	220	370
Calcium, mg/L	P	73.9		71	58	120	75	47	69	--	43	--	79	--	290	--	78	55	67
Chloride, mg/L	P	8.52		7.0	18	11	6.7	21	6.5	--	13	--	4.8 J	--	33	--	7.2	15	6.8
Fluoride, mg/L	P*	0.2		0.34 J	0.38 J, F1	0.31 J	<0.28	0.52	<0.28	--	0.53	--	<0.28	--	<0.28	--	<0.28	<0.28	<0.28
Field pH, Std. Units	P	7.9		7.39	8.04	7.08	7.25	8.00	7.27	8.01	7.78	8.09	7.17	6.87	6.85	7.51	7.21	8.25	7.83
Sulfate, mg/L	P	29.4		23	27 F1	<2.5	45	25	15	--	77	--	29	--	240	--	39	--	--
Total Dissolved Solids, mg/L	P	386.7		290	240	470	330	210	290	--	300	--	300	--	1,300	--	350	210	280
Appendix IV		**UPL**	**GPS**																
Antimony, ug/L	NP*	0.037	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
Arsenic, ug/L	P*	0.37	10	<0.75	5.0	33	<0.75	1.5 J	<0.75	--	0.78 J	--	1.7 J	9	8	8.2	<0.75	2.1	<0.75
Barium, ug/L	P	48.5	2,000	49 B	140 B	630 B	51 B	170 B	43.0 B	--	36.0 B	--	150 B	--	280 B	--	62.0 B	310.0	120.0
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
Cadmium, ug/L	DQ	DQ	5	<0.051	0.060 J	0.060 J	<0.051	<0.051	<0.051	--	0.096 J	--	<0.051	--	<0.051	--	<0.051	<0.051	<0.051
Chromium, ug/L	P	1.20	100	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	--	1.6 J	--	<1.1	--	1.3 J	--	<1.1	<1.1	<1.1
Cobalt, ug/L	NP*	0.34	6	<0.091	0.11 J	1.00	<0.091	<0.091	<0.091	--	0.88	--	0.29 J	--	0.35 J	--	0.17 J	0.15 J	0.54
Fluoride, mg/L	P*	0.2	4	0.34 J	0.38 J, F1	0.31 J	<0.28	0.52	<0.28	--	0.53	--	<0.28	--	<0.28	--	<0.28	<0.28	<0.28
Lead	NP*	0.13	15	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	1.1	--	<0.21	--	<0.21	--	<0.21	<0.21	<0.21
Lithium, ug/L	NP*	3	40	<2.5	7.1 J	<2.5	<2.5	3.5 J	<2.5	--	<2.5	--	<2.5	--	24	--	<2.5	13	<2.5
Mercury, ug/L	DQ	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
Molybdenum, ug/L	P*	0.37	100	<1.3	6.8	1.7 J	<1.3	4.8	<1.3	120	110	100	<1.3	--	<1.3	--	<1.3	5.5	6.8
Selenium, ug/L	P*	0.72	50	<0.96	<0.96	1.2 J	1.2 J	1.1 J	<0.96	--	<0.96	--	1.4 J	--	<0.96	--	<0.96	<0.96	<0.96
Thallium, ug/L	NP*	SCC	2	<0.26	<0.26	2.5 B	<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	1.88	5	0.359	0.244	1.57	0.714	0.243	0.497	--	0.468	--	0.474	--	1.09	--	0.408	0.499	0.509
Additonal Parameters - Selection of Remedy																			
Arsenic, dissolved[#], ug/L	UPLor GPS not applicable			--	--	33	--	--	--	--	--	--	--	8.8	7.8	--	--	2.00	<0.75
Calcium, ug/L				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, dissolved,[#] ug/L				49 J	320	33000	440	320	<36	--	<36	--	3700	--	41000	--	1600	110	<36
Iron, ug/L				<36	740	36000	47 J	<36	37 J	--	580	--	5900	--	44000	--	1800	140	<36
Magnesium, ug/L				36000	19000	41000	37000	18000	33000	--	18000	--	25000	--	50000	--	35000	17,000	33,000
Manganese, dissolved, ug/L[#]				5.1 J	650	2400	59	66	10	--	6.2 J	--	1100	--	5300	--	1100	300	600
Manganese, ug/L				<4.4	670	2500	4.5 J	30	5.9 J	--	54	--	1200	--	5500	--	1100	310	620
Molybdenum, dissolved,ug/L[#]				--	--	--	--	--	--	140	120	--	--	--	--	--	--	5.2	7.3
Potassium, ug/L				1100	2600	3200	1000	1500	1200	--	710	--	1300	--	6100	--	1200	3,600	3,000
Sodium, ug/L				4600	13000	16000	7000	13000	4900	--	58000	--	5900	--	98000	--	10000	13,000	16,000
Total Alkalinity, mg/L				310	220	540	300	170	300	--	180	--	280	--	880	--	320	170	310
Cabonate Alkalinity, mg/L				<4.4	<4.6	<4.6	<4.2	<3.8	<4.2	--	<4.6	--	<4.6	--	<4.6	--	<4.6	<4.1	<4.2
Bicarbonate Alkalinity, mg/L				310	220	540	300	170	300	--	180	--	280	--	880	--	320	170	310

4.4	Blue highlighted cell indicates the compliance well result e
30.8	Yellow highlighted cell indicates the compliance well result exceeds the GPS.
17	Grayscale indicates Additional Parameters sampled for selection of remedy and evaluation of MNA.

See Page 3 for abbreviations and notes.

See Page 2 for abbreviations and notes.

Table 1. Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25221070.00

Abbreviations:

UPL = Upper Prediction Limit
NA = Not Analyzed
µg/L = micrograms per liter
mg/L = milligrams per liter
LOD = Limit of Detection
LOQ = Limit of Quantitation
TU = Tritium Units
DQ = Double Quantification Rule (not detected in background)
NP = Nonparametric UPL (highest background value)
P = Parametric UPL with 1-of-2 retesting
GPS = Groundwater Protection Standard

J = Estimated concentration at or above the LOD and below the LOQ.
B = Compound was found in blank and Sample
F1 = MS/MSD recovery exceeds control limits
* = UPL is below the LOQ for background sampling. For compliance wells, only results confirmed above the LOQ are evaluated as potential SSIs above background.

Notes:

1. An individual result above the UPL or GPS does not constitute a statistically significant increase (SSI) above background or statistically significant increase above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (US EPA) Maximum Contamination Level (MCL), if established; otherwise, the value from 40 CFR 257.95(h)(2) is used.
3. Interwell UPLs calculated based on results from background well MW-6.

Created by:	NDK	Date:	5/1/2018
Last revision by:	NDK	Date:	8/16/2021
Checked by:	AJR	Date:	8/17/2021
Proj Mgr QA/QC:	TK	Date:	8/18/2021

Table 2 - Historical CCR and State Analytical Results for Molybdenum
Alliant-Lansing Generating Station / SCS Engineers Project #25221070.00
(Results are in µg/L)

	CCR Wells													State Wells									
Well	**MW6***	**MW-301**	**MW-302**	**MW-302A**	**MW-303**	**MW-304**	**MW-304A**	**MW-305**	**MW-306**	**MW-306A**	**MW-307**	**MW-307A**	**MW20**	**MW4**	**MW5**	**MW11R**	**MW12**	**MW12P**	**MW13**	**MW14**	**MW15**	**TW18**	**TW19**
4/2/2013	<20	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	<20	<20	<20	<20	NI	<20	<20	NI	NI	--
7/2/2013	<20	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	<20	<20	<20	<20	NI	<20	<20	NI	NI	--
7/2/2013 (Dup)	--	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	--	--	--	--	NI	<20	--	--	NI	--
4/29/2014	--	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	--	--	--	--	--	--	--	--	NI	--
5/29/2014	--	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	--	--	--	--	--	--	--	--	NI	--
4/21/2015	--	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	--	--	--	--	--	--	--	--	--	--
12/10/2015	<1.5	2.5	<1.5	NI	<1.5	NI	NI	NI	NI	NI	NI	NI	52.2	--	--	--	--	--	--	--	--	--	--
12/10/2015 (Dup)	--	--	--	NI	--	NI	NI	NI	NI	NI	NI	NI	50.0	--	--	--	--	--	--	--	--	--	--
4/28/2016	0.25	5.5	0.81	NI	5	NI	NI	NI	NI	NI	NI	NI	65.5	--	--	--	--	--	--	--	--	--	--
7/20/2016	0.24	5	0.98	NI	16.8	NI	NI	NI	NI	NI	NI	NI	90.5	--	--	--	--	--	--	--	--	--	--
10/26-27/2016	0.31	8.1	1.2	NI	16.1	NI	NI	NI	NI	NI	NI	NI	70.2	--	--	--	--	--	--	--	--	--	--
1/17-18/2017	0.21	9.3	1.1	NI	10.7	NI	NI	NI	NI	NI	NI	NI	44.9	--	--	--	--	--	--	--	--	--	--
4/19/2017	0.25	6.9	0.87	NI	7.6	NI	NI	NI	NI	NI	NI	NI	46.9	--	--	--	--	--	--	--	--	--	--
6/19-20/2017	0.26	5.5	0.91	NI	15.9	NI	NI	NI	NI	NI	NI	NI	32	--	--	--	--	--	--	--	--	--	--
8/15/2017	0.31	6.8	1.2	NI	11.8	NI	NI	NI	NI	NI	NI	NI	31.2	--	--	--	--	--	--	--	--	--	--
10/16/2017	--	--	--	NI	--	NI	NI	NI	NI	NI	NI	NI		--	--	--	--	--	--	--	--	--	--
4/16/2018	--	4.4	0.91	NI	7.3	NI	NI	NI	NI	NI	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
4/26/2018	0.26	--	--	NI	--	NI	NI	NI	NI	NI	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
8/7/2018	0.28	5.6	1.2	NI	21.6	NI	NI	NI	NI	NI	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
10/8/2018	<0.57	10.3	1.5	NI	12	NI	NI	NI	NI	NI	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
4/15/2019	<1.1	11	<1.1	NI	6.2	NI	NI	NI	NI	NI	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
6/20/2019	--	--	--	NI	--	<1.1	NI	1.7	<1.1	NI	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
10/2/2019	<1.1	10	1.4	NI	9.8	<1.1	NI	1.6	<1.1	NI	NI	NI	41	AB	AB	--	--	--	--	--	--	--	--
5/19-20/2020	<1.1	8.1	<1.1	<1.1	3.1	<1.1	110	<1.1	<1.1	<1.1	NI	NI	15	AB	AB	--	--	--	--	--	--	--	--
7/6/2020	--	--	--	<1.1	--	--	140	--	--	<1.1	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
8/19/2020	<1.1	5.8	<1.1	<1.1	23	1.2 J	140	1.8 J	<1.1	<1.1	NI	NI	21	AB	AB	--	--	--	--	--	--	--	--
10/20/2020	<1.1	7.5	<1.1	<1.1	10	<1.1	130	<1.1	<1.1	<1.1	NI	NI	17	AB	AB	--	--	--	--	--	--	--	--
2/23/2021	--	--	--	--	--	--	120	--	--	--	NI	NI	--	AB	AB	--	--	--	--	--	--	--	--
4/7/2021	<1.3	6.8	1.7 J	<1.3	4.8	<1.3	110	<1.3	<1.3	<13	NI	NI	24	AB	AB	1.4 J	7.9	<1.3	2.6	<1.3	3.5	<1.3	--
7/12/2021	--	--	--	--	--	--	100	--	--	--	5.5	6.8	--	AB	AB	--	--	--	--	--	--	--	--

Table 2 - Historical CCR and State Analytical Results for Molybdenum
Alliant-Lansing Generating Station / SCS Engineers Project #25221070.00
(Results are in µg/L)

Abbreviations:

µg/L = micrograms per liter	-- = Not Analyzed
DUP = Duplicate Sample	NE = No Standard Established
GPS = Groundwater Protection Standard	NI = Not Installed
UPL = Upper Prediction Limit	AB = Abandoned

USEPA MCL = United States Environmental Protection Agency Maximum Contaminant Limit
USEPA SMCL = United States Environmental Protection Agency Secondary Maximum Contaminant Limit

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

Notes:
1. MW6 is sampled under both the State and CCR Rule monitoring programs.
2. Molybdenum is not typically reported for the State Monitoring Program. WDNR approved a request to drop Mo from the monitoring list after 2013. Mo was sampled in April 2020 at State Monitoring Wells to gather more data on groundwater conditions across the site.

Created by:	LMH	Date:	5/20/2021
Last revision by:	RM	Date:	7/19/2021
Checked by:	NDK	Date:	8/5/2021
Proj Mgr QA/QC:	TK	Date:	8/18/2021

Table 3. Water Level Summary
Interstate Power & Light - Lansing, Iowa / SCS Engineers Project #25221070.00

Well Number	MW1[4]	MW2	MW3[3]	MW4	MW5	MW6	MW11	MW11R	MW12	MW12P	MW13	MW14	MW15	TW17	TW18	TW19	MW-16	MW-18	MW-19	MW-22	MW-22P	MW20	MW301	MW302	MW302A	MW303	MW304	MW304A	MW305	MW306	MW306A	MW307	MW-307A	MW308	MW309	Entrance Rd Bridge / SW-1	Culvert near TW 17, 18, 19 / SW-2	Bridge to mobile home court / SW-3	Ash Pond / SW-4	Outfall / SW-5
Top of Casing Elevation (feet amsl)	636.67	657.36	656.78	698.17	698.46	741.33	686.19	686.42	691.40	691.58	658.38	646.06	656.82	659.59	659.15	659.05	700.26	771.09	716.07	702.55	702.17	662.29	641.61	638.40	638.93	656.27	636.43	638.60	633.87	637.48	639.56	643.06	642.96	637.89	638.27	654.37	655.19	698.18	653.71	634.22
Screen Length (ft)	20	10	10	10	10	10	10	10	15	5	15	15	15	15	15	15	15	15	15	15	5	10	10	10	5	10	10	5	10	10	5	10	5	10	10	--				
Top of Well Screen Elevation (ft)	626.50	620.50	600.00	650.00	630.00	656.00	657.96	646.94	657.70	627.98	649.48	636.96	640.82	649.39	650.55	648.95	662.18	669.23	651.69	665.27	625.14	648.79	624.01	626.90	594.93	637.97	630.43	593.60	627.87	621.48	589.56	633.06	597.96	627.89	626.27	--				
Measurement Date																																								
May 11, 2001	632.77	628.53	629.29	653.61	654.82	663.12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
March 8, 2002	627.95	620.21	620.94	650.57	651.80	661.71	653.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
February 19, 2004	NM	NM	NM	648.80	650.05	653.27	648.03	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
May 26, 2004	NM	NM	NM	652.89	654.15	664.29	652.09	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
August 23, 2004	NM	NM	NM	652.15	653.38	662.65	650.04	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
November 18, 2004	NM	NM	NM	650.81	652.04	663.88	648.18	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
May 5, 2005	NM	NM	NM	650.42	651.67	661.80	647.77	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
May 19, 2006	NM	NM	NM	650.43	651.66	661.78	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
May 30, 2007	NM	NM	NM	650.21	651.43	661.69	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 16, 2008	NM	NM	NM	653.99	655.24	664.55	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 3, 2009	NM	NM	NM	655.72	656.95	666.16	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 21, 2010	NM	NM	NM	652.27	653.51	663.08	DRY	646.41	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
May 4, 2011	NM	NM	NM	653.51	654.75	663.84	DRY	646.58	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 25, 2012	NM	NM	NM	651.77	653.03	662.83	DRY	646.53	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
October 17, 2012	627.33	620.03	NM[2]	650.73	651.97	662.10	AB	646.16	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
February 19-20, 2013	627.03	620.03	621.26	650.72	651.96	662.13	AB	645.42	650.31	NI	643.72	641.93	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 1, 2013	627.80	620.68	621.79	652.24	653.46	664.16	AB	646.21	651.71	NI	644.61	641.36	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
July 1, 2013	631.57	625.88	626.68	661.13	662.31	673.12	AB	648.73	653.66	NI	648.43	642.43	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 29, 2014	629.84	NM	NM	654.17	655.43	664.86	AB	646.96	651.62	651.33	645.97	641.95	633.83	648.74	647.26	648.08	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
May 29, 2014	629.75	624.37	624.50	653.53	653.81	664.30	AB	646.53	651.05	650.73	645.39	641.43	633.61	648.14	646.55	646.96	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 20, 2015	628.16	620.09	620.78	652.00	653.24	663.30	AB	645.93	650.32	650.05	643.73	642.02	633.85	647.79	646.35	646.97	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI					
December 10, 2015	NM	NM	NM	NM	NM	662.28	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	648.27	623.54	627.88	NI	638.79	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 28, 2016	627.50	620.26	620.83	651.55	652.79	662.80	AB	645.96	650.05	650.00	643.56	641.56	634.71	647.78	NM[5]	646.80	NI	NI	NI	NI	NI	648.61	623.45	627.24	NI	638.15	NI	NI	NI	NI	NI	NI	NI	NI	NI					
July 20, 2016	NM	NM	NM	NM	NM	663.21	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	649.86	624.76	628.60	NI	639.33	NI	NI	NI	NI	NI	NI	NI	NI	NI					
October 27, 2016	NM	NM	NM	NM	NM	670.82	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	651.32	624.97	628.35	NI	638.65	NI	NI	NI	NI	NI	NI	NI	NI	NI					
January 18, 2017	NM	NM	NM	NM	NM	666.28	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.18	624.09	627.32	NI	638.10	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 19-21, 2017	629.39	622.04	622.02	658.84	660.00	669.82	AB	648.24	653.68	653.40	647.61	643.01	634.50	649.87	649.03	649.01	660.45	669.88	652.12	668.38	667.45	651.71	624.70	628.98	NI	639.20	NI	NI	NI	NI	NI	NI	NI	NI	NI					
June 19-20, 2017	NM	NM	NM	NM	NM	670.65	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.22	624.89	627.75	NI	638.77	NI	NI	NI	NI	NI	NI	NI	NI	NI					
August 15, 2017	NM	NM	NM	NM	NM	670.61	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	649.58	624.09	627.28	NI	637.86	NI	NI	NI	NI	NI	NI	NI	NI	NI					
October 16, 2017	NM	NM	NM	NM	NM	669.58	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.81	625.70	628.75	NI	638.79	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 16-17, 2018	628.63	620.82	617.50	AB	AB	667.64	AB	647.07	652.25	651.90	646.36	642.61	634.07	648.77	648.49	648.23	NM	NM	NM	NM	NM	650.77	624.29	628.98	NI	638.62	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 26, 2018	628.67	620.86	617.63	AB	AB	667.96	AB	647.47	651.75	652.54	646.38	645.46	634.14	648.99	648.35	648.00	656.61	667.79	650.19	666.28	665.17	651.18	624.56	628.75	NI	638.57	NI	NI	NI	NI	NI	NI	NI	NI	NI					
June 4, 2018	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	624.62	628.27	NI	638.81	NI	NI	NI	NI	NI	NI	NI	NI	NI					
October 8, 2018	NM	NM	NM	AB	AB	664.71	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	625.73	628.59	NI	637.32	NI	NI	NI	NI	NI	NI	NI	NI	NI					
April 15-16, 2019	630.95	632.16	628.40	AB	AB	672.78	AB	648.69	654.35	653.99	649.45	643.08	633.71	649.73	648.47	648.10	NM	672.64	654.55	671.05	669.22	652.57	629.19	629.99	NI	638.22	NI	NI	NI	NI	NI	NI	NI	NI	NI					
June 20, 2019	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NM	623.61	NI	629.12	623.05	NI	NI	NI	NI	NI					
October 2, 2019	NM	NM	NM	AB	AB	675.54	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	652.64	626.54	630.04	NI	638.03	623.79	NI	629.77	622.47	NI	NI	NI	NI	NI					
December 5, 2019	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NM	NM	NI	NM	620.60	NI	NI	NI	NI	NI					
February 5, 2020	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NM	NM	NI	NM	620.83	NI	NI	NI	NI	NI					
May 20-21, 2020	629.38	620.61	621.38	AB	AB	674.47	AB	648.17	654.45	654.04	647.94	643.23	633.80	648.82	648.86	649.40	661.08	674.36	656.06	672.16	670.46	650.20	624.46	627.68	623.19	637.98	621.57	624.88	627.24	620.43	620.40	NI	NI	NI	NI					
July 6, 2020	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	624.20	NM	NM	625.76	NM	NM	621.66	NI	NI	NI	NI					
August 19-21, 2020	NM	NM	NM	AB	AB	674.64	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	650.88	625.02	627.53	623.52	638.22	621.75	NM	626.98	620.37	620.63	NI	NI	NI	NI					
October 19-20, 2020	628.69	620.38	621.22	AB	AB	673.37	AB	647.71	653.94	653.57	647.50	642.96	633.44	649.67	648.76	648.14	660.42	673.35	654.95	671.21	669.55	649.50	624.42	627.14	623.03	636.96	621.40	624.41	626.54	619.92	620.17	NI	NI	NI	NI					
February 23, 2021	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	625.04	NM	619.76	NM	NI	NI	NI	NI					
April 7-9, 2021	628.84	620.55	621.36	AB	AB	671.08	AB	647.97	652.31	652.92	647.39	642.92	634.38	649.58	648.86	648.21	659.59	670.95	652.86	669.02	667.74	650.79	624.02	627.87	623.12	638.07	621.46	624.31	627.02	620.03	620.14	NI	NI	NI	NI	630.57				
July 12-13, 2021	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	624.40	627.89	622.77	637.70	621.23	623.87	626.79	619.83	620.00	630.95	625.27	621.00	621.59	NM	NM	NM	646.76	620.02
August 13, 2021	627.92	620.87	621.58	NM	NM	669.47	NM	647.22	652.57	652.31	646.79	NM	631.59	649.26	648.79	648.21	658.98	669.17	651.25	667.85	666.63	651.19	623.92	628.46	623.12	636.67	621.57	624.11	627.14	620.38	620.82	NM	NM	621.44	622.02	630.61	DRY	DRY	DRY	620.54
Bottom of Well Elevation (ft)	606.50	610.50	590.00	640.47	620.36	646.03	647.59	636.94	642.70	622.98	634.48	621.96	625.82	634.39	635.55	633.95	647.18	654.23	636.69	650.27	620.14	638.79	614.01	616.90	589.93	627.97	620.43	588.60	617.87	611.48	584.56	623.06	592.96	617.89	616.27					

Notes: NM = not measured NI = not installed AB = abandoned

1. The groundwater elevations recorded for MW11 on 2/19/04, 11/18/04, and 5/05/05 are not considered reliable due to a minimal quantity of water observed in the well. The actual water table elevation could be lower than the reported value.
2. MW3 could not be located during this sampling event.
3. Repairs were completed at MW3 in July 2013. Elevations calculated for February, April, and July 2013 are estimates based on the old top of casing elevation (657.36 feet amsl). MW3 was re-surveyed on June 3, 2014.
4. MW1 was repaired in April 2013. Groundwater elevations measured before this date are calculated using the old top of casing elevation (637.60 ft amsl).
5. TW18 was damaged and could not be accessed for a water level measurement in April 2016. The well was repaired in July 2016.

Created by: MDB Date: 8/9/2013
Last revision by: LMH Date: 8/16/2021
Checked by: NDK Date: 8/17/2021

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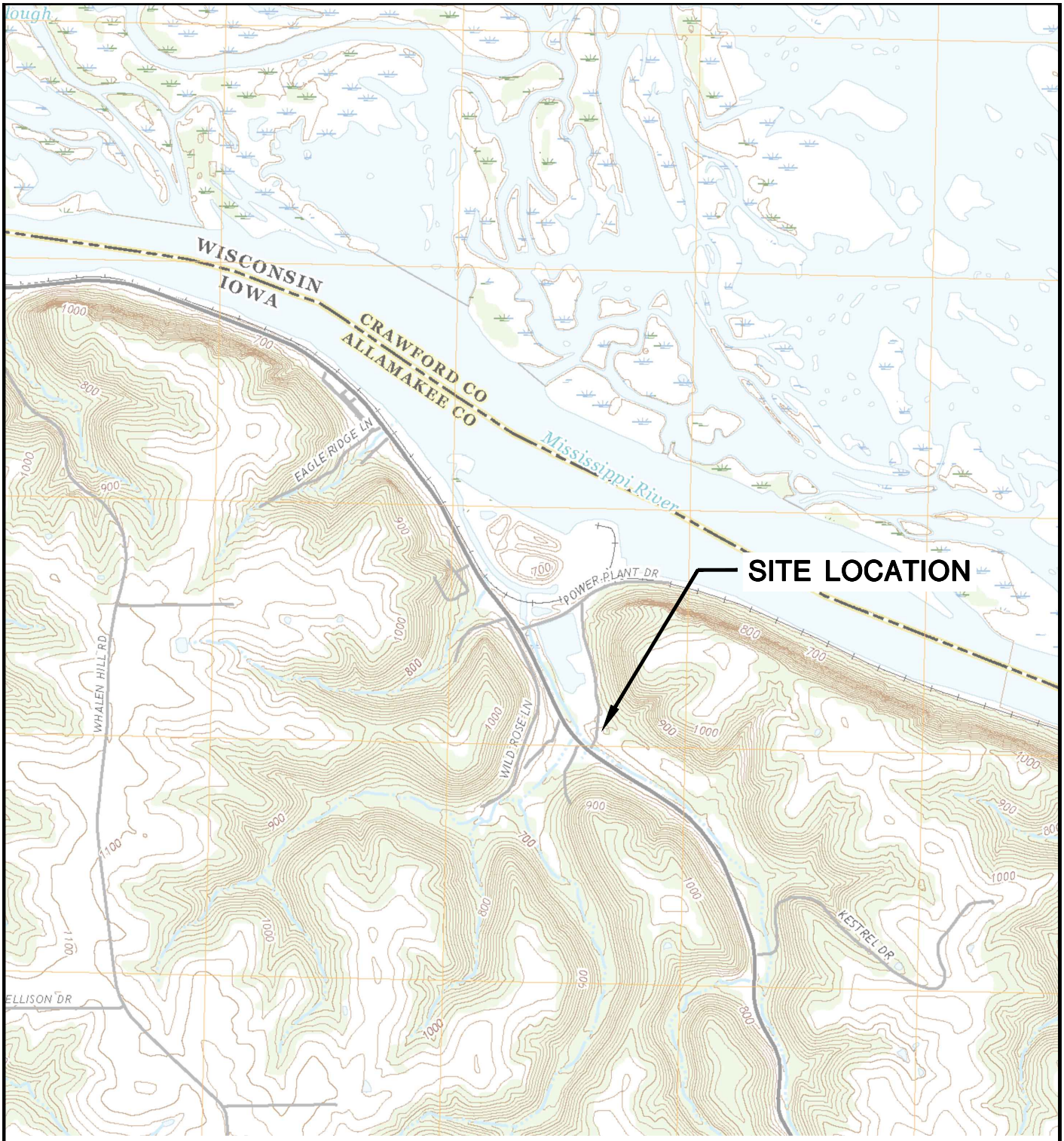
Figures



N

LANSING QUADRANGLE
IOWA–ALLAMAKEE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'

CLIENT	INTERSTATE POWER AND LIGHT 2320 POWER PLANT DRIVE LANSING, IA 52151-9733	SITE	ALLIANT ENERGY LANSING GENERATING STATION LANSING, IOWA

SITE LOCATION MAP

PROJECT NO.	25219070.00	DRAWN BY:	BSS
DRAWN:	11/27/2019	CHECKED BY:	MDB
REVISED:	11/27/2019	APPROVED BY:	TK 01/30/2020

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

FIGURE
1

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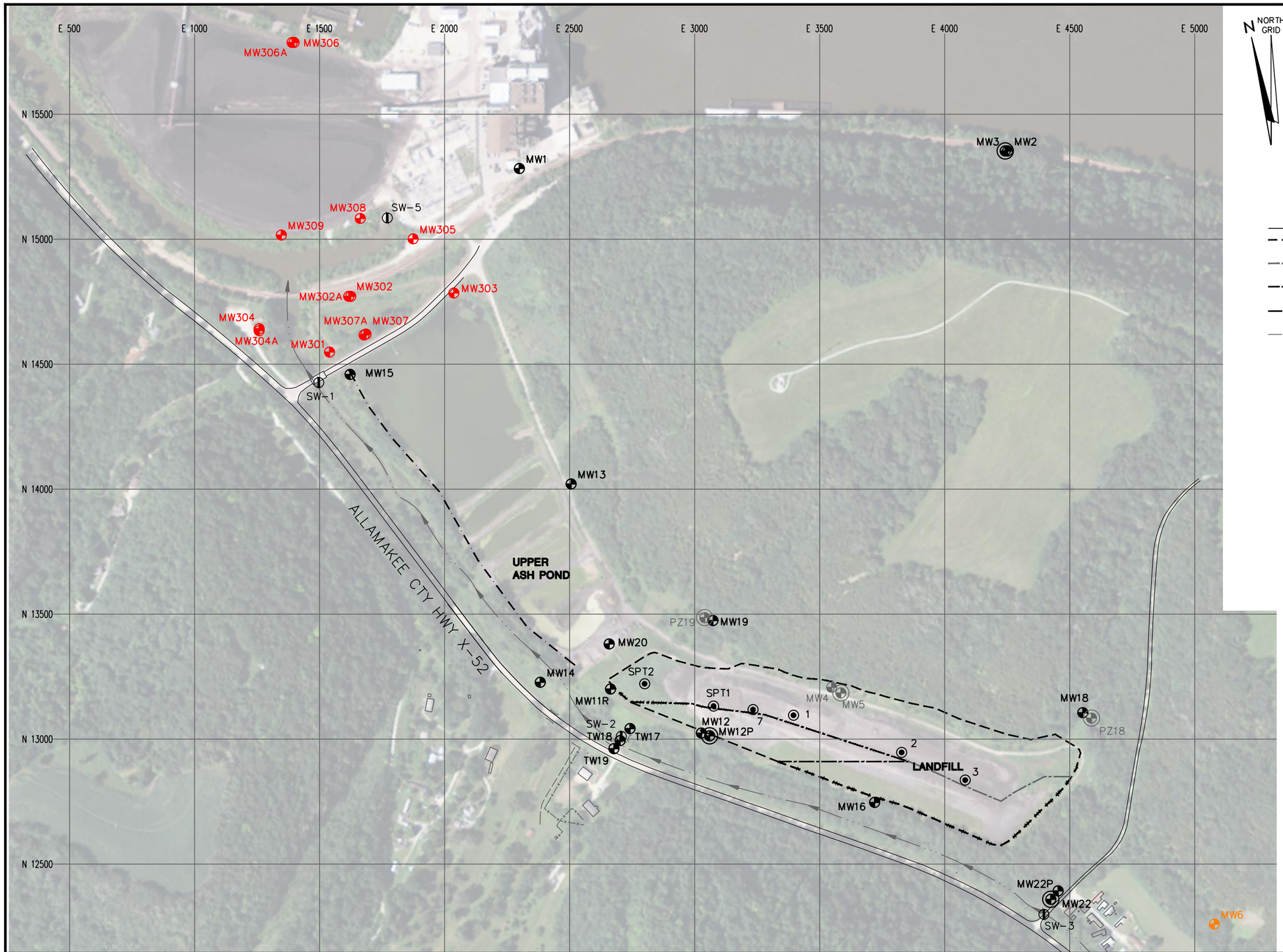

NORTH GRID

400 0 400

SCALE: 1" = 400'

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	SOIL BORING

NOTES:

1. 2011 AERIAL PHOTOGRAPH FROM THE USDA-FSA AERIAL PHOTOGRAPHY FIELD OFFICE.
2. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
3. MONITORING WELLS MW20, MW301, MW302, AND MW303 WERE INSTALLED BY CASCADE DRILLING IN NOVEMBER 2015.
4. MONITORING WELLS MW304, MW305, AND MW306 WERE INSTALLED BY ROBERTS ENVIRONMENTAL DRILLING IN MAY 2019.
5. MONITORING WELLS MW302A, MW304A, AND MW306A WERE INSTALLED BY CASCADE DRILLING IN DECEMBER 2019.
6. MONITORING WELLS MW307, MW307A, MW308, AND MW309 WERE INSTALLED BY CASCADE DRILLING IN JUNE 2021.
7. ONLY BORINGS USED FOR GEOLOGIC CROSS SECTION A-A' ARE SHOWN.
8. MW6 IS SAMPLED UNDER BOTH THE STATE AND CCR RULE MONITORING PROGRAMS.
9. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

PROJECT NO.	25221070.00	DRAWN BY:	BSS/KP
DRAWN:	11/27/2019	CHECKED BY:	MDB
REVISED:	08/11/2021	APPROVED BY:	TK, 9/3/2021

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

SITE PLAN AND MONITORING WELL LOCATIONS

FIGURE 2

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E 500 E 1000 E 1500 E 2000 E 2500 E 3000 E 3500 E 4000 E 4500 E 5000

N 15500 N 15000 N 14500 N 14000 N 13500 N 13000 N 12500

MW306 620.03
MW306A
MW1 628.84
MW3 MW2 620.55
625
SW–5
MW305 627.02
MW302 627.87
MW302A
MW303 638.07
621.46
MW304
MW304A
MW301 624.02
MW15 634.38
625
SW–1 (630.57)
630
635
640
MW13 647.39
ALLAMAKEE CTY HWY X–52
UPPER ASH POND
PZ19
MW19 652.86
MW20 650.79
MW14 642.92
MW11R 647.97 (DRY)
652.31
MW12 MW12P
SW–2 649.58
TW18 TW17
648.86 TW19 648.21
645
650
655
660
665
670
MW4 MW5
MW18 670.95
PZ18
LANDFILL
MW16 659.59
MW22P
MW22 669.02
SW–3 (NM)
MW6 671.08

NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW–1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	CCR UNITS
(630.57)	SURFACE WATER ELEVATION
(NM)	NOT MEASURED
629.38	WATER TABLE ELEVATION
	WATER TABLE CONTOUR (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.
3. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	05/26/2021	CHECKED BY:	RM
REVISED:	08/11/2021	APPROVED BY:	TK 8/22/2021

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718–6751
PHONE: (608) 224–2830

CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151–9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

WATER TABLE MAP
APRIL 7–9, 2021

FIGURE 3

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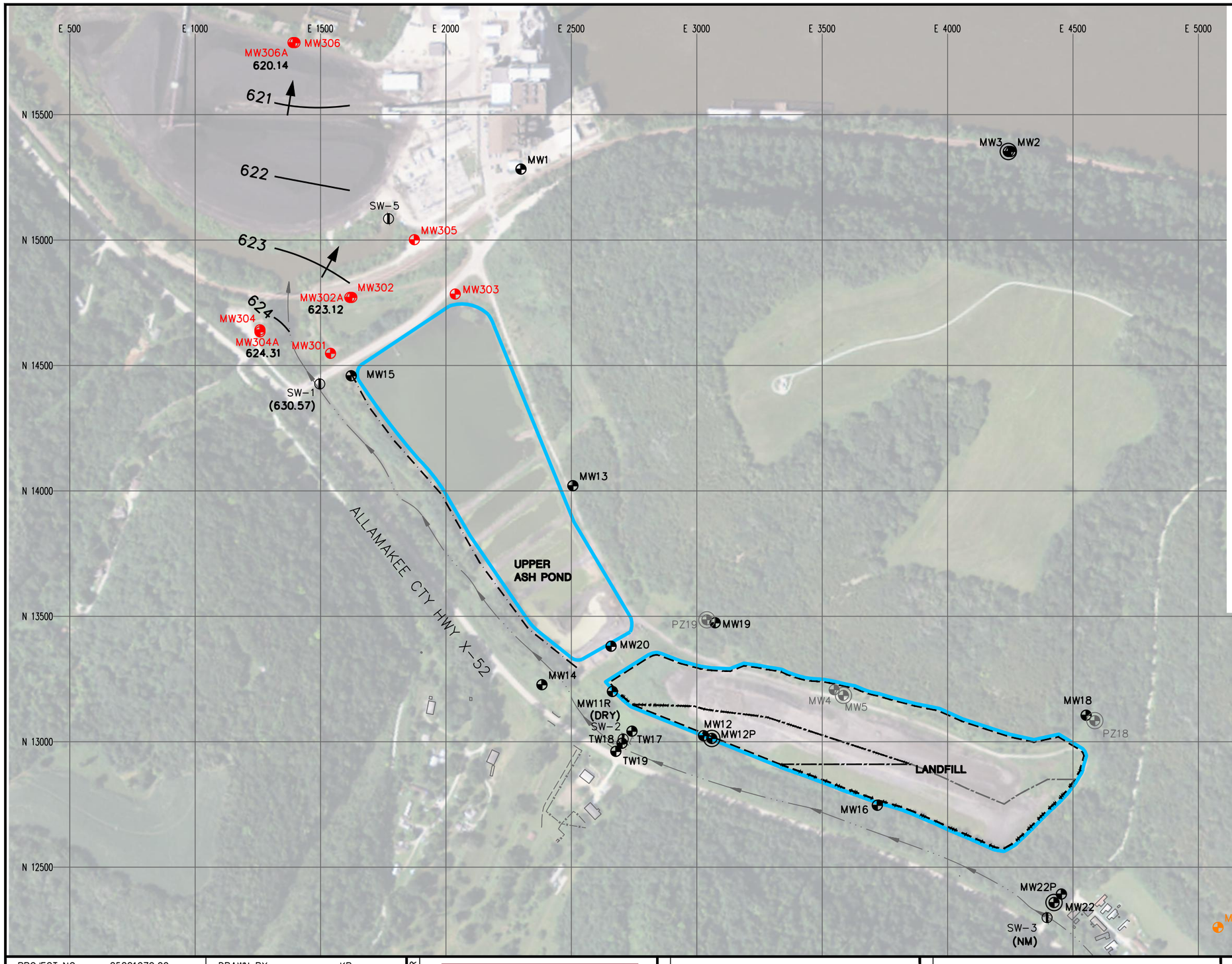

NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW–1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	CCR UNITS
(630.57)	SURFACE WATER ELEVATION
(NM)	NOT MEASURED
629.38	WATER TABLE ELEVATION
	WATER TABLE CONTOUR (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.
3. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	05/26/2021	CHECKED BY:	RM
REVISED:	08/11/2021	APPROVED BY:	TK 8/22/2021

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT

INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE

ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

POTENTIOMETRIC SURFACE MAP
APRIL 7–9, 2021

FIGURE
4

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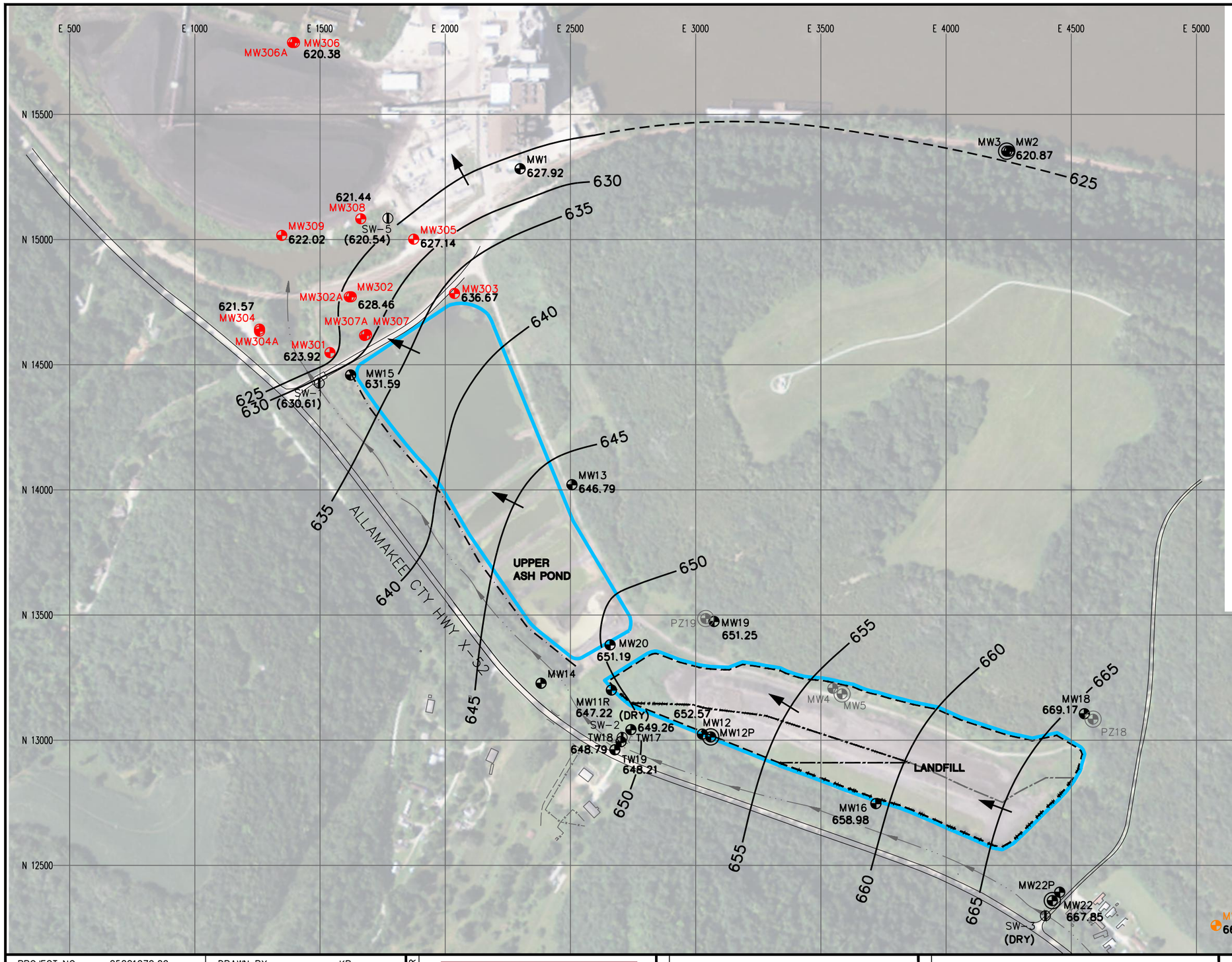

NORTH GRID

LEGEND	
	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	CCR UNITS
(630.61)	SURFACE WATER ELEVATION
(NM)	NOT MEASURED
627.92	WATER TABLE ELEVATION
	WATER TABLE CONTOUR (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.
3. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	08/17/2021	CHECKED BY:	NK
REVISED:	08/20/2021	APPROVED BY:	TK 8/22/2021

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

WATER TABLE MAP
AUGUST 13, 2021

FIGURE 5

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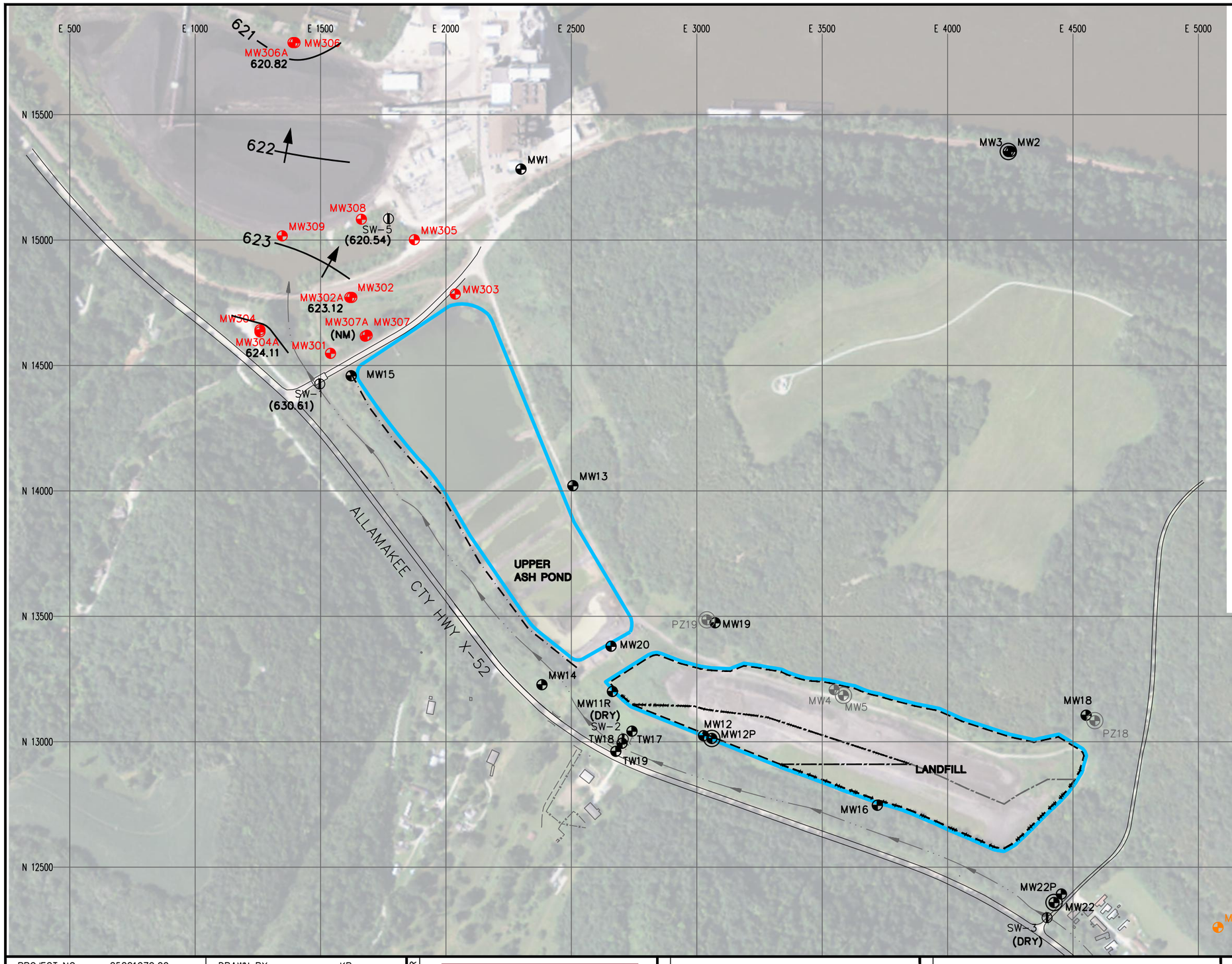

NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
	CCR UNITS
(630.61)	SURFACE WATER ELEVATION
(NM)	NOT MEASURED
620.82	WATER TABLE ELEVATION
	WATER TABLE CONTOUR (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. SEE FIGURE 2 FOR ADDITIONAL LEGEND ITEMS AND NOTES.
3. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25221070.00	DRAWN BY:	KP
DRAWN:	08/17/2021	CHECKED BY:	NK
REVISED:	08/20/2021	APPROVED BY:	TK 8/22/2021

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT

INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE

ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

POTENTIOMETRIC SURFACE MAP
AUGUST 13, 2021

FIGURE
6

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Appendix A

July 2021 Laboratory Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 310-211049-1
Client Project/Site: Lansing Generating Station - 25221070.00
Revision: 2

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Authorized for release by:
8/5/2021 9:53:43 AM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Job ID: 310-211049-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211049-1

Comments
REVISED REPORTS: Added anion analysis per COC.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º 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.

Narrative

Job Narrative
310-211049-4

Comments
No additional comments.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º C.

HPLC/IC
Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-307 (310-211049-3) and MW-307A (310-211049-4). 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.

Sample Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211049-1	MW-306	Water	07/12/21 15:50	07/16/21 09:50
310-211049-2	MW-304A	Water	07/12/21 13:30	07/16/21 09:50
310-211049-3	MW-307	Water	07/12/21 20:45	07/16/21 09:50
310-211049-4	MW-307A	Water	07/12/21 19:40	07/16/21 09:50
310-211049-5	Field Blank	Water	07/12/21 19:40	07/16/21 09:50

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-306 — Lab Sample ID: 310-211049-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.2		2.0	0.75	ug/L	1		6020A	Total/NA
Ground Water Elevation	619.83				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-128.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.37				mg/L	1		Field Sampling	Total/NA
pH, Field	7.51				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	2006				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.40				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.13				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A — Lab Sample ID: 310-211049-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	100		2.0	1.3	ug/L	1		6020A	Total/NA
Ground Water Elevation	623.87				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	80.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.48				mg/L	1		Field Sampling	Total/NA
pH, Field	8.09				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	543.1				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.80				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	36.09				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-211049-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	44		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	2.1		2.0	0.75	ug/L	1		6020A	Total/NA
Ba	310		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	220		100	58	ug/L	1		6020A	Total/NA
Calcium	55		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.15	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	13		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	5.5		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	210		50	26	mg/L	1		SM 2540C	Total/NA
pH	8.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	630.95				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-40.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.47				mg/L	1		Field Sampling	Total/NA
pH, Field	8.25				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	449.6				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.20				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-211049-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.8		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	30		5.0	2.5	mg/L	5		9056A	Total/NA
Ba	120		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	370		100	58	ug/L	1		6020A	Total/NA
Calcium	67		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.54		0.50	0.091	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307A (Continued) — Lab Sample ID: 310-211049-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	6.8		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	280		50	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	625.27				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	73.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.27				mg/L	1		Field Sampling	Total/NA
pH, Field	7.83				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	615.6				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.20				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: 310-211049-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-306
Lab Sample ID: 310-211049-1
Date Collected: 07/12/21 15:50
Matrix: Water
Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.2		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 18:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	619.83				ft			07/12/21 15:50	1
Oxidation Reduction Potential	-128.3				millivolts			07/12/21 15:50	1
Oxygen, Dissolved, Client Supplied	0.37				mg/L			07/12/21 15:50	1
pH, Field	7.51				SU			07/12/21 15:50	1
Specific Conductance, Field	2006				umhos/cm			07/12/21 15:50	1
Temperature, Field	14.40				Degrees C			07/12/21 15:50	1
Turbidity, Field	0.13				NTU			07/12/21 15:50	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-304A
Date Collected: 07/12/21 13:30
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-2
Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	100		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 18:56	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	623.87				ft			07/12/21 13:30	1
Oxidation Reduction Potential	80.3				millivolts			07/12/21 13:30	1
Oxygen, Dissolved, Client Supplied	0.48				mg/L			07/12/21 13:30	1
pH, Field	8.09				SU			07/12/21 13:30	1
Specific Conductance, Field	543.1				umhos/cm			07/12/21 13:30	1
Temperature, Field	13.80				Degrees C			07/12/21 13:30	1
Turbidity, Field	36.09				NTU			07/12/21 13:30	1

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Date Collected: 07/12/21 20:45
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-3
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.2	mg/L			08/03/21 11:24	5
Fluoride	<0.28		0.50	0.28	mg/L			08/03/21 11:24	5
Sulfate	44		5.0	2.5	mg/L			08/03/21 11:24	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		07/21/21 09:00	07/26/21 18:59	1
Arsenic	2.1		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 18:59	1
Ba	310		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 18:59	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 18:59	1
Boron	220		100	58	ug/L		07/21/21 09:00	07/26/21 18:59	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 18:59	1
Calcium	55		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 18:59	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 18:59	1
Cobalt	0.15	J	0.50	0.091	ug/L		07/21/21 09:00	07/26/21 18:59	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 18:59	1
Lithium	13		10	2.5	ug/L		07/21/21 09:00	07/26/21 18:59	1
Molybdenum	5.5		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 18:59	1
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 18:59	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 18:59	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		07/19/21 12:15	07/20/21 11:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	210		50	26	mg/L			07/19/21 09:33	1
pH	8.2	HF	0.1	0.1	SU			07/16/21 14:31	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	630.95				ft			07/12/21 00:00	1
Oxidation Reduction Potential	-40.6				millivolts			07/12/21 00:00	1
Oxygen, Dissolved, Client Supplied	0.47				mg/L			07/12/21 00:00	1
pH, Field	8.25				SU			07/12/21 00:00	1
Specific Conductance, Field	449.6				umhos/cm			07/12/21 00:00	1
Temperature, Field	15.20				Degrees C			07/12/21 00:00	1
Turbidity, Field	0.00				NTU			07/12/21 00:00	1

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.8**		5.0	2.2	mg/L			08/03/21 12:11	5
Fluoride	<0.28		0.50	0.28	mg/L			08/03/21 12:11	5
Sulfate	**30**		5.0	2.5	mg/L			08/03/21 12:11	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		07/21/21 09:00	07/26/21 19:02	1
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 19:02	1
Ba	**120**		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 19:02	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 19:02	1
Boron	**370**		100	58	ug/L		07/21/21 09:00	07/26/21 19:02	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 19:02	1
Calcium	**67**		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 19:02	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 19:02	1
Cobalt	**0.54**		0.50	0.091	ug/L		07/21/21 09:00	07/26/21 19:02	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 19:02	1
Lithium	<2.5		10	2.5	ug/L		07/21/21 09:00	07/26/21 19:02	1
Molybdenum	**6.8**		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 19:02	1
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 19:02	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 19:02	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		07/19/21 12:15	07/20/21 11:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**280**		50	26	mg/L			07/19/21 09:33	1
pH	**7.5**	**HF**	0.1	0.1	SU			07/16/21 14:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**625.27**				ft			07/12/21 13:40	1
Oxidation Reduction Potential	**73.1**				millivolts			07/12/21 13:40	1
Oxygen, Dissolved, Client Supplied	**0.27**				mg/L			07/12/21 13:40	1
pH, Field	**7.83**				SU			07/12/21 13:40	1
Specific Conductance, Field	**615.6**				umhos/cm			07/12/21 13:40	1
Temperature, Field	**13.20**				Degrees C			07/12/21 13:40	1
Turbidity, Field	**0.00**				NTU			07/12/21 13:40	1

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

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			08/03/21 12:27	1
Fluoride	<0.055		0.10	0.055	mg/L			08/03/21 12:27	1
Sulfate	<0.49		1.0	0.49	mg/L			08/03/21 12:27	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		07/21/21 09:00	07/26/21 19:06	1
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 19:06	1
Ba	<0.30		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 19:06	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 19:06	1
Boron	<58		100	58	ug/L		07/21/21 09:00	07/26/21 19:06	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 19:06	1
Calcium	<0.19		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 19:06	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 19:06	1
Cobalt	<0.091		0.50	0.091	ug/L		07/21/21 09:00	07/26/21 19:06	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 19:06	1
Lithium	<2.5		10	2.5	ug/L		07/21/21 09:00	07/26/21 19:06	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 19:06	1
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 19:06	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 19:06	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		07/19/21 12:15	07/20/21 11:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			07/19/21 09:33	1
pH	**5.9**	**HF**	0.1	0.1	SU			07/16/21 14:28	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-324354/3
Matrix: Water
Analysis Batch: 324354

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			08/03/21 09:49	1
Fluoride	<0.055		0.10	0.055	mg/L			08/03/21 09:49	1
Sulfate	<0.49		1.0	0.49	mg/L			08/03/21 09:49	1

Lab Sample ID: LCS 310-324354/33
Matrix: Water
Analysis Batch: 324354

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	9.28		mg/L		93	90 - 110
Fluoride	2.00	1.96		mg/L		98	90 - 110
Sulfate	10.0	9.70		mg/L		97	90 - 110

Lab Sample ID: 310-211049-3 MS
Matrix: Water
Analysis Batch: 324354

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
Chloride	15		25.0	35.5		mg/L		84	80 - 120
Fluoride	<0.28		5.00	4.48		mg/L		90	80 - 120
Sulfate	44		25.0	65.6		mg/L		85	80 - 120

Lab Sample ID: 310-211049-3 MSD
Matrix: Water
Analysis Batch: 324354

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
Chloride	15		25.0	35.2		mg/L		82	80 - 120	1	15
Fluoride	<0.28		5.00	4.46		mg/L		89	80 - 120	0	15
Sulfate	44		25.0	64.9		mg/L		82	80 - 120	1	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-322997/1-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		07/21/21 09:00	07/26/21 18:19	1
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/26/21 18:19	1
Ba	<0.30		2.0	0.30	ug/L		07/21/21 09:00	07/26/21 18:19	1
Beryllium	<0.27		1.0	0.27	ug/L		07/21/21 09:00	07/26/21 18:19	1
Boron	<58		100	58	ug/L		07/21/21 09:00	07/26/21 18:19	1
Cadmium	<0.051		0.10	0.051	ug/L		07/21/21 09:00	07/26/21 18:19	1
Calcium	<0.19		0.50	0.19	mg/L		07/21/21 09:00	07/26/21 18:19	1
Chromium	<1.1		5.0	1.1	ug/L		07/21/21 09:00	07/26/21 18:19	1
Cobalt	<0.091		0.50	0.091	ug/L		07/21/21 09:00	07/26/21 18:19	1
Lead	<0.21		0.50	0.21	ug/L		07/21/21 09:00	07/26/21 18:19	1
Lithium	<2.5		10	2.5	ug/L		07/21/21 09:00	07/26/21 18:19	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/21/21 09:00	07/26/21 18:19	1

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

Lab Sample ID: MB 310-322997/1-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.96		5.0	0.96	ug/L		07/21/21 09:00	07/26/21 18:19	1
Thallium	<0.26		1.0	0.26	ug/L		07/21/21 09:00	07/26/21 18:19	1

Lab Sample ID: LCS 310-322997/2-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	191		ug/L		95	80 - 120
Arsenic	200	204		ug/L		102	80 - 120
Ba	100	96.2		ug/L		96	80 - 120
Beryllium	100	96.3		ug/L		96	80 - 120
Boron	200	215		ug/L		107	80 - 120
Cadmium	100	93.7		ug/L		94	80 - 120
Calcium	2.00	1.97		mg/L		99	80 - 120
Chromium	100	95.3		ug/L		95	80 - 120
Cobalt	100	95.7		ug/L		96	80 - 120
Lead	200	201		ug/L		100	80 - 120
Lithium	200	197		ug/L		98	80 - 120
Molybdenum	200	189		ug/L		95	80 - 120
Selenium	400	362		ug/L		90	80 - 120
Thallium	200	201		ug/L		101	80 - 120

Lab Sample ID: 310-211049-5 DU
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 322997

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
Ba	<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	<0.091		<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	<1.3		<1.3		ug/L		NC	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 310-322794/1-A
Matrix: Water
Analysis Batch: 322950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		07/19/21 12:15	07/20/21 10:16	1

Lab Sample ID: LCS 310-322794/2-A
Matrix: Water
Analysis Batch: 322950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.66		ug/L		99	80 - 120

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

Lab Sample ID: MB 310-322771/1
Matrix: Water
Analysis Batch: 322771

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			07/19/21 09:33	1

Lab Sample ID: LCS 310-322771/2
Matrix: Water
Analysis Batch: 322771

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	928		mg/L		93	90 - 110

Lab Sample ID: 310-211049-4 DU
Matrix: Water
Analysis Batch: 322771

Client Sample ID: MW-307A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	280		268		mg/L		4	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-322661/1
Matrix: Water
Analysis Batch: 322661

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 Association Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

HPLC/IC

Analysis Batch: 324354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	9056A	
310-211049-4	MW-307A	Total/NA	Water	9056A	
310-211049-5	Field Blank	Total/NA	Water	9056A	
MB 310-324354/3	Method Blank	Total/NA	Water	9056A	
LCS 310-324354/33	Lab Control Sample	Total/NA	Water	9056A	
310-211049-3 MS	MW-307	Total/NA	Water	9056A	
310-211049-3 MSD	MW-307	Total/NA	Water	9056A	

Metals

Prep Batch: 322794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	7470A	
310-211049-4	MW-307A	Total/NA	Water	7470A	
310-211049-5	Field Blank	Total/NA	Water	7470A	
MB 310-322794/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-322794/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 322950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	7470A	322794
310-211049-4	MW-307A	Total/NA	Water	7470A	322794
310-211049-5	Field Blank	Total/NA	Water	7470A	322794
MB 310-322794/1-A	Method Blank	Total/NA	Water	7470A	322794
LCS 310-322794/2-A	Lab Control Sample	Total/NA	Water	7470A	322794

Prep Batch: 322997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-1	MW-306	Total/NA	Water	3010A	
310-211049-2	MW-304A	Total/NA	Water	3010A	
310-211049-3	MW-307	Total/NA	Water	3010A	
310-211049-4	MW-307A	Total/NA	Water	3010A	
310-211049-5	Field Blank	Total/NA	Water	3010A	
MB 310-322997/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211049-5 DU	Field Blank	Total/NA	Water	3010A	

Analysis Batch: 323563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-1	MW-306	Total/NA	Water	6020A	322997
310-211049-2	MW-304A	Total/NA	Water	6020A	322997
310-211049-3	MW-307	Total/NA	Water	6020A	322997
310-211049-4	MW-307A	Total/NA	Water	6020A	322997
310-211049-5	Field Blank	Total/NA	Water	6020A	322997
MB 310-322997/1-A	Method Blank	Total/NA	Water	6020A	322997
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	6020A	322997
310-211049-5 DU	Field Blank	Total/NA	Water	6020A	322997

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

General Chemistry

Analysis Batch: 322661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	SM 4500 H+ B	
310-211049-4	MW-307A	Total/NA	Water	SM 4500 H+ B	
310-211049-5	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-322661/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 322771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	SM 2540C	
310-211049-4	MW-307A	Total/NA	Water	SM 2540C	
310-211049-5	Field Blank	Total/NA	Water	SM 2540C	
MB 310-322771/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-322771/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-211049-4 DU	MW-307A	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 323057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-1	MW-306	Total/NA	Water	Field Sampling	
310-211049-2	MW-304A	Total/NA	Water	Field Sampling	
310-211049-3	MW-307	Total/NA	Water	Field Sampling	
310-211049-4	MW-307A	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-306
Lab Sample ID: 310-211049-1
Date Collected: 07/12/21 15:50
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:52	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 15:50	SJF	TAL CF

Client Sample ID: MW-304A
Lab Sample ID: 310-211049-2
Date Collected: 07/12/21 13:30
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:56	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 13:30	SJF	TAL CF

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3
Date Collected: 07/12/21 20:45
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	324354	08/03/21 11:24	CJT	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:59	SAP	TAL CF
Total/NA	Prep	7470A			322794	07/19/21 12:15	JNR	TAL CF
Total/NA	Analysis	7470A		1	322950	07/20/21 11:08	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	322771	07/19/21 09:33	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	322661	07/16/21 14:31	LBB	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 00:00	SJF	TAL CF

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	324354	08/03/21 12:11	CJT	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:02	SAP	TAL CF
Total/NA	Prep	7470A			322794	07/19/21 12:15	JNR	TAL CF
Total/NA	Analysis	7470A		1	322950	07/20/21 11:10	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	322771	07/19/21 09:33	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	322661	07/16/21 14:30	LBB	TAL CF
Total/NA	Analysis	Field Sampling		1	323057	07/12/21 13:40	SJF	TAL CF

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	324354	08/03/21 12:27	CJT	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:06	SAP	TAL CF
Total/NA	Prep	7470A			322794	07/19/21 12:15	JNR	TAL CF
Total/NA	Analysis	7470A		1	322950	07/20/21 11:13	JNR	TAL CF
Total/NA	Analysis	SM 2540C		1	322771	07/19/21 09:33	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	322661	07/16/21 14:28	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
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

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

Method Summary

Client: SCS Engineers
Job ID: 310-211049-1
Project/Site: Lansing Generating Station - 25221070.00

Method	Method Description	Protocol	Laboratory
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

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310-211049 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information

Client: SCS Engineering

City/State: CITY Marion STATE WI | Project: Lansing Generating Station

Receipt Information

Date/Time Received: DATE 7/14/2021 TIME 950 | Received By: AW

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 0.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

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Client Information	Sampler: Adam Watson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62231-18121.1
Client Contact: Mr. Tom Karwoski	Phone: 608-250-9985	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order Requested			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Generating Station - As/Mo	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (1) As	6020A - Metals (1) Mo	TDS, Ph, Anions	Metals (14) Hg	Radium	Alkalinity (Carbonate/Bicarbonate)	Total Metals	Dissolved Metals					Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	D	D	N	D	D						
MW-306	7/12/21			Water			X	X												See included table for sample parameter check
MW-304A	7/12/21			Water			X	X												
MW-307	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
MW-307A	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
Field blank	7/12/21			Water			X	X	X	X	X	X	X							

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Adam Watson	7/15/21	SCS Eng.		7/16 950	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-307	MW-307A	MW-308	MW-309	MW-20	MW-6	Field Blank	Outfall	Ash Pond Catwalk	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters, Total (Unfiltered)	Boron										X	X					X			3
		Calcium										X	X					X			3
		Chloride										X	X					X			3
		Fluoride										X	X					X			3
		pH										X	X					X			3
		Sulfate										X	X					X			3
		TDS										X	X					X			3
	Appendix IV Parameters, Total (Unfiltered)	Antimony										X	X					X			3
		Arsenic						X				X	X					X			4
		Barium										X	X					X			3
		Beryllium										X	X					X			3
		Cadmium										X	X					X			3
		Chromium										X	X					X			3
		Cobalt										X	X					X			3
		Fluoride										X	X					X			3
		Lead										X	X					X			3
		Lithium										X	X					X			3
		Mercury										X	X					X			3
		Molybdenum								X		X	X					X			4
		Selenium										X	X					X			3
		Thallium										X	X					X			3
		Radium										X	X					X			3
	Field Parameters	Groundwater Elevation										X	X	X	X						4
		Surface Water Elevation																	X	X	2
		Well Depth										X	X								2
		pH (field)										X	X								2
		Specific Conductance										X	X								2
		Dissolved Oxygen										X	X								2
		ORP										X	X								2
		Temperature										X	X								2
		Turbidity										X	X								2
		Color										X	X								2
		Odor										X	X								2
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate										X	X					X			3
		Alkalinity - Bicarbonate										X	X					X			3
		Iron										X	X					X			3
		Magnesium										X	X					X			3
		Manganese										X	X					X			3
		Potassium										X	X					X			3
		Sodium										X	X					X			3
	Dissolved (Filtered)	Arsenic										x	x								2
		Iron										x	x								2
		Manganese										x	x								2
		Molybdenum										x	x								2
	Field Parameters	Sulfide, Field										x	x								2
		Total Iron, Field										x	x								2
		Ferrous Iron, Field										x	x								2

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211049-1

Login Number: 211049
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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.	False	times taken from containers
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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-211049-3
Client Project/Site: Lansing Generating Station - 25221070.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
7/30/2021 10:19:16 AM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Generating Station - 25221070.00

Job ID: 310-211049-3

Job ID: 310-211049-3

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211049-3

Comments
No additional comments.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º C.

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

General Chemistry
Method 2320B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 310-323183 recovered outside control limits for the following analytes: Total Alkalinity. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

Sample Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211049-3	MW-307	Water	07/12/21 20:45	07/16/21 09:50
310-211049-4	MW-307A	Water	07/12/21 19:40	07/16/21 09:50
310-211049-5	Field Blank	Water	07/12/21 19:40	07/16/21 09:50

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307 — Lab Sample ID: 310-211049-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	140		100	36	ug/L	1		6020A	Total/NA
Magnesium	17000		500	100	ug/L	1		6020A	Total/NA
Manganese	310		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3600		500	150	ug/L	1		6020A	Total/NA
Sodium	13000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	2.0		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	110		100	36	ug/L	1		6020A	Dissolved
Manganese	300		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	5.2		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	170		8.9	4.1	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	170		8.9	4.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-211049-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	33000		500	100	ug/L	1		6020A	Total/NA
Manganese	620		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3000		500	150	ug/L	1		6020A	Total/NA
Sodium	16000		1000	610	ug/L	1		6020A	Total/NA
Manganese	600		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	7.3		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		9.1	4.2	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	310		9.1	4.2	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-211049-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Date Collected: 07/12/21 20:45
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-3
Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	140		100	36	ug/L		07/21/21 09:00	07/26/21 18:59	1
Magnesium	17000		500	100	ug/L		07/21/21 09:00	07/26/21 18:59	1
Manganese	310		10	4.4	ug/L		07/21/21 09:00	07/26/21 18:59	1
Potassium	3600		500	150	ug/L		07/21/21 09:00	07/26/21 18:59	1
Sodium	13000		1000	610	ug/L		07/21/21 09:00	07/26/21 18:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.0		2.0	0.75	ug/L		07/21/21 09:00	07/29/21 16:06	1
Iron	110		100	36	ug/L		07/21/21 09:00	07/29/21 16:06	1
Manganese	300		10	4.4	ug/L		07/21/21 09:00	07/29/21 16:06	1
Molybdenum	5.2		2.0	1.3	ug/L		07/21/21 09:00	07/29/21 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	170		8.9	4.1	mg/L			07/19/21 10:34	1
Carbonate Alkalinity as CaCO3	<4.1		8.9	4.1	mg/L			07/19/21 10:34	1
Total Alkalinity as CaCO3	170		8.9	4.1	mg/L			07/19/21 10:34	1

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		07/21/21 09:00	07/26/21 19:02	1
Magnesium	**33000**		500	100	ug/L		07/21/21 09:00	07/26/21 19:02	1
Manganese	**620**		10	4.4	ug/L		07/21/21 09:00	07/26/21 19:02	1
Potassium	**3000**		500	150	ug/L		07/21/21 09:00	07/26/21 19:02	1
Sodium	**16000**		1000	610	ug/L		07/21/21 09:00	07/26/21 19:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/29/21 16:18	1
Iron	<36		100	36	ug/L		07/21/21 09:00	07/29/21 16:18	1
Manganese	**600**		10	4.4	ug/L		07/21/21 09:00	07/29/21 16:18	1
Molybdenum	**7.3**		2.0	1.3	ug/L		07/21/21 09:00	07/29/21 16:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**310**		9.1	4.2	mg/L			07/19/21 10:34	1
Carbonate Alkalinity as CaCO3	<4.2		9.1	4.2	mg/L			07/19/21 10:34	1
Total Alkalinity as CaCO3	**310**		9.1	4.2	mg/L			07/19/21 10:34	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		07/21/21 09:00	07/26/21 19:06	1
Magnesium	<100		500	100	ug/L		07/21/21 09:00	07/26/21 19:06	1
Manganese	<4.4		10	4.4	ug/L		07/21/21 09:00	07/26/21 19:06	1
Potassium	<150		500	150	ug/L		07/21/21 09:00	07/26/21 19:06	1
Sodium	<610		1000	610	ug/L		07/21/21 09:00	07/26/21 19:06	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			07/22/21 08:58	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/22/21 08:58	1
Total Alkalinity as CaCO3	<2.3	*+	5.0	2.3	mg/L			07/22/21 08:58	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Qualifiers

General Chemistry

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

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

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-322963/1-A
Matrix: Water
Analysis Batch: 323930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322963

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		07/21/21 09:00	07/29/21 16:01	1
Iron	<36		100	36	ug/L		07/21/21 09:00	07/29/21 16:01	1
Manganese	<4.4		10	4.4	ug/L		07/21/21 09:00	07/29/21 16:01	1
Molybdenum	<1.3		2.0	1.3	ug/L		07/21/21 09:00	07/29/21 16:01	1

Lab Sample ID: LCS 310-322963/2-A
Matrix: Water
Analysis Batch: 323930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322963

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	190		ug/L		95	80 - 120
Iron	200	193		ug/L		97	80 - 120
Manganese	100	92.5		ug/L		92	80 - 120
Molybdenum	200	189		ug/L		94	80 - 120

Lab Sample ID: MB 310-322997/1-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		07/21/21 09:00	07/26/21 18:19	1
Magnesium	<100		500	100	ug/L		07/21/21 09:00	07/26/21 18:19	1
Manganese	<4.4		10	4.4	ug/L		07/21/21 09:00	07/26/21 18:19	1
Potassium	<150		500	150	ug/L		07/21/21 09:00	07/26/21 18:19	1
Sodium	<610		1000	610	ug/L		07/21/21 09:00	07/26/21 18:19	1

Lab Sample ID: LCS 310-322997/2-A
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322997

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	200	214		ug/L		107	80 - 120
Magnesium	2000	2050		ug/L		102	80 - 120
Manganese	100	98.6		ug/L		99	80 - 120
Potassium	2000	2040		ug/L		102	80 - 120
Sodium	2000	2010		ug/L		100	80 - 120

Lab Sample ID: 310-211049-5 DU
Matrix: Water
Analysis Batch: 323563

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 322997

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	<36		<36		ug/L		NC	20
Magnesium	<100		<100		ug/L		NC	20
Manganese	<4.4		<4.4		ug/L		NC	20
Potassium	<150		<150		ug/L		NC	20
Sodium	<610		<610		ug/L		NC	20

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

Lab Sample ID: 310-211049-3 MS
Matrix: Water
Analysis Batch: 323930

Client Sample ID: MW-307
Prep Type: Dissolved
Prep Batch: 322963

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.0		200	194		ug/L		96	75 - 125
Iron	110		200	287		ug/L		89	75 - 125
Manganese	300		100	386		ug/L		90	75 - 125
Molybdenum	5.2		200	196		ug/L		95	75 - 125

Lab Sample ID: 310-211049-3 MSD
Matrix: Water
Analysis Batch: 323930

Client Sample ID: MW-307
Prep Type: Dissolved
Prep Batch: 322963

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	2.0		200	196		ug/L		97	75 - 125	1	20
Iron	110		200	288		ug/L		90	75 - 125	0	20
Manganese	300		100	395		ug/L		99	75 - 125	2	20
Molybdenum	5.2		200	200		ug/L		97	75 - 125	2	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-323183/1
Matrix: Water
Analysis Batch: 323183

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			07/22/21 08:58	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/22/21 08:58	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/22/21 08:58	1

Lab Sample ID: LCS 310-323183/2
Matrix: Water
Analysis Batch: 323183

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	1140	*+	mg/L		114	90 - 110

Lab Sample ID: 310-211049-5 MS
Matrix: Water
Analysis Batch: 323183

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	<2.3	*+	25.0	29.3		mg/L		117	69 - 126

Lab Sample ID: 310-211049-5 MSD
Matrix: Water
Analysis Batch: 323183

Client Sample ID: Field Blank
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	<2.3	*+	25.0	28.2		mg/L		113	69 - 126	4	14

QC Sample Results

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-322783/1
Matrix: Water
Analysis Batch: 322783

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			07/19/21 10:34	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/19/21 10:34	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			07/19/21 10:34	1

Lab Sample ID: LCS 310-322783/2
Matrix: Water
Analysis Batch: 322783

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

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Metals

Prep Batch: 322963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Dissolved	Water	3010A	
310-211049-4	MW-307A	Dissolved	Water	3010A	
MB 310-322963/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322963/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211049-3 MS	MW-307	Dissolved	Water	3010A	
310-211049-3 MSD	MW-307	Dissolved	Water	3010A	

Prep Batch: 322997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	3010A	
310-211049-4	MW-307A	Total/NA	Water	3010A	
310-211049-5	Field Blank	Total/NA	Water	3010A	
MB 310-322997/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211049-5 DU	Field Blank	Total/NA	Water	3010A	

Analysis Batch: 323563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	6020A	322997
310-211049-4	MW-307A	Total/NA	Water	6020A	322997
310-211049-5	Field Blank	Total/NA	Water	6020A	322997
MB 310-322997/1-A	Method Blank	Total/NA	Water	6020A	322997
LCS 310-322997/2-A	Lab Control Sample	Total/NA	Water	6020A	322997
310-211049-5 DU	Field Blank	Total/NA	Water	6020A	322997

Analysis Batch: 323930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Dissolved	Water	6020A	322963
310-211049-4	MW-307A	Dissolved	Water	6020A	322963
MB 310-322963/1-A	Method Blank	Total/NA	Water	6020A	322963
LCS 310-322963/2-A	Lab Control Sample	Total/NA	Water	6020A	322963
310-211049-3 MS	MW-307	Dissolved	Water	6020A	322963
310-211049-3 MSD	MW-307	Dissolved	Water	6020A	322963

Analysis Batch: 323931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Dissolved	Water	6020A	322963
310-211049-4	MW-307A	Dissolved	Water	6020A	322963
MB 310-322963/1-A	Method Blank	Total/NA	Water	6020A	322963
LCS 310-322963/2-A	Lab Control Sample	Total/NA	Water	6020A	322963
310-211049-3 MS	MW-307	Dissolved	Water	6020A	322963
310-211049-3 MSD	MW-307	Dissolved	Water	6020A	322963

General Chemistry

Analysis Batch: 322783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	SM 2320B	
310-211049-4	MW-307A	Total/NA	Water	SM 2320B	
MB 310-322783/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-322783/2	Lab Control Sample	Total/NA	Water	SM 2320B	

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

General Chemistry

Analysis Batch: 323183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-5	Field Blank	Total/NA	Water	2320B	
MB 310-323183/1	Method Blank	Total/NA	Water	2320B	
LCS 310-323183/2	Lab Control Sample	Total/NA	Water	2320B	
310-211049-5 MS	Field Blank	Total/NA	Water	2320B	
310-211049-5 MSD	Field Blank	Total/NA	Water	2320B	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3
Date Collected: 07/12/21 20:45
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323930	07/29/21 16:06	SAP	TAL CF
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323931	07/29/21 16:06	SAP	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 18:59	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	322783	07/19/21 10:34	DFS	TAL CF

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323930	07/29/21 16:18	SAP	TAL CF
Dissolved	Prep	3010A			322963	07/21/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	323931	07/29/21 16:18	SAP	TAL CF
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:02	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	322783	07/19/21 10:34	DFS	TAL CF

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322997	07/21/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	323563	07/26/21 19:06	SAP	TAL CF
Total/NA	Analysis	2320B		1	323183	07/22/21 08:58	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
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

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

Method Summary

Client: SCS Engineers
Job ID: 310-211049-3
Project/Site: Lansing Generating Station - 25221070.00

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

eurofins | Environment Testing TestAmerica

310-211049 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information

Client: SCS Engineering

City/State: CITY Marion STATE WI | Project: Lansing Generating Station

Receipt Information

Date/Time Received: DATE 7/14/2021 TIME 950 | Received By: AW

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 0.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Adam Watson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62231-18121.1
Client Contact: Mr. Tom Karwoski	Phone: 608-250-9985	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order Requested			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Generating Station - As/Mo	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (1) As	6020A - Metals (1) Mo	TDS, Ph, Anions	Metals (14) Hg	Radium	Alkalinity (Carbonate/Bicarbonate)	Total Metals	Dissolved Metals						Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	D	D	N	D	D							
MW-306	7/12/21			Water			X	X													See included table for sample parameter check
MW-304A	7/12/21			Water			X	X													
MW-307	7/12/21			Water			X	X	X	X	X	X	X	X							Dissolved metals sample was filtered
MW-307A	7/12/21			Water			X	X	X	X	X	X	X	X							Dissolved metals sample was filtered
Field blank	7/12/21			Water			X	X	X	X	X	X	X								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Adam Watson	7/15/21	SCS Eng.		7/16 950	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-307	MW-307A	MW-308	MW-309	MW-20	MW-6	Field Blank	Outfall	Ash Pond Catwalk	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters, Total (Unfiltered)	Boron										X	X					X			3
		Calcium										X	X					X			3
		Chloride										X	X					X			3
		Fluoride										X	X					X			3
		pH										X	X					X			3
		Sulfate										X	X					X			3
		TDS										X	X					X			3
	Appendix IV Parameters, Total (Unfiltered)	Antimony										X	X					X			3
		Arsenic						X				X	X					X			4
		Barium										X	X					X			3
		Beryllium										X	X					X			3
		Cadmium										X	X					X			3
		Chromium										X	X					X			3
		Cobalt										X	X					X			3
		Fluoride										X	X					X			3
		Lead										X	X					X			3
		Lithium										X	X					X			3
		Mercury										X	X					X			3
		Molybdenum								X		X	X					X			4
		Selenium										X	X					X			3
		Thallium										X	X					X			3
		Radium										X	X					X			3
	Field Parameters	Groundwater Elevation										X	X	X	X						4
		Surface Water Elevation																	X	X	2
		Well Depth										X	X								2
		pH (field)										X	X								2
		Specific Conductance										X	X								2
		Dissolved Oxygen										X	X								2
		ORP										X	X								2
		Temperature										X	X								2
		Turbidity										X	X								2
		Color										X	X								2
		Odor										X	X								2
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate										X	X					X			3
		Alkalinity - Bicarbonate										X	X					X			3
		Iron										X	X					X			3
		Magnesium										X	X					X			3
		Manganese										X	X					X			3
		Potassium										X	X					X			3
		Sodium										X	X					X			3
	Dissolved (Filtered)	Arsenic										x	x								2
		Iron										x	x								2
		Manganese										x	x								2
		Molybdenum										x	x								2
	Field Parameters	Sulfide, Field										x	x								2
		Total Iron, Field										x	x								2
		Ferrous Iron, Field										x	x								2

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211049-3

Login Number: 211049
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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.	False	times taken from containers
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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-211049-2
Client Project/Site: Lansing Generating Station - 25221070.00

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett

Sandra Fredrick

Authorized for release by:
8/16/2021 12:55:29 PM

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

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.

Table of Contents

Case Narrative

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Job ID: 310-211049-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211049-2

Comments
No additional comments.

Receipt
The samples were received on 7/16/2021 9:50 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 0.9º C.

RAD
Method 903.0: Radium-226 Batch 519687 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 (310-211049-3), MW-307A (310-211049-4), Field Blank (310-211049-5), (LCS 160-519687/1-A), (LCSD 160-519687/2-A) and (MB 160-519687/23-A)

Method 904.0: Radium-228 Prep Batch 160-519723: 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 (310-211049-3), MW-307A (310-211049-4) and Field Blank (310-211049-5)

Method PrecSep_0: Ra-228 Batch 160-519723: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-307 (310-211049-3), MW-307A (310-211049-4) and Field Blank (310-211049-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-519687: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-307 (310-211049-3), MW-307A (310-211049-4) and Field Blank (310-211049-5). 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
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211049-3	MW-307	Water	07/12/21 20:45	07/16/21 09:50
310-211049-4	MW-307A	Water	07/12/21 19:40	07/16/21 09:50
310-211049-5	Field Blank	Water	07/12/21 19:40	07/16/21 09:50

Detection Summary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3

No Detections.

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4

No Detections.

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-307
Date Collected: 07/12/21 20:45
Date Received: 07/16/21 09:50

Lab Sample ID: 310-211049-3
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	0.171		0.0892	0.0905	1.00	0.112	pCi/L	07/22/21 09:15	08/13/21 07:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*86.8*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:32*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.328	U	0.360	0.361	1.00	0.590	pCi/L	07/22/21 10:15	07/28/21 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*86.8*		*40 - 110*	*07/22/21 10:15*	*07/28/21 12:10*	*1*
Y Carrier	*86.9*		*40 - 110*	*07/22/21 10:15*	*07/28/21 12:10*	*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	0.499	U	0.371	0.372	5.00	0.590	pCi/L		08/16/21 12:35	1

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4

Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	**0.265**		0.118	0.121	1.00	0.150	pCi/L	07/22/21 09:15	08/13/21 07:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*88.8*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:32*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.245	U	0.234	0.235	1.00	0.378	pCi/L	07/22/21 10:15	07/28/21 09:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*88.8*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:14*	*1*
Y Carrier	*89.9*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:14*	*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	**0.509**		0.262	0.264	5.00	0.378	pCi/L		08/16/21 12:35	1

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5

Date Collected: 07/12/21 19:40
Matrix: Water

Date Received: 07/16/21 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	0.0568	U	0.0747	0.0748	1.00	0.125	pCi/L	07/22/21 09:15	08/13/21 07:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*77.1*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.246	U	0.272	0.273	1.00	0.446	pCi/L	07/22/21 10:15	07/28/21 09:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*77.1*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:15*	*1*
Y Carrier	*89.3*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:15*	*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	0.303	U	0.282	0.283	5.00	0.446	pCi/L		08/16/21 12:35	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

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.
¤	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

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-519687/23-A
Matrix: Water
Analysis Batch: 522527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 519687

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-226	0.06295	U	0.0668	0.0671	1.00	0.107	pCi/L	07/22/21 09:15	08/13/21 07:51	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*94.3*		*40 - 110*	*07/22/21 09:15*	*08/13/21 07:51*	*1*

Lab Sample ID: LCS 160-519687/1-A
Matrix: Water
Analysis Batch: 522526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 519687

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Ra-226			11.3	10.12		1.06	1.00	0.103	pCi/L	89	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba	*87.7*		*40 - 110*

Lab Sample ID: LCSD 160-519687/2-A
Matrix: Water
Analysis Batch: 522526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 519687

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Ra-226			11.3	10.86		1.13	1.00	0.129	pCi/L	96	75 - 125	0.34	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba	*87.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-519723/23-A
Matrix: Water
Analysis Batch: 520379

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 519723

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ra-228	0.3561		0.223	0.226	1.00	0.340	pCi/L	07/22/21 10:15	07/28/21 09:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba	*94.3*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:21*	*1*
Y Carrier	*88.1*		*40 - 110*	*07/22/21 10:15*	*07/28/21 09:21*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-519723/1-A
Matrix: Water
Analysis Batch: 520430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 519723

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Ra-228			9.48	9.594		1.11	1.00	0.363	pCi/L	101	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba	*87.7*		*40 - 110*
Y Carrier	*89.0*		*40 - 110*

Lab Sample ID: LCSD 160-519723/2-A
Matrix: Water
Analysis Batch: 520430

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 519723

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Ra-228			9.48	9.158		1.07	1.00	0.389	pCi/L	97	75 - 125	0.20	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba	*87.5*		*40 - 110*
Y Carrier	*89.9*		*40 - 110*

QC Association Summary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Rad

Prep Batch: 519687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	PrecSep-21	
310-211049-4	MW-307A	Total/NA	Water	PrecSep-21	
310-211049-5	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-519687/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-519687/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-519687/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 519723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211049-3	MW-307	Total/NA	Water	PrecSep_0	
310-211049-4	MW-307A	Total/NA	Water	PrecSep_0	
310-211049-5	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-519723/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-519723/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-519723/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Client Sample ID: MW-307
Lab Sample ID: 310-211049-3
Date Collected: 07/12/21 20:45
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			519687	07/22/21 09:15	MJ	TAL SL
Total/NA	Analysis	903.0		1	522526	08/13/21 07:32	ANW	TAL SL
Total/NA	Prep	PrecSep_0			519723	07/22/21 10:15	MJ	TAL SL
Total/NA	Analysis	904.0		1	520413	07/28/21 12:10	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	522826	08/16/21 12:35	SCB	TAL SL

Client Sample ID: MW-307A
Lab Sample ID: 310-211049-4
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			519687	07/22/21 09:15	MJ	TAL SL
Total/NA	Analysis	903.0		1	522526	08/13/21 07:32	ANW	TAL SL
Total/NA	Prep	PrecSep_0			519723	07/22/21 10:15	MJ	TAL SL
Total/NA	Analysis	904.0		1	520413	07/28/21 09:14	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	522826	08/16/21 12:35	SCB	TAL SL

Client Sample ID: Field Blank
Lab Sample ID: 310-211049-5
Date Collected: 07/12/21 19:40
Matrix: Water
Date Received: 07/16/21 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			519687	07/22/21 09:15	MJ	TAL SL
Total/NA	Analysis	903.0		1	522526	08/13/21 07:43	ANW	TAL SL
Total/NA	Prep	PrecSep_0			519723	07/22/21 10:15	MJ	TAL SL
Total/NA	Analysis	904.0		1	520440	07/28/21 09:15	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	522826	08/16/21 12:35	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
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

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.

Method Summary

Client: SCS Engineers
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

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

eurofins | Environment Testing TestAmerica

310-211049 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information

Client: SCS Engineering

City/State: CITY Marion STATE WI | Project: Lansing Generating Station

Receipt Information

Date/Time Received: DATE 7/14/2021 TIME 950 | Received By: AW

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: R | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.9 | Corrected Temp (°C): 0.9

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ 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?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Adam Watson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-62231-18121.1
Client Contact: Mr. Tom Karwoski	Phone: 608-250-9985	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order Requested			
Email: tkarwoski@scsengineers.com	WO #:			
Project Name: Lansing Generating Station - As/Mo	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (1) As	6020A - Metals (1) Mo	TDS, Ph, Anions	Metals (14) Hg	Radium	Alkalinity (Carbonate/Bicarbonate)	Total Metals	Dissolved Metals					Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	D	D	N	D	D						
MW-306	7/12/21			Water			X	X												See included table for sample parameter check
MW-304A	7/12/21			Water			X	X												
MW-307	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
MW-307A	7/12/21			Water			X	X	X	X	X	X	X	X						Dissolved metals sample was filtered
Field blank	7/12/21			Water			X	X	X	X	X	X	X							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Adam Watson	7/15/21	SCS Eng.		7/16 950	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

8/16/2021

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25221070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-307	MW-307A	MW-308	MW-309	MW-20	MW-6	Field Blank	Outfall	Ash Pond Catwalk	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters, Total (Unfiltered)	Boron										X	X					X			3
		Calcium										X	X					X			3
		Chloride										X	X					X			3
		Fluoride										X	X					X			3
		pH										X	X					X			3
		Sulfate										X	X					X			3
		TDS										X	X					X			3
	Appendix IV Parameters, Total (Unfiltered)	Antimony										X	X					X			3
		Arsenic						X				X	X					X			4
		Barium										X	X					X			3
		Beryllium										X	X					X			3
		Cadmium										X	X					X			3
		Chromium										X	X					X			3
		Cobalt										X	X					X			3
		Fluoride										X	X					X			3
		Lead										X	X					X			3
		Lithium										X	X					X			3
		Mercury										X	X					X			3
		Molybdenum								X		X	X					X			4
		Selenium										X	X					X			3
		Thallium										X	X					X			3
		Radium										X	X					X			3
	Field Parameters	Groundwater Elevation										X	X	X	X						4
		Surface Water Elevation																	X	X	2
		Well Depth										X	X								2
		pH (field)										X	X								2
		Specific Conductance										X	X								2
		Dissolved Oxygen										X	X								2
		ORP										X	X								2
		Temperature										X	X								2
		Turbidity										X	X								2
		Color										X	X								2
		Odor										X	X								2
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate										X	X					X			3
		Alkalinity - Bicarbonate										X	X					X			3
		Iron										X	X					X			3
		Magnesium										X	X					X			3
		Manganese										X	X					X			3
		Potassium										X	X					X			3
		Sodium										X	X					X			3
	Dissolved (Filtered)	Arsenic										x	x								2
		Iron										x	x								2
		Manganese										x	x								2
		Molybdenum										x	x								2
	Field Parameters	Sulfide, Field										x	x								2
		Total Iron, Field										x	x								2
		Ferrous Iron, Field										x	x								2

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211049-2

Login Number: 211049
List Number: 1
Creator: Ramos, Eric F

List Source: Eurofins TestAmerica, Cedar Falls

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.	False	times taken from containers
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: 310-211049-2

Login Number: 211049
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 07/20/21 09:19 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
Job ID: 310-211049-2
Project/Site: Lansing Generating Station - 25221070.00

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
310-211049-3	MW-307	86.8
310-211049-4	MW-307A	88.8
310-211049-5	Field Blank	77.1
LCS 160-519687/1-A	Lab Control Sample	87.7
LCSD 160-519687/2-A	Lab Control Sample Dup	87.5
MB 160-519687/23-A	Method Blank	94.3

Tracer/Carrier Legend

Ba = Ba

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
310-211049-3	MW-307	86.8	86.9
310-211049-4	MW-307A	88.8	89.9
310-211049-5	Field Blank	77.1	89.3
LCS 160-519723/1-A	Lab Control Sample	87.7	89.0
LCSD 160-519723/2-A	Lab Control Sample Dup	87.5	89.9
MB 160-519723/23-A	Method Blank	94.3	88.1

Tracer/Carrier Legend

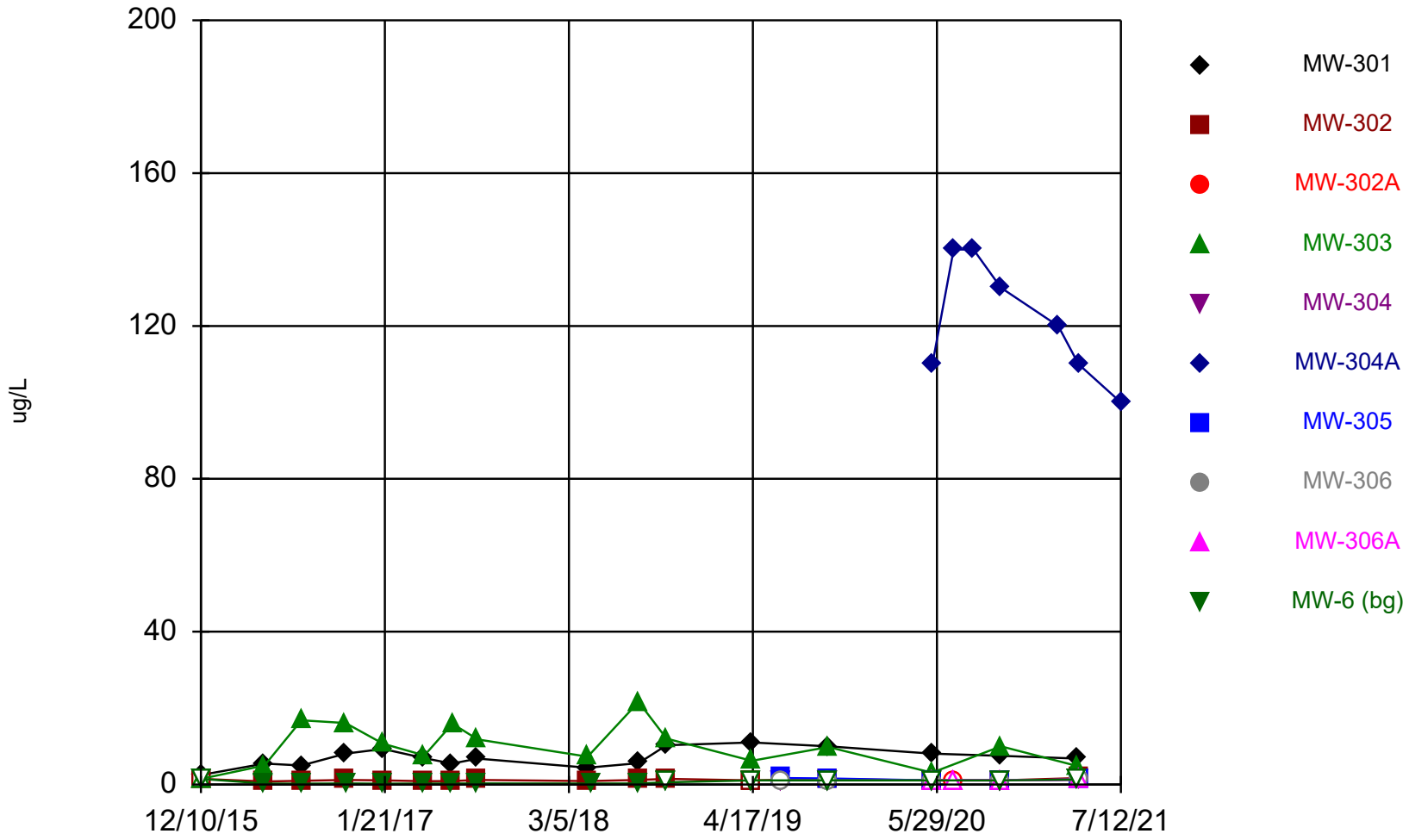
Ba = Ba
Y = Y Carrier

Appendix B

CCR Well Trend Plots

Hollow symbols indicate censored values.

Molybdenum



Time Series Analysis Run 8/9/2021 6:22 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Time Series

Constituent: Molybdenum (ug/L) Analysis Run 8/9/2021 6:23 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A
12/10/2015	2.5 (J)	<1.5 (U)		<1.5 (U)					
4/29/2016	5.5	0.81 (J)		5					
7/20/2016	5	0.98 (J)		16.8					
10/26/2016	8.1	1.2		16.1					
10/27/2016									
1/17/2017	9.3	1.1		10.7					
1/18/2017									
4/19/2017	6.9	0.87 (J)		7.6					
6/19/2017	5.5	0.91 (J)							
6/20/2017				15.9					
8/15/2017	6.8	1.2		11.8					
4/16/2018	4.4	0.91 (J)		7.3					
4/26/2018									
8/7/2018	5.6	1.2		21.6					
10/8/2018	10.3	1.5		12					
4/15/2019	11	<1.1 (U)		6.2					
6/20/2019					<1.1 (U)		1.7 (J)	<1.1 (U)	
10/2/2019	10	1.4 (J)		9.8	<1.1 (U)		1.6 (J)	<1.1 (U)	
5/19/2020	8.1			3.1			<1.1 (U)	<1.1 (U)	<1.1 (U)
5/20/2020		<1.1 (U)	<1.1 (U)		<1.1 (U)	110			
7/6/2020			<1.1 (U)			140			<1.1 (U)
8/19/2020						140			
10/19/2020	7.5	<1.1 (U)	<1.1 (U)	10	<1.1 (U)	130			
10/20/2020							<1.1 (U)	<1.1 (U)	<1.1 (U)
2/23/2021						120			
4/7/2021									
4/8/2021	6.8			4.8					
4/9/2021		1.7 (J)	<1.3 (U)		<1.3 (U)	110	<1.3 (U)	<1.3 (U)	<1.3 (U)
7/12/2021						100			

Time Series

Constituent: Molybdenum (ug/L) Analysis Run 8/9/2021 6:23 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-6 (bg)
12/10/2015	<1.5 (U)
4/29/2016	0.25 (J)
7/20/2016	0.24 (J)
10/26/2016	
10/27/2016	0.31 (J)
1/17/2017	
1/18/2017	0.21 (J)
4/19/2017	0.25 (J)
6/19/2017	0.26 (J)
6/20/2017	
8/15/2017	0.31 (J)
4/16/2018	
4/26/2018	0.26 (J)
8/7/2018	0.28 (J)
10/8/2018	<0.57 (U)
4/15/2019	<1.1 (U)
6/20/2019	
10/2/2019	<1.1 (U)
5/19/2020	
5/20/2020	<1.1 (U)
7/6/2020	
8/19/2020	
10/19/2020	
10/20/2020	<1.1 (U)
2/23/2021	
4/7/2021	<1.3 (U)
4/8/2021	
4/9/2021	
7/12/2021	

Appendix C

Regional Geologic and Hydrogeologic Background Information

Table LAN-3 Regional Hydrogeologic Stratigraphy
Lansing Generating Station / SCS Engineers Project #25215053

Strategic Unit			Hydrogeologic Units	Type of Rock	Hydrologic Conditions	Thickness Range (ft)	Age of Rocks*
Quaternary		Recent and Pleistocene deposits	Surficial aquifers-Alluvium, Drift, Buried-channel	Sand and gravel interbedded with silt and clay	Mostly unconfined local aquifers, some artesian, small-to-large yields	0 – 305	0 – 2.8 million years (m.y.)
Devonian	Yellow Spring Group (Gp)	Lime Creek Formation (Fm)	Confining layers	Shale, some dolostone	Non-aquifer	0 – 50	365 – 405 m.y.
	Cedar Valley Gp	Lithograph City Fm Coralville Fm Little Cedar Fm	Silurian-Devonian aquifer	Limestone and dolostone, thin shales	Major aquifer, mostly artesian, moderate-to-large yields	0 – 400	
	Wapsipinicon Gp	Pinicon Ridge Fm Spillville Fm		Dolostone and limestone			
Silurian		Scotch Grove Fm Hopkinton Fm Blanding Fm Tete des Morts Fm		Dolostone, locally with much chert, local shale as cavern fillings			405 – 425 m.y.
Ordovician	Maquoketa Fm	Brainard Member Fort Atkinson Member Clermont Member Elgin Member	Maquoketa Fm, confining beds	Shale and dolostone, some chert	Non-aquifer to local aquifer, small-to-moderate yields	0 – 300	425 – 455 m.y.
			Fort Atkinson – Elgin aquifer				
	Galena Gp	Dubuque Fm Wise Lake Fm Dunleith Fm Decorah Fm	Galena aquifer	Limestone and dolostone, minor chert, shale at base and locally in upper part	Local aquifer, confined and unconfined, small-to-moderate yields	0 – 240	455 – 460 m.y.
		Platteville Fm Glenwood Fm	Decorah-Platteville-Glenwood confining beds	Limestone and shale	Non-aquifer	0 – 50	
		St. Peter Sandstone Prairie du Chien Gr	Cambrian-Ordovician aquifer	Sandstone	Major aquifer, mostly artesian, large yields	0 – 580	460 – 500 m.y.
				Dolostone, minor sandstone and chert			500 – 503 m.y.
Cambrian		Jordan Sandstone		Sandstone, dolomitic			
		St. Lawrence Fm Lone Rock (Franconia) Fm	Cambrian confining beds	Dolostone, silty	Non-aquifer	0 – 400	503 – 508 m.y.
				Fine, sandstone, siltstone, shale, and minor dolostone			
		Wenowoc (incl Ironton-Galesville sandstone) Fm Eau Claire Fm Mt. Simon Sandstone	Dresbach aquifer	Sandstone	Artesian aquifer, large yields	0 – 1,950	508 – 515 m.y.
				Fine sandstone, siltstone, and shale			
				Sandstone			
Pre-C		Undifferentiated crystalline rocks	Unknown	Igneous and metamorphic rocks	Unknown	Unknown	570 m.y. – > 2 billion years

*Age determinations as used on COSUNA charts published by AAPG-USGS

Source: "Water Resources of Southeast Iowa," Iowa Geologic Survey Water Atlas No. 4.

I:\25215053\Data\Tables\Table 2_Regional Hydrogeologic Stratigraphy.doc

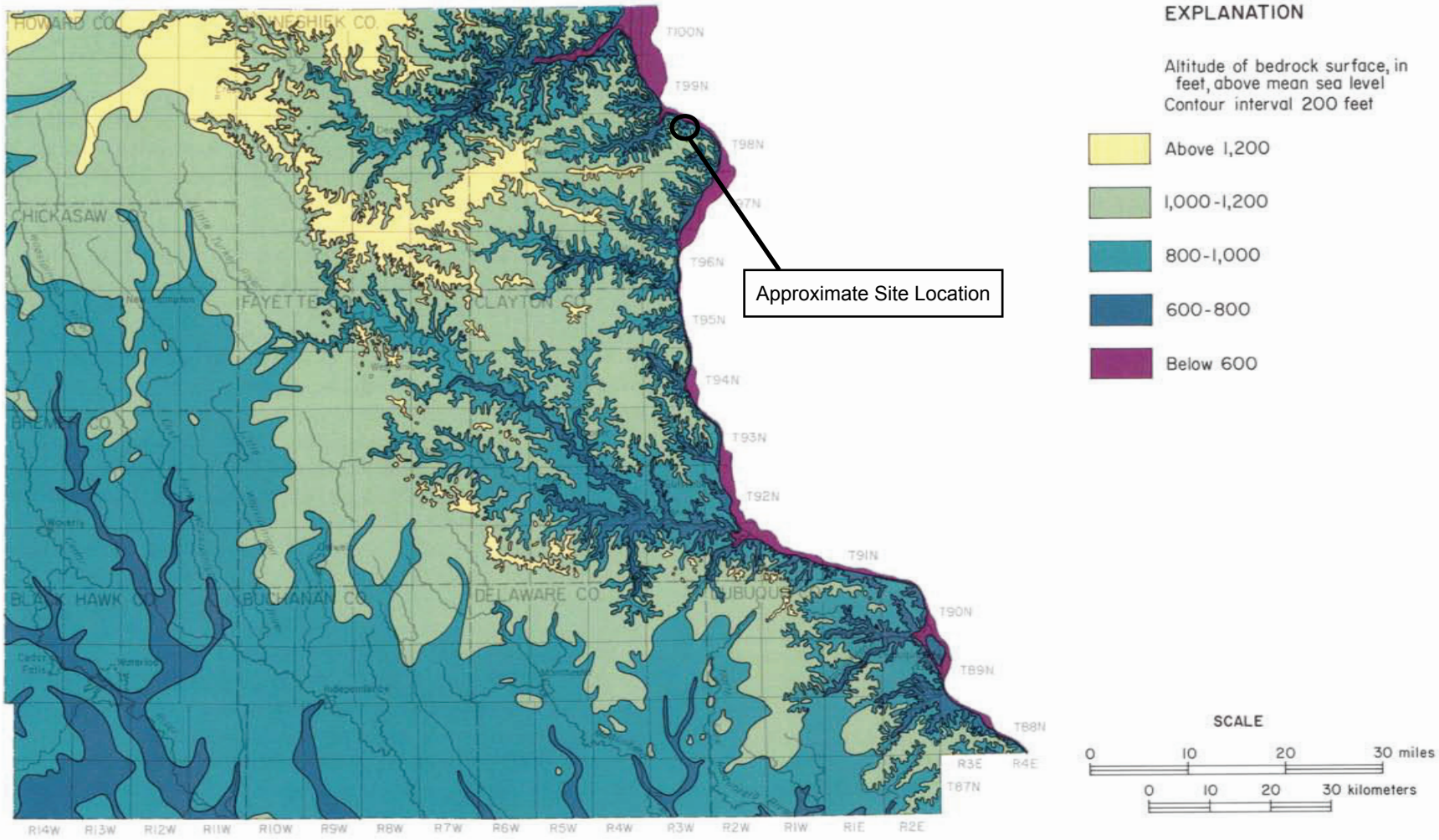


Figure 30. Altitude and configuration of the bedrock surface

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

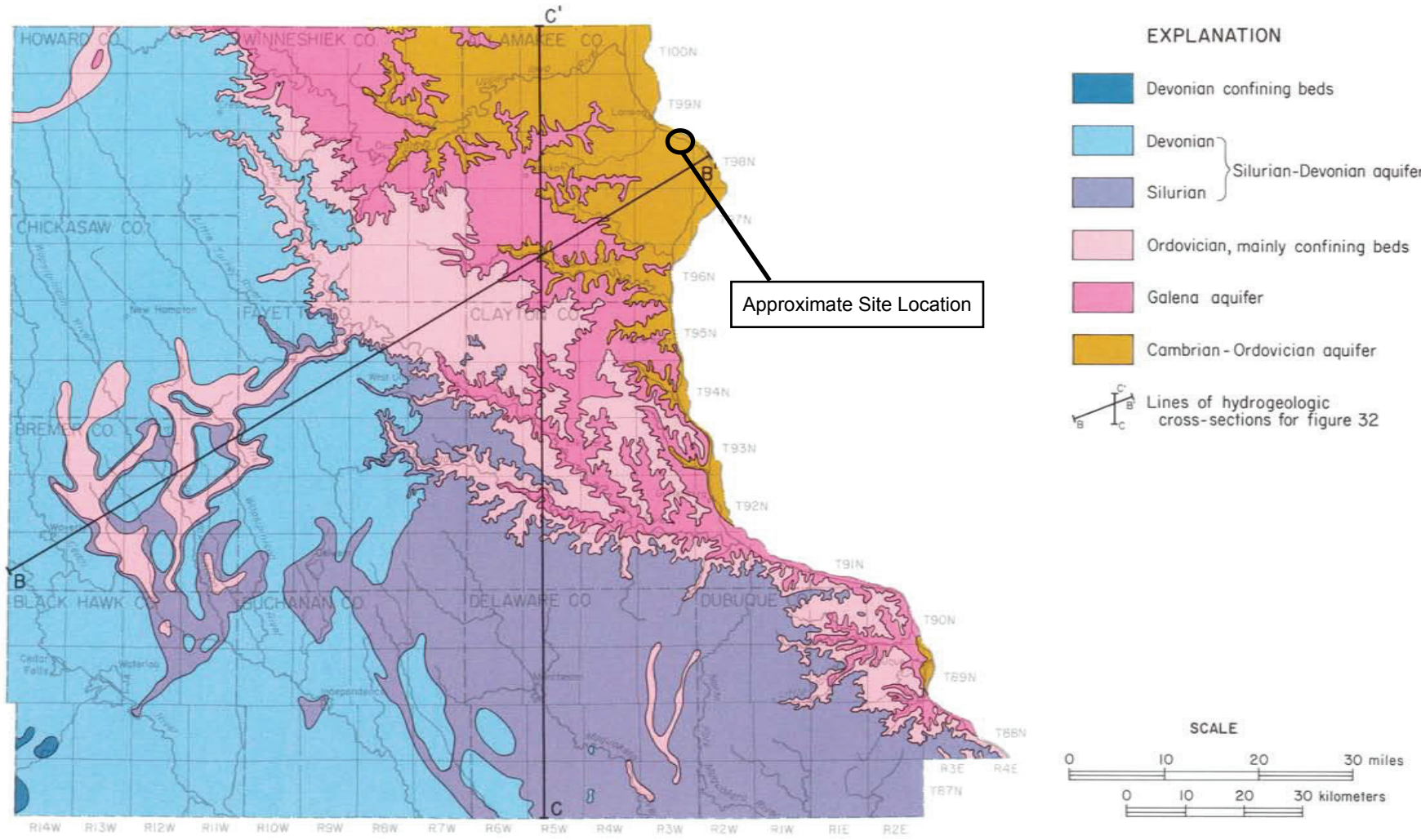


Figure 31. Bedrock hydrogeologic map

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

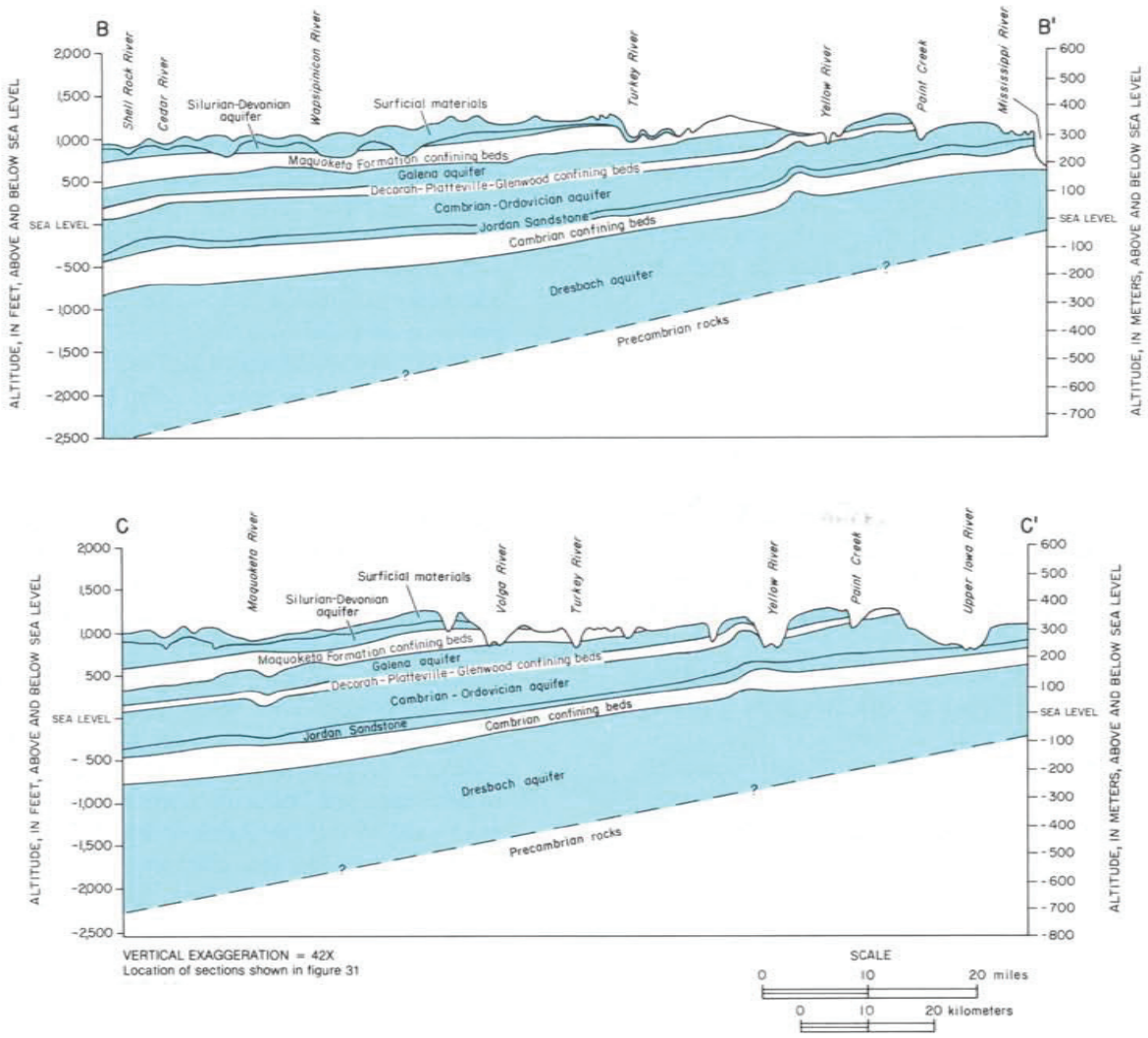


Figure 32. Hydrogeologic cross-sections

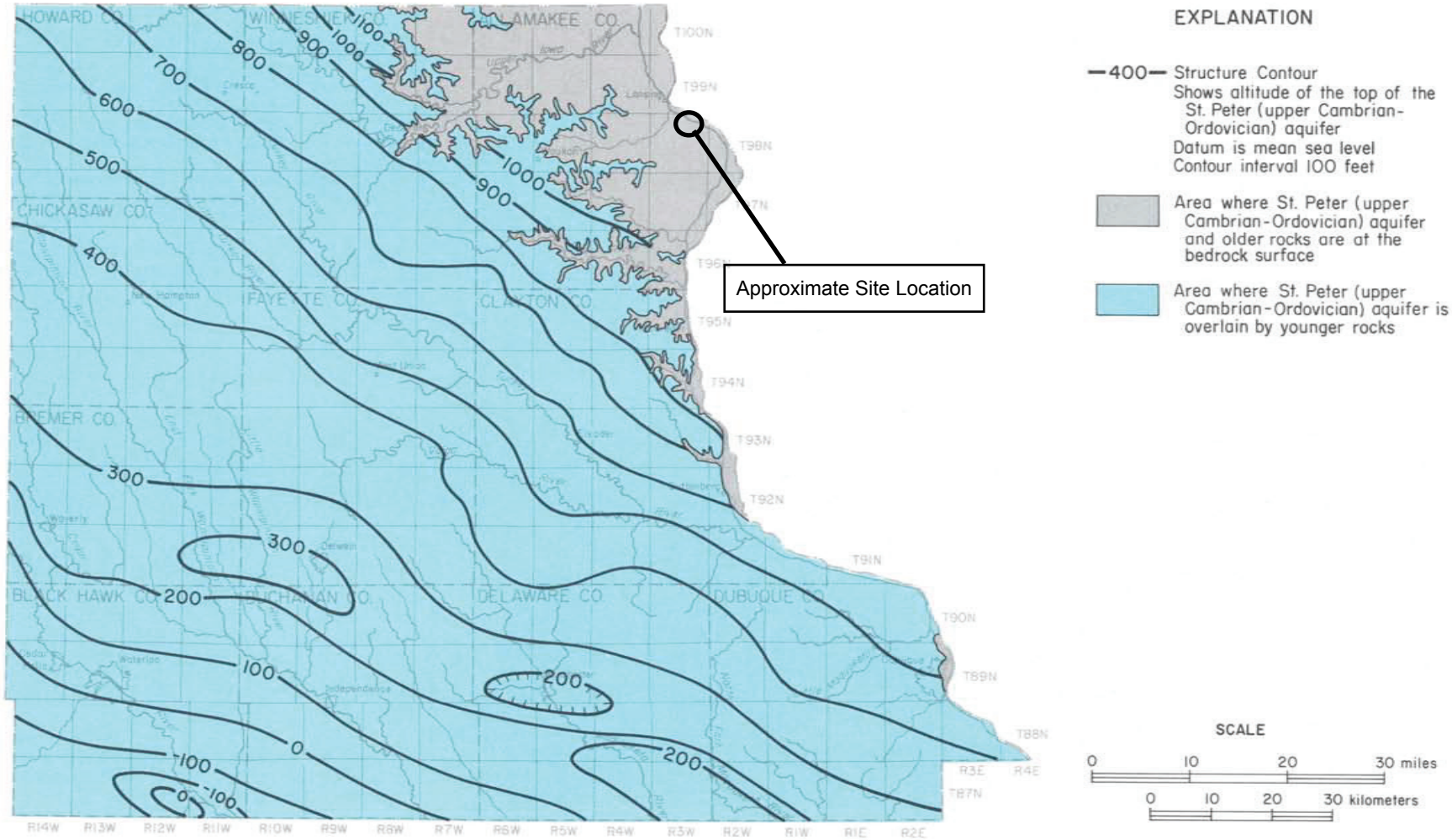


Figure 38. Altitude of the top of the St. Peter (upper Cambrian-Ordovician) aquifer

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

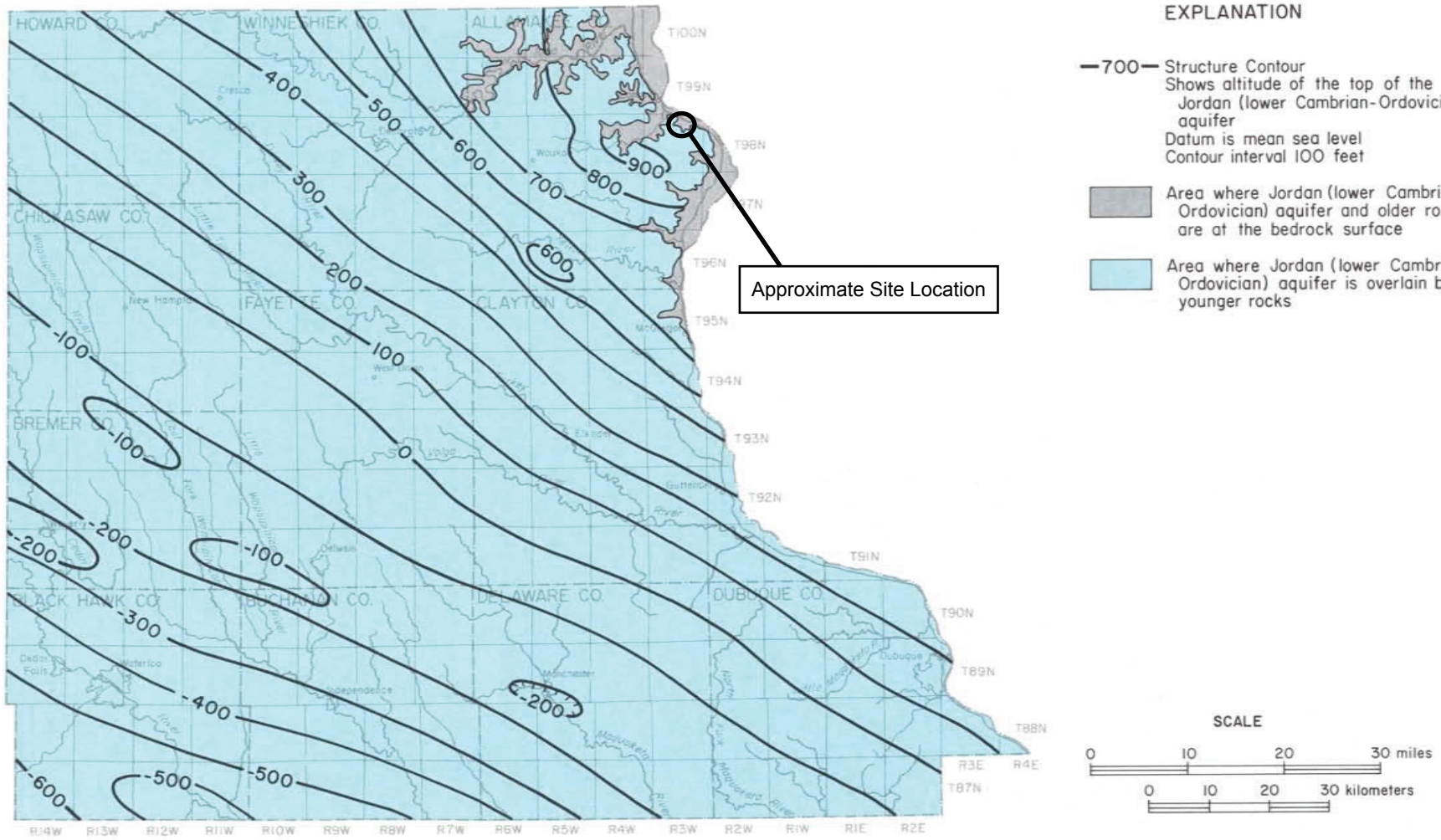


Figure 39. Altitude of the top of the Jordan (lower Cambrian-Ordovician) aquifer

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

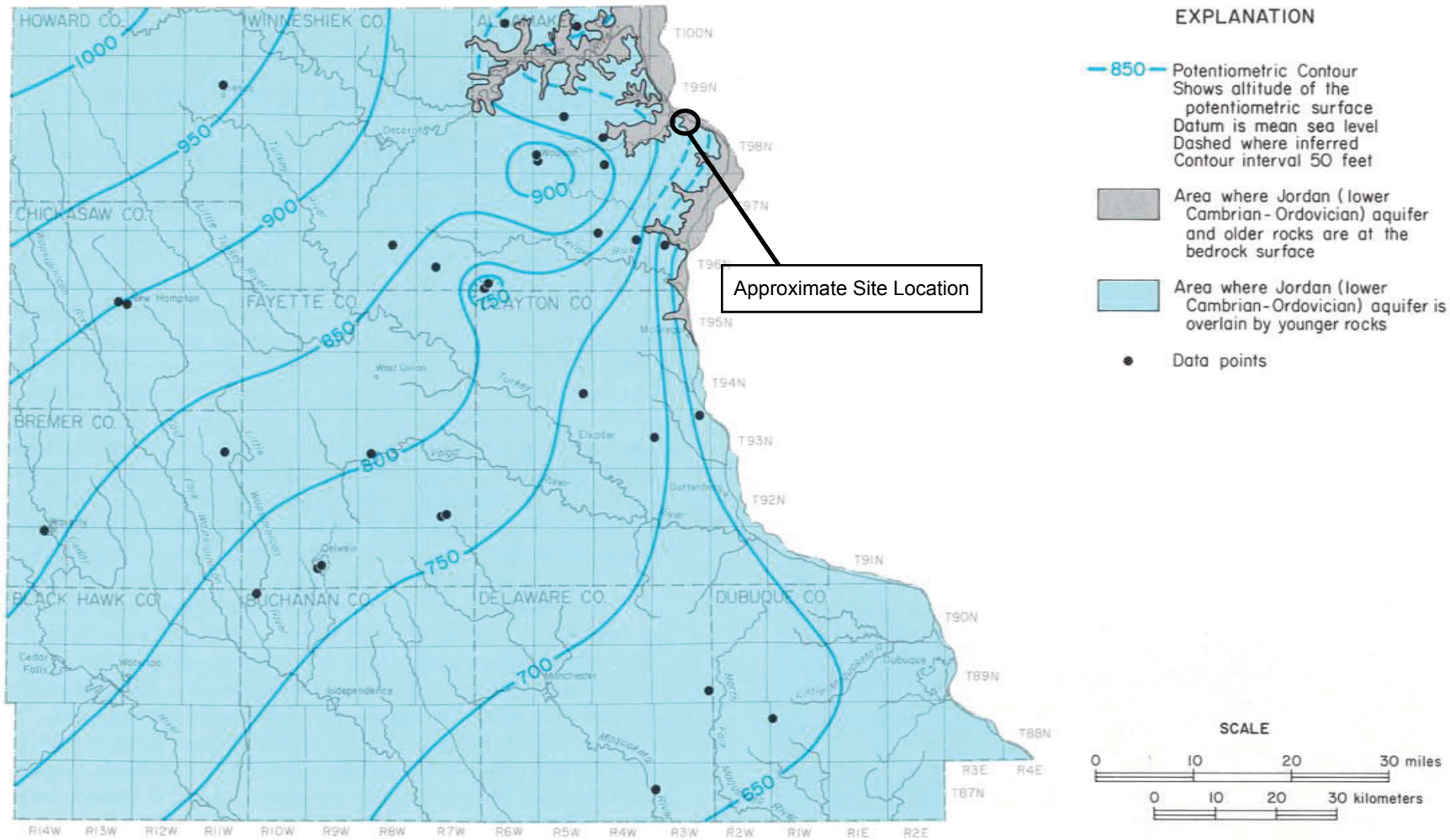


Figure 56. Potentiometric surface of the Jordan (lower Cambrian-Ordovician) aquifer

Source: Horick, Paul J., Water Resources of Northeast Iowa, Iowa Department of Natural Resources Water Atlas Number 8, October

Appendix D

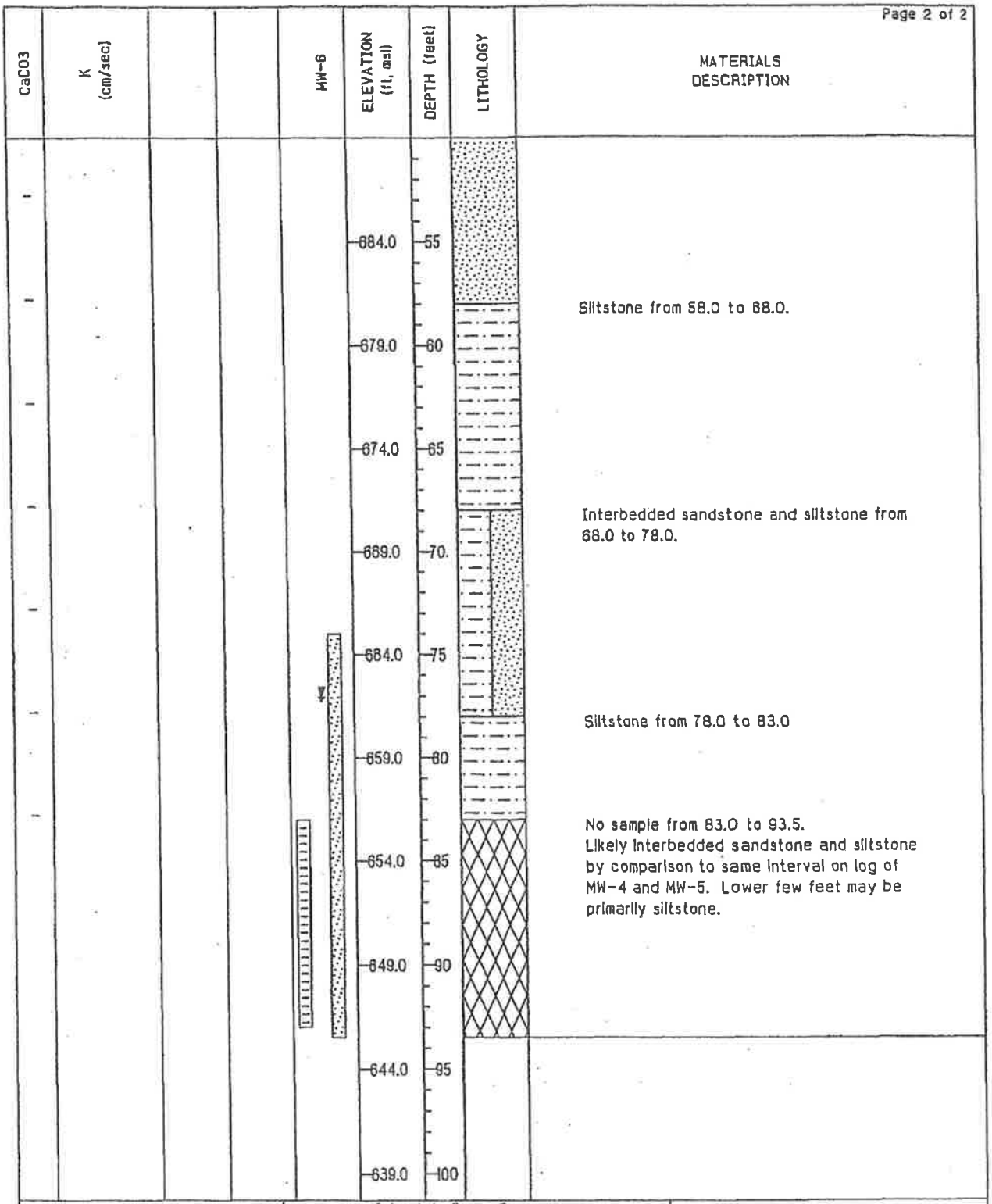
Boring Logs

CaCO3	K (cm/sec)			MW-6	ELEVATION (ft, msl)	DEPTH (feet)	LITHOLOGY	MATERIALS DESCRIPTION
					734.0	5		0.0 to 6.0 SILT Topsoil developed in silt from 0.0 to 1.5. Topsoil is dark brown. Clayey silt, trace sand is loess or colluvium (slopewash) derived from loess. Medium brown, changing gradually to yellow brown below 5.0.
					729.0	10		6.0 to 37.0 TALUS Light brown sandy silt with dolomite chunks.
					724.0	15		
					719.0	20		
					714.0	25		
					709.0	30		
					704.0	35		
					699.0	40		37.0 to 93.5 INTERBEDDED SANDSTONE AND SILTSTONE Sandstone is fine-grained, with quartz silt matrix, glauconitic. Siltsone contains minor amount of very fine quartz sand and glauconite. Sandstone is laminated light greenish gray with creamy color. Siltstone is light greenish gray. Sandstone from 37.0 to 58.0.
					694.0	45		
					689.0	50		

Howard R. Green Company
CONSULTING ENGINEERS

PROJECT Interstate Power Company
PROJECT NUMBER 717680-J
SURFACE ELEVATION 739.3 Feet MSL
TOTAL DEPTH OF HOLE 93.5 Feet

LOG OF MW-6
LOCATION Lansing, Iowa
GEOLOGIST Barbara Torney



Howard R. Green Company
CONSULTING ENGINEERS

PROJECT Interstate Power Company
PROJECT NUMBER 717680-J
SURFACE ELEVATION 739.3 Feet MSL
TOTAL DEPTH OF HOLE 93.5 Feet

LOG OF MW-6

LOCATION Lansing, Iowa
GEOLOGIST Barbara Torney

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name: IPL- Lansing Generating Station SCS#: 25215135.70	License/Permit/Monitoring Number:	Boring Number: B-301		
Boring Drilled By: Name of crew chief (first, last) and Firm: Mike Mueller, Cascade Drilling	Date Drilling Started: 11/2/2015	Date Drilling Completed: 11/2/2015	Drilling Method: hollow stem auger	
Unique Well No.:	DNR Well ID No.:	Common Well Name: MW-301	Final Static Water Level: Feet	Surface Elevation: 639.4 Feet
Borehole Diameter: 8.0 in				

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,744 N, 5,541,108 E S/C/N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location: ☐ N ☐ E; Feet ☐ S; Feet ☐ W

Facility ID: | County: Allamakee | Civil Town/City/ or Village: Lansing

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	Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0–4.5	POORLY GRADED SAND, medium grained, very dark gray brown (10YR 3/2).	SP									
S1	23	10 31 38 48	2–4							M				
S2	24	32 47 50	4.5–7	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/4).	SP-SM					M				
S3	22	18 33 47 43	7–9.5	POORLY GRADED SAND WITH SILT AND GRAVEL, medium grained sand, large grained gravel, dark yellowish brown (10YR 3/6).	SP-SM					M				
S4	24	36 46 50	9.5–15	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/6).						S				Water @ 10 ft bgs
S5	22	13 9 7 10	12–14		SP-SM					S				

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

Signature: [signature]

Firm: SCS Engineers
2830 Dairy Drive Madison, WI 53718
Tel: 608-224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-301

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S6	20	3 2 4	16	SILT, black (10YR 3/1).	ML					S				
			17											
S7	24	2 2 2 2	18	SILT WITH SAND, black (10YR 3/1).	ML					S				
			19											
S8	24	2 2 4	20	POORLY GRADED SAND WITH SILT, black (10YR 3/1).	SP-SM					S				
			21											
			22											
S9	24	2 9 12 14	23	SILT, dark olive gray (5Y 3/2).	ML					S				
			24											
			25											
			26	End of Boring at 26 ft bgs.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL- Lansing Generating Station SCS#: 25215135.70		B-302

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mueller Cascade Drilling	11/4/2015	11/4/2015	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-302	Feet	635.9 Feet	8.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,929 N, 5,541,179 E S/C/N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, medium grained, dark grayish brown (10YR 4/2).										
S1	24	6 14 17 19	2 3 4		SP					M				
S2	24	26 45 50	5 6	SANDY SILT, trace small gravel, black (10YR 3/1).						M				
S3	24	12 13 10 8	7 8 9							M				
S4	11	9 11 13 12	10 11	Large gravel	ML					S				Saturation @ 11 ft bgs
S5	8	32 23 30 36	12 13 14	Large gravel						S				
			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 53718

Tel: 608-224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-302

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S6	24	5 5 6 8	16	SANDY SILT, trace small gravel, black (10YR 3/1). *(continued)*	ML					S				
			17											
S7	18		18	Silt, Black (10YR 3/1).	ML					S				
			19											
			20	End of Boring at 20 ft bgs.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL- Lansing Generating Station SCS#: 25215135.70		B-303

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mueller Cascade Drilling	11/2/2015	11/2/2015	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-303	Feet	653.9 Feet	8.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,857 N, 5,541,622 E S/C/N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	SILTY SAND, very dark gray (5Y 3/1).	SM									
S1	24	5 16 17 24	3	POORLY GRADED SAND, medium grained, dark grayish brown (10 YR 4/2).	SP					M				
S2	24	11 8 10	6							M				
S3	24	11 38 50	8	POORLY GRADED SAND , medium grained, grayish brown (2.5Y 5/2).						M				
S4	18	16 35 50	11		SP					M				
S5	16	27 50 50	13							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 53718

Tel: 608-224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-303

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S6	0	38 50	16	POORLY GRADED SAND , medium grained, grayish brown (2.5Y 5/2). *(continued)*						M				Rock in Spoon
			17		SP									
S7	18	17 25 40 47	18							S				Saturation @17 ft bgs.
			19											
			20	POORLY GRADED SAND, medium grained, very dark gray (5Y 3/1).										
S8	17	37 48 44	21							S				
			22											
S9	18	11 24 26 27	23		SP					S				
			24											
			25											
S10	24	37 50	26							S				
			27	End of Boring at 27 ft bgs.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL Lansing Generating Station SCS#: 25218221.00		MW304

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Eric Wetzel Roberts Environmental Drilling, Inc.	5/15/2019	5/15/2019	4.25" HSA

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW304	623.61 Feet MSL	635.5 Feet MSL	8.5 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,893 N, 5,540,876 E S/C/N
SE 1/4 of NE 1/4 of Section 3, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	12	3 6 3 3	1–2	SILT, mottled, (10YR 3/2), some black coal looking material.	ML					M				
	18	1 2 2 1	3–4	LEAN CLAY, (10YR 4/3), soft, some organic material.	CL					W				
	12	2 2 3 2	5–6	SILT, (10YR 2/2), uniform, trace fine sand and clay.	ML					M				
	18	1 1 3 2	7–8							W				
	18	1 2 1 1	9–10	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial).	SP					W				
	12	0 0 1 1	11–12							W				
	12	0 0 1 1	13–14							W				
			15											

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

Signature for Zach Watson
Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718
Tel:
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW304

Sample: Number and Type	Sample: 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
		0 0 1 1	16	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial). *(continued)*						W				
			17	Same as above but more coarse, (2.5YR 5/4), trace silt.	SP									
		2 5 6 6	18							W				
			19											
			20	End of Boring at 20 feet.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL Lansing Generating Station SCS#: 25218221.00		MW305

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Eric Wetzel Roberts Environmental Drilling, Inc.	5/16/2019	5/16/2019	4.25" HSA

Unique Well No	DNR Well ID No	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW305	629.12 Feet MSL	631.8 Feet MSL	8.5 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,109 N, 5,541,533 E S/C/N
SE 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 9.5 feet.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	FAT CLAY, dark greenish gray, (GLEY 13/10Y), soft, trace red sand, wood pieces and roots.										
	24	1 1 1 1	11							W				
			12		CH									
	24	0 0 0 2	13							W				
			14	Sand seams at 13.5 and 14.5 feet.										
			15											

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

Signature for Zach Watson

Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718

Tel:
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW305

Sample									Soil Properties					
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	Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				FAT CLAY, dark greenish gray, (GLEY 13/10Y), soft, trace red sand, wood pieces and roots. *(continued)*	CH					W				
			16	End of Boring at 16 feet.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL Lansing Generating Station SCS#: 25218221.00		MW306

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Eric Wetzel Roberts Environmental Drilling, Inc.	5/16/2019	5/16/2019	4.25" HSA

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW306	623.05 Feet MSL	636.7 Feet MSL	8.5 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,977 N, 5,541,203 E S/C/N
NE 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–15	Hydrovaced to 12 feet.										
	12	1 2 4 3	12–13	POORLY GRADED SAND, medium to coarse, rusty in color, (10YR 4/6), trace fine silt.	SP					W				

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

Signature for Brad Watson

Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718

Tel:
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW306

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	18	1 2 2 4	16	POORLY GRADED SAND, medium to coarse, rusty in color, (10YR 4/6), trace fine silt. *(continued)* Same as above but gray, (10YR 4/2).						W				
	18	1 1 2 2	17							W				
			18											
	18		19							W				
			20		SP									
	18		21							W				
			22											
	18	3 1 2 2	23							W				
			24											
	18	2 1 3 2	25							W				
			26	End of Boring at 26 feet.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL - Lansing Generating Station SCS#: 25218221.00		MW-302A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	12/16/2019	12/17/2019	Rotosonic

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			13.01 Feet	636.2 Feet	6 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3957930.08 N, 5541186.04 E S / C / N
SW 1/4 of NW 1/4 of Section 02 , T 98 N, R 03 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–8	Hydrovac to 9' to check for utilities.										
S1	46"		9–10	POORLY GRADED SAND with silt, clay and trace gravel, dark gray.	SP					W				
			11–12	SILT, gray, trace gravel.	ML									
S2	39"		13–15	SILTY GRAVEL WITH SAND, gray, sand is fine to medium grained, gravel is subangular to angular.	GM					W				
			16											

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

Signature	Firm	Tel:
	SCS Engineers	Fax:

Boring Number MW-302A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			17	SILTY GRAVEL WITH SAND, gray, sand is fine to medium grained, gravel is subangular to angular. *(continued)*	GM									
			18	SILT, dark gray, trace roots.										
			19											
			20		ML									
S3	48"		21							W				
			22	LEAN CLAY, dark gray, roots.										
			23											
			24											
			25		CL									
S4	40"		26	Same but dark brown.						W				
			27											
			28											
			29	SILTY SAND, gray to dark gray, fine to medium grained.										
			30		SM									
			31	LEAN CLAY, tan with yellow to brown mottling and gray layers, trace silt.										
S5	48"		32		CL					W				
			33	LEAN CLAY, reddish brown, massive, very dense.										
			34											
			35		CL									
			36	LEAN CLAY, gray.										
S6	48"		37							W				
			38		CL									
			39	POORLY GRADED SAND, brown, fine to medium grain, trace gravel.										
			40											
			41		SP									
S7	48"		42	Same with trace shells						W				

Boring Number MW-302A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			43	POORLY GRADED SAND, brown, fine to medium grained, trace gravel. *(continued)*	SP									
			44	SILTY GRAVEL, light brown, subangular.	GM									
			45											
			46	LEAN CLAY, mostly light brown, trace gray, trace silt.										
S8	48"		47		CL					W				
			48											
			49	SILTY GRAVEL WITH SAND, light brown, gravel is subangular.	GM									
			50	End of boring at 50 feet.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL - Lansing Generating Station SCS#: 25218221.00		MW-304A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	12/18/2019	12/19/2019	Rotosonic

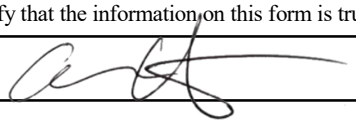
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			10.7 Feet	635.6 Feet	6 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3957884.99 N, 5540876.5 E S / C / N
SE 1/4 of NE 1/4 of Section 03 , T 98 N, R 03 W
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovac to 9' to check for utilities.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	SILT, grayish brown, toots and sticks.	ML									
			11	POORLY GRADED SAND WITH SILT AND GRAVEL, fine to medium grained, reddish brown.										
S1	49"		12		SP-SM					W				
			13											
			14	POORLY GRADED SAND, reddish brown, fine to medium grained.										
			15		SP									
			16											

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:

Boring Number MW-304A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			17	POORLY GRADED SAND, reddish brown, fine to medium grained. *(continued)*										
S2	21"		18							W				
			19		SP									
			20	Same but light brown, mostly fine grained.										
			21											
			22											
S3	59"		23							W				
				SANDY SILT, brown, fine grained.										
			24											
			25											
			26		ML									
			27											
S4	24"		28							W				
			29											
			30	SILTY SAND, light brown, fine grained.										
			31											
			32											
S5	30"		33		SM					W				
			34											
			35											
			36	POORLY GRADED SAND, light brown, fine to medium grained.										
			37											
S6	57"		38							W				
			39		SP									
			40											
			41											
				POORLY GRADED SAND, orange, fine grained.	SP									
			42	SANDY SILT WITH GRAVEL, sand is fine grained.	ML									

Boring Number MW-304A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S7	54"		43 44	SANDY SILT WITH GRAVEL, sand is fine grained.*(continued)*	ML					W				
S8	9"		45 46	POORLY GRADED SAND, light brown, fine grain, trace coarse grained.	SP					W				
S9	48"		47 48 49 50 51	SANDY SILT WITH GRAVEL, light brown with trace yellow, fine grained. End of boring at 51 feet.	ML					W				

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL - Lansing Generating Station SCS#: 25218221.00		MW-306A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	12/17/2019	12/18/2019	Rotosonic

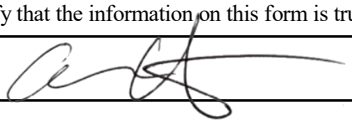
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			16.3 Feet	636.7 Feet	6 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3958980.99 N, 5541196.46 E S / C / N
NE 1/4 of NW 1/4 of Section 02, T 98 N, R 03 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Allamakee	Lansing

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			1	Hydrovac to 9' to check for utilities.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	POORLY GRADED SAND, reddish brown, trace shells, medium grained.										
			11											
			12											
S1	52"		13		SP					W				
			14											
			15											
			16											

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:

Boring Number MW-306A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			17	POORLY GRADED SAND, reddish brown, trace shells, medium grained. *(continued)*										
S2	56"		18		SP					W				
			19											
			20	POORLY GRADED SAND, gray, fine to medium grained, trace coarse grained and shells.										
			21											
			22											
S3	57"		23							W				
			24											
			25	Same, mostly medium grained with fine grained.										
			26											
			27											
S4	54"		28							W				
			29											
			30	Same, fine to medium grained with trace coarse grained.	SP									
			31											
			32											
S5	58"		33							W				
			34											
			35	Same with shell fragments.										
			36											
			37											
S6	53"		38							W				
			39											
			40											
			41	LEAN CLAY, dark gray, massive, very dense with roots and sticks.										
			42		CL									

Boring Number MW-306A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S7	58"		43	LEAN CLAY, dark gray, massive, very dense with roots and sticks. *(continued)*	CL					W				
			44	POORLY GRADED SAND, gray to dark gray, fine grained, trace coarse grain with shell fragments.										
			45											
			46											
			47		SP									
S8	52"		48							W				
			49											
			50	POORLY GRADED SAND, light gray, fine to medium grained.										
			51		SP									
			52	POORLY GRADED SAND, reddish tan, fine to medium grained with shell fragments.										
S9	58"		53							W				
			54		SP									
			55											
			56	End of boring at 56 feet.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-307

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		628.5 Feet	640.70 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,777 N, 5,541,269 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 2.56 "
Long -91 ° 10 ' 9.97 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–15	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
S1	60		10–15	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 4" layer of gray sand (10YR 5/1), shells and subroundd gravel.	SP					W				

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above , shells still present with more gray sand.	SP									
			17											
S2	60		18	SILT, dark gray to black (5Y 2.5/2), with trace very fine grained sand and gravel/cobbles.	ML				0.75	W/M				
			19											
			20	Same as above but gray (5Y 4/1).										
S3	12		21							W/M				
				End of boring at 21' below ground surface.										
				Well placed from 20' with 10' screen at 20 to 10'.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-307A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		622.8 Feet	640.60 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,775 N, 5,541,261 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 2.54 "
Long -91 ° 10 ' 10.08 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–9	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
S1	60		10–15	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 8" layer of gray sand (10YR 5/1) with trace shells and sub-rounded gravel.	SP					M/W				

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S2	48		16–20		SP					W				
			20	SILT, dark gray, dark gray to black, (5Y 2.5/2) with fine grained sand and trace gravel.										
S3	60		21–25		ML				1.5-2.5	M				
			25	LEAN CLAY, black (5Y 2.5/1), soft.										
S4	60		26–30						0.75	W				
			30	Same as above but very soft with trace fine to medium grained sand.	CL									
S5	60		31–35						0.0	M/W				
			35	POORLY GRADED GRAVEL WITH SAND, fine to coarse gravel, sub-rounded to sub-angular, sand is fine to coarse grained, dark brownish gray (2.5Y 4/2) with trace silt.										
S6	24		36–40		GP				0.0	W				

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307A

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			41		GP									
			41	SILT, dark gray (5Y 3/1), with trace sand, gravel and cobbles.	ML									
S7	56		42	WELL GRADED SAND, fine to medium grained, yellow (2.Y 7/6) with gravel and pieces of shell.	SW				0.0	W				
			43	SILT, dark gray (5Y 4/1) and transitions to olive brown (2.5Y 4/4), very soft.	ML									
			44											
			45	POORLY GRADED SAND, fine to medium grained, light olive brown (2.5Y 5/4) with trace silt.	SP									
			46											
			47	SANDY SILT, light olive brown (2.5Y 5/3), very soft, sand is fine to medium grained.	ML									
			48	SILTY SAND, fine to coarse grained, olive yellow (2.5Y 6/8).	SM									
S8	70		49	POORLY GRADED GRAVEL WITH SAND AND SILT, coarse gravel, sand and silt are light olive brown (2.5Y 5/4), sand is fine to coarse grained.	GP-GM				0.0	W				
			50	SANDY SILT WITH GRAVEL, gray to dark gray (2.5Y 4/1), sand is fine to coarse grained, gravel is coarse, sub-rounded with trace cobbles, very soft.	ML									
			51											
			52	End of boring at 52' below ground surface.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-308

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/22/2021	6/22/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		618.8 Feet	635.70 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,236 N, 5,541,333 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 7.07 "
Long -91 ° 10 ' 8.94 "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			1	Hydrovaced to 8 feet below ground surface and blind drilled the from 8 to 10'.										Blind drilled 2 ft of slough from 8 to 10' bgs.
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	WELL SORTED SAND, fine to coarse grained, very dark grayish brown (10YR 3/2).	SW									
			11	SILT, gray to dark gray (2.5Y 3/2) with sticks, roots, and trace sand throughout, very soft.										
			12											
S1	60		13		ML				0.0	W				
			14											
			15											

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-308

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above but with trace roots, no sticks, and pockets of sand, very sort.										
			17											
S2	60		18		ML				0.0	W				
			19											
			20	Same as above but very trace roots.										
S3	40		21	SANDY SILT, gray to dark gray, (2.5Y 3/2), no visible roots, very soft.	ML				0.0	W				slough in hole, actual recovery was ~2"
			22	End of boring at 22' below ground surface.										

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Lansing Generating Station SCS#: 25221161.00		MW-309

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Paul Dickinson Cascade Drilling	6/23/2021	6/23/2021	Roto-Sonic

DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		619.4 Feet	636.10 Feet	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,958,229 N, 5,541,010 E S / C / N
SW 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W
Lat 43° 20' 7.10"
Long -91° 10' 13.31"
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Allamakee		Lansing, Iowa

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 8' below ground surface.										
			1	Hole collapsed to 6' bgs.										
			2											
			3											
			4											
			5											
			6	WELL GRADED SAND, fine to coarse grained, grayish brown to brown (10YR 4/3) with trace coal (slough).										
S1	20		7		SP									Slough from 6 to 10 feet.
			8											
			9											
			10	SILT, dark gray to black (5Y 2.5/1) with trace roots, 4" layer of black organic soil with trace gravel and sticks.										
			11											
			12		ML-OL									
S2	60		13											
			14	SILTY SAND WITH GRAVEL, fine to coarse grained, gray to dark gray (5Y 4/1), gravel is										
			15		SM									

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

Signature	Firm	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-309

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	sub-rounded. SILT, dark gray (5Y 3/1), with roots and trace sticks, very soft.										
			17											
S3	60		18		ML									
			19											
			20	SANDY SILT, very dark gray (5Y 3/1) with roots, trace gravel and peices of limestone at bottom of sample, sand is fine to medium grain.										
			21											
			22											
S4	60		23		ML									
			24											
			25	End of boring at 25' below ground surface. Well placed from 22' with 10' screen at 22 to 12'.										

Appendix E

Molybdenum Lower Confidence Limit Evaluation

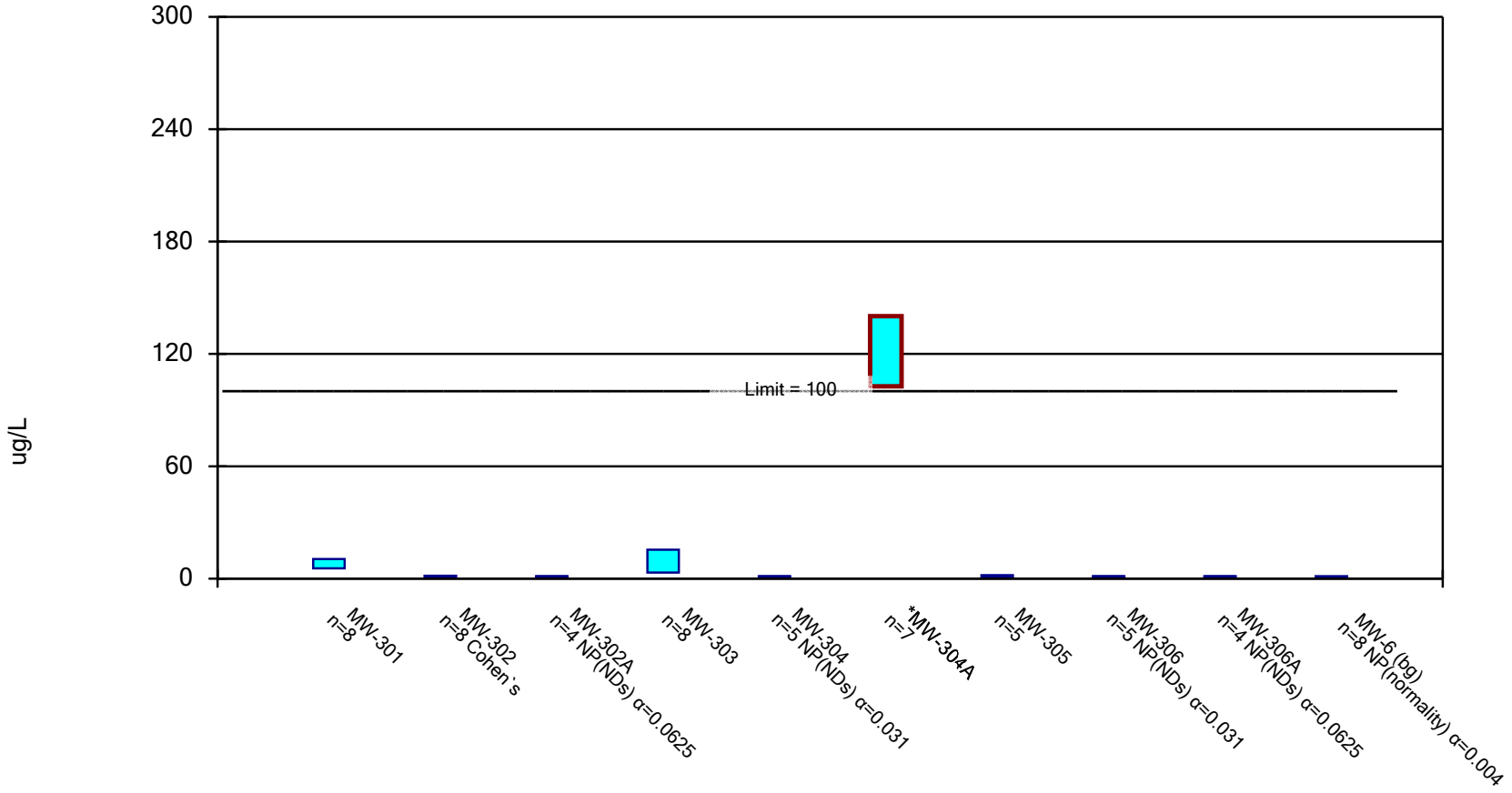
Confidence Interval

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev Printed 8/10/2021, 11:49 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Molybdenum (ug/L)	MW-301	10.45	5.47	100	No	8	0	No	0.01	Param.
Molybdenum (ug/L)	MW-302	1.54	0.7515	100	No	8	37.5	No	0.01	Param.
Molybdenum (ug/L)	MW-302A	1.3	1.1	100	No	4	100	No	0.0625	NP (NDs)
Molybdenum (ug/L)	MW-303	15.45	3.253	100	No	8	0	No	0.01	Param.
Molybdenum (ug/L)	MW-304	1.3	1.1	100	No	5	100	No	0.031	NP (NDs)
Molybdenum (ug/L)	**MW-304A**	**140.1**	**102.7**	**100**	**Yes**	**7**	**0**	**No**	**0.01**	**Param.**
Molybdenum (ug/L)	MW-305	1.828	0.892	100	No	5	60	No	0.01	Param.
Molybdenum (ug/L)	MW-306	1.3	1.1	100	No	5	100	No	0.031	NP (NDs)
Molybdenum (ug/L)	MW-306A	1.3	1.1	100	No	4	100	No	0.0625	NP (NDs)
Molybdenum (ug/L)	MW-6 (bg)	1.3	0.26	100	No	8	75	No	0.004	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 at Alpha = 0.05.



Constituent: Molybdenum Analysis Run 8/10/2021 11:48 AM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 8/10/2021 11:49 AM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A
4/16/2018	4.4	0.91 (J)		7.3					
4/26/2018									
8/7/2018	5.6	1.2		21.6					
10/8/2018	10.3	1.5		12					
4/15/2019	11	<1.1 (U)		6.2					
6/20/2019					<1.1 (U)		1.7 (J)	<1.1 (U)	
10/2/2019	10	1.4 (J)		9.8	<1.1 (U)		1.6 (J)	<1.1 (U)	
5/19/2020	8.1			3.1			<1.1 (U)	<1.1 (U)	<1.1 (U)
5/20/2020		<1.1 (U)	<1.1 (U)		<1.1 (U)	110			
7/6/2020			<1.1 (U)			140			<1.1 (U)
8/19/2020						140			
10/19/2020	7.5	<1.1 (U)	<1.1 (U)	10	<1.1 (U)	130			
10/20/2020							<1.1 (U)	<1.1 (U)	<1.1 (U)
2/23/2021						120			
4/7/2021									
4/8/2021	6.8			4.8					
4/9/2021		1.7 (J)	<1.3 (U)		<1.3 (U)	110	<1.3 (U)	<1.3 (U)	<1.3 (U)
7/12/2021						100			
Mean	7.963	1.251	1.15	9.35	1.14	121.4	1.36	1.14	1.15
Std. Dev.	2.351	0.26	0.1	5.752	0.08944	15.74	0.2793	0.08944	0.1
Upper Lim.	10.45	1.54	1.3	15.45	1.3	140.1	1.828	1.3	1.3
Lower Lim.	5.47	0.7515	1.1	3.253	1.1	102.7	0.892	1.1	1.1

Confidence Interval

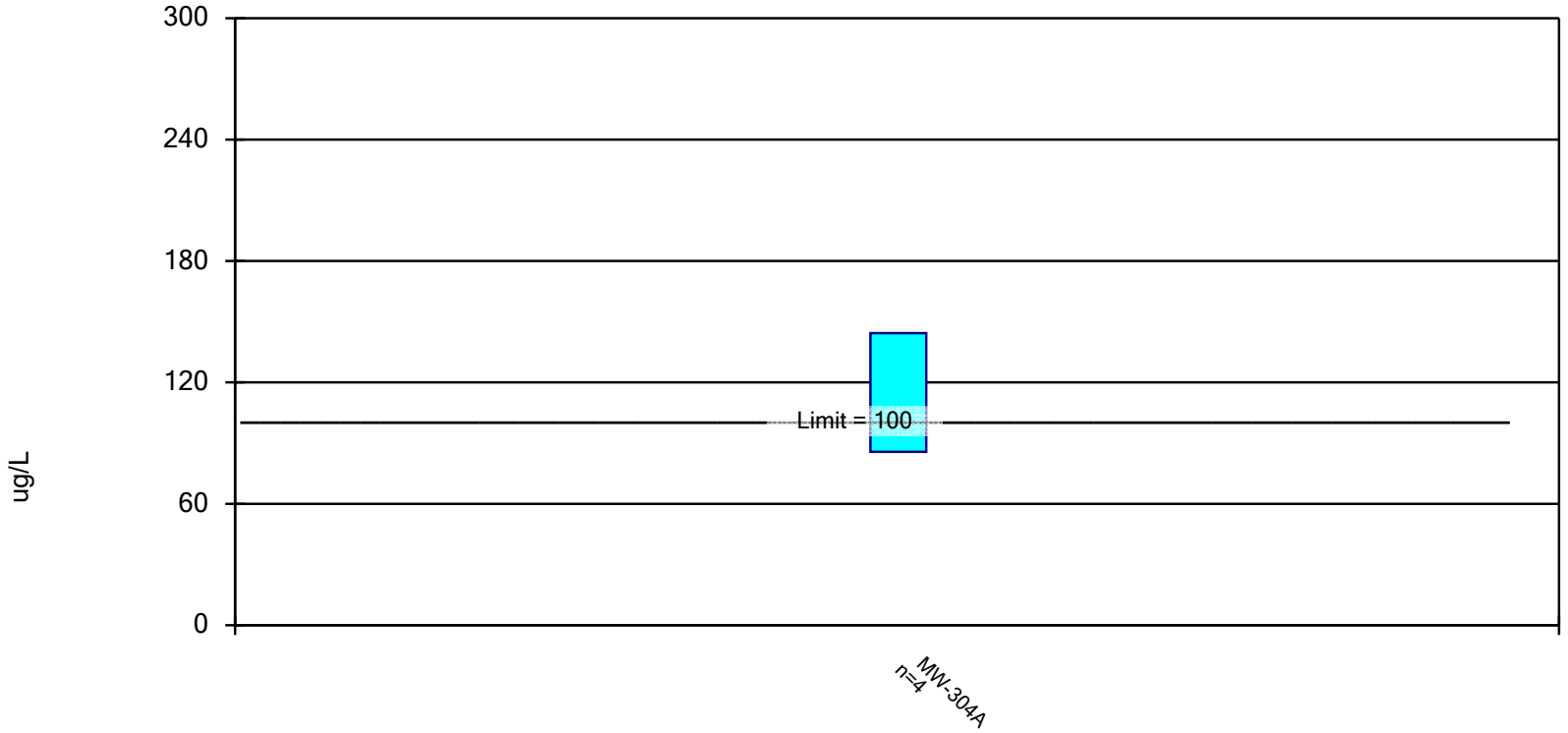
Constituent: Molybdenum (ug/L) Analysis Run 8/10/2021 11:49 AM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-6 (bg)
4/16/2018	
4/26/2018	0.26 (J)
8/7/2018	0.28 (J)
10/8/2018	<0.57 (U)
4/15/2019	<1.1 (U)
6/20/2019	
10/2/2019	<1.1 (U)
5/19/2020	
5/20/2020	<1.1 (U)
7/6/2020	
8/19/2020	
10/19/2020	
10/20/2020	<1.1 (U)
2/23/2021	
4/7/2021	<1.3 (U)
4/8/2021	
4/9/2021	
7/12/2021	
Mean	0.8513
Std. Dev.	0.4147
Upper Lim.	1.3
Lower Lim.	0.26

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.05.

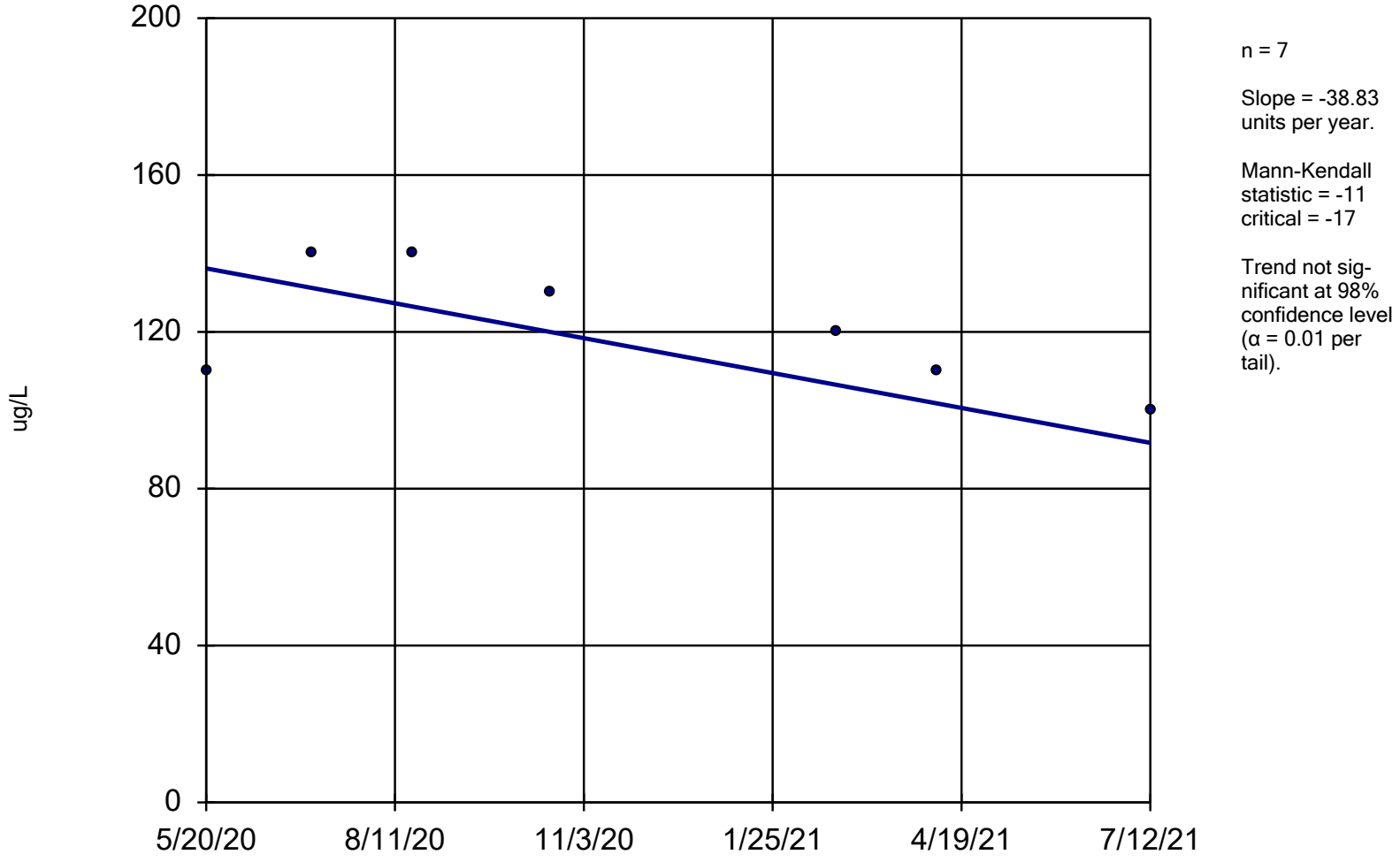


Constituent: Molybdenum Analysis Run 8/20/2021 3:11 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Molybdenum

MW-304A



n = 7

Slope = -38.83 units per year.

Mann-Kendall statistic = -11
critical = -17

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 8/20/2021 3:09 PM

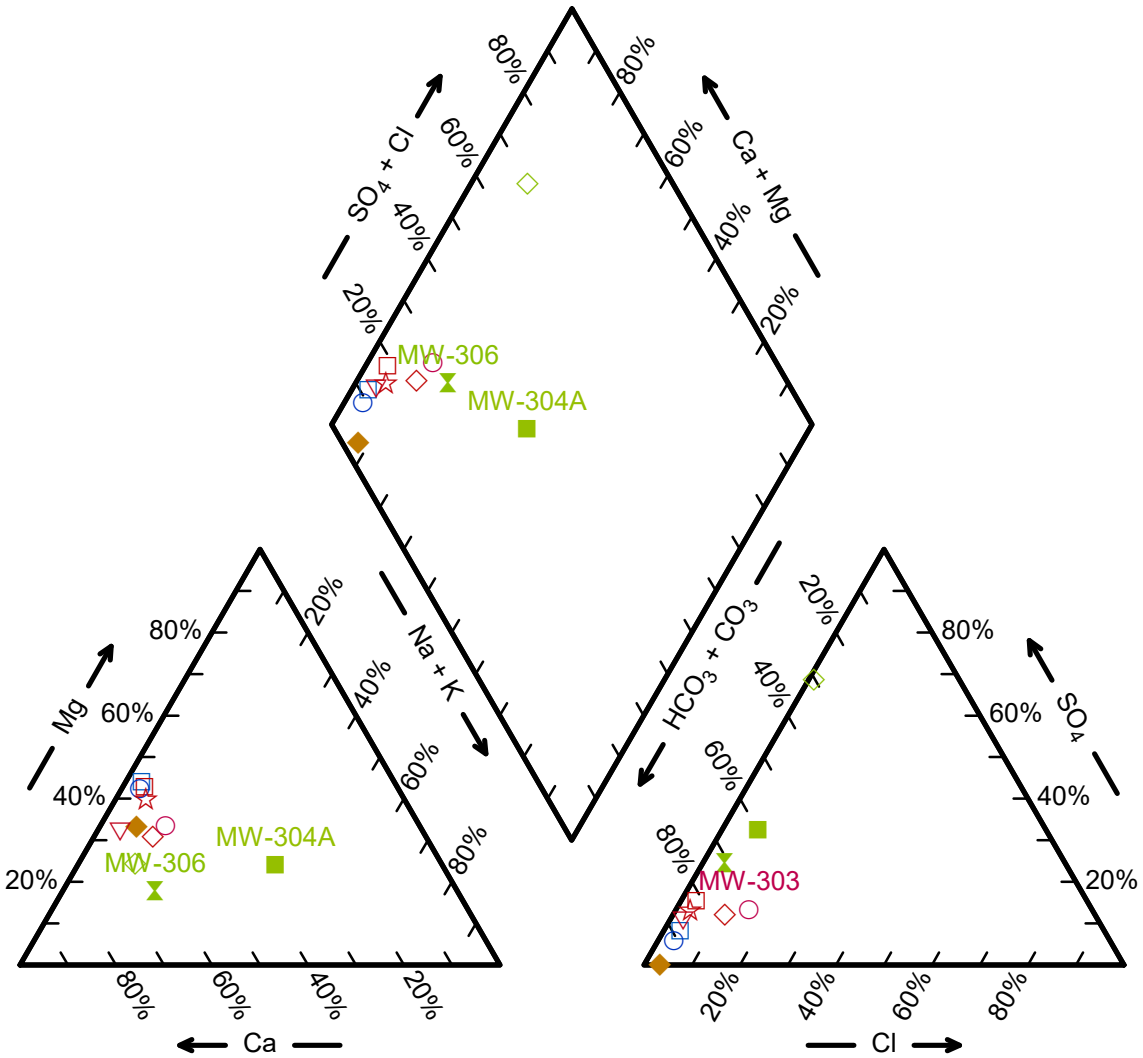
Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Appendix F

Stiff and Piper Diagrams

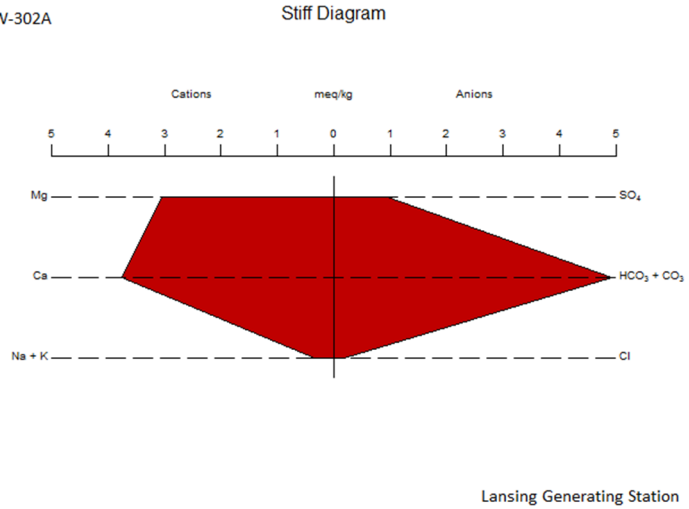
Lansing Generating Station
April 2021 Groundwater Results

Piper Diagram

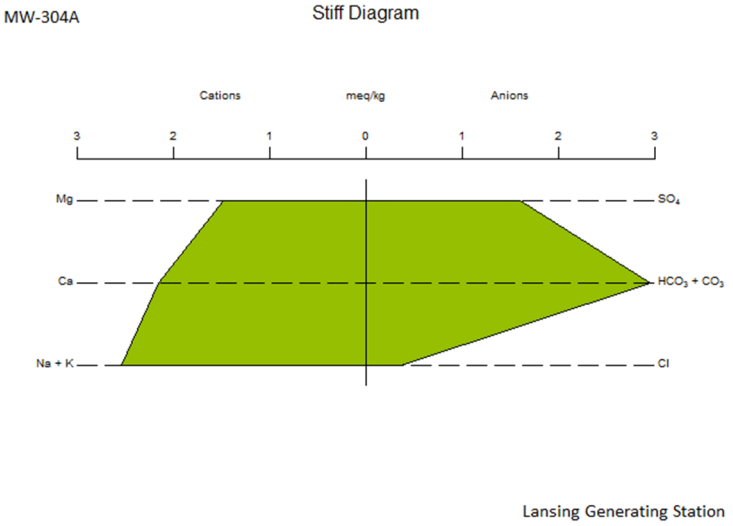


Stiff Diagrams – April 2021 Groundwater Results
Lansing Generating Station

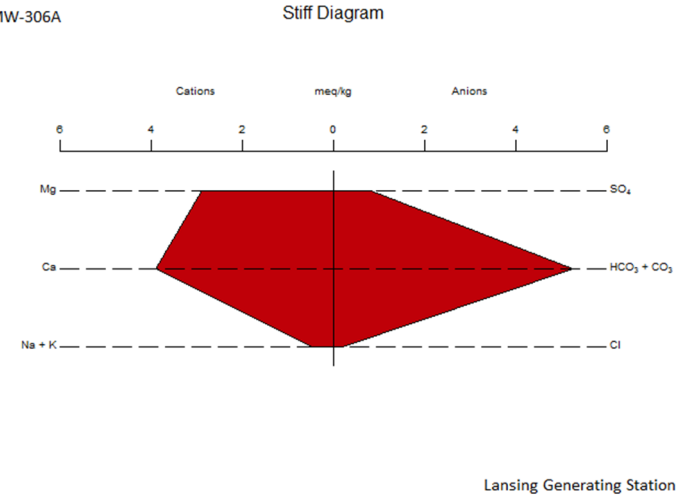
MW-302A



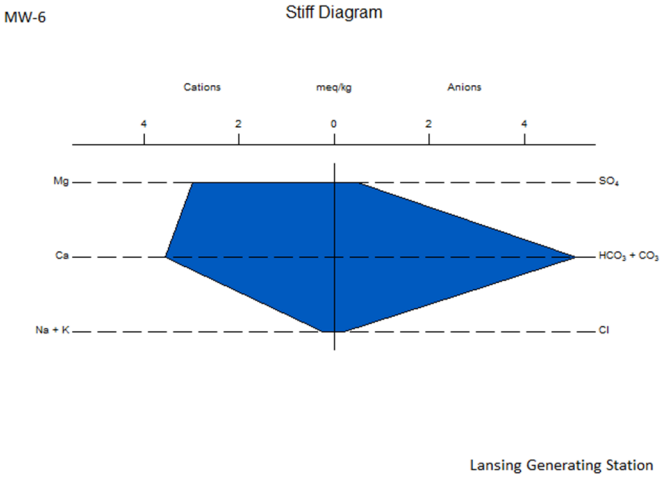
MW-304A



MW-306A

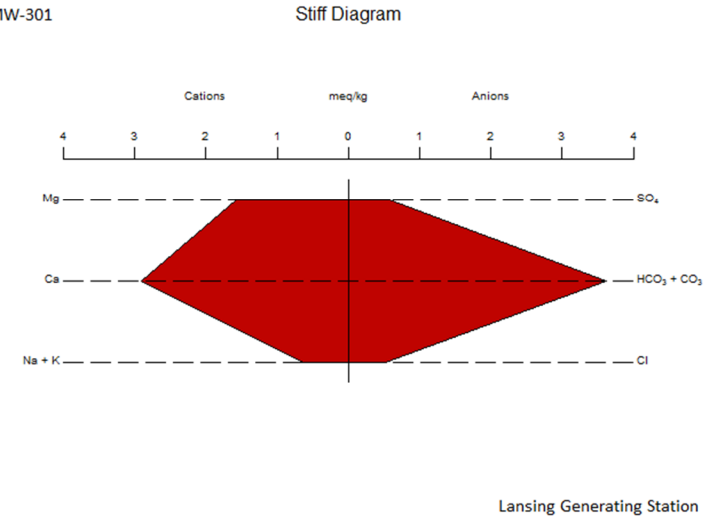


MW-6

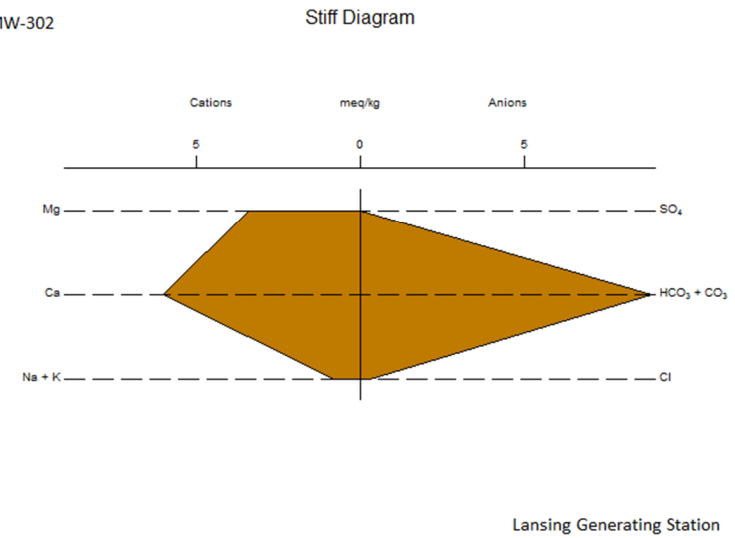


Stiff Diagrams – April 2021 Groundwater Results
Lansing Generating Station

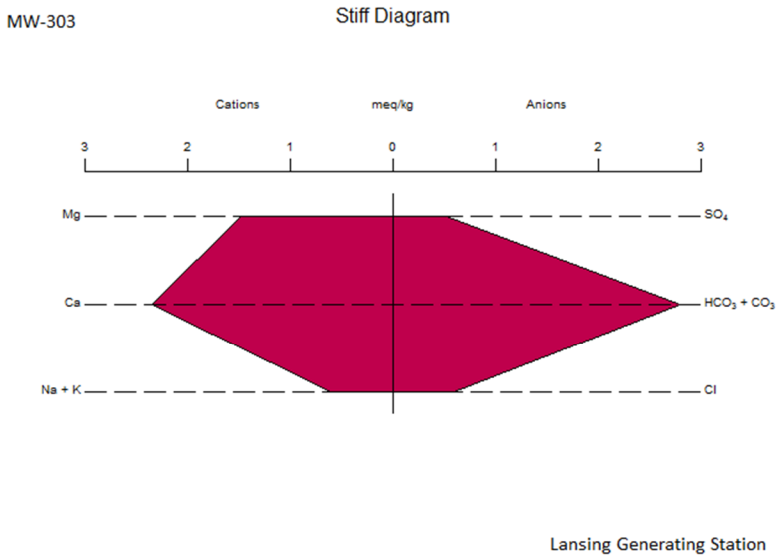
MW-301



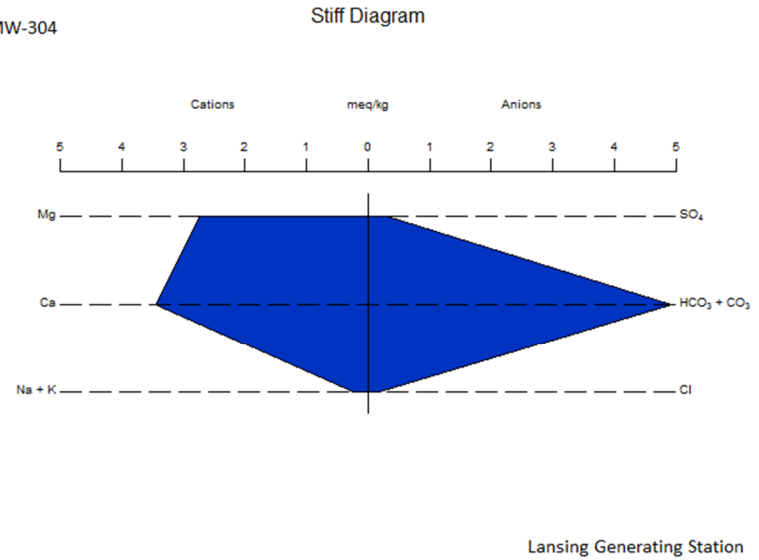
MW-302



MW-303

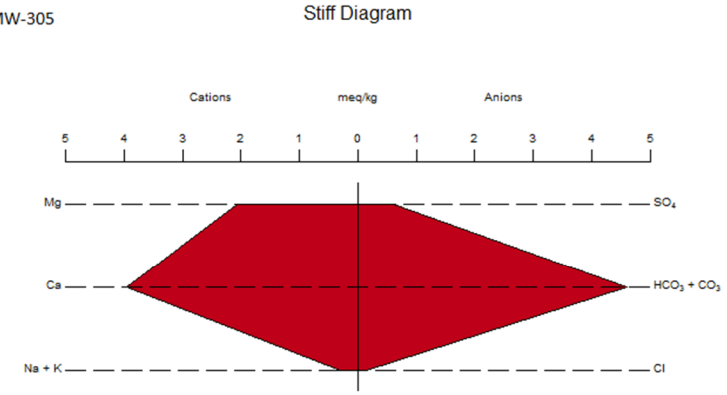


MW-304



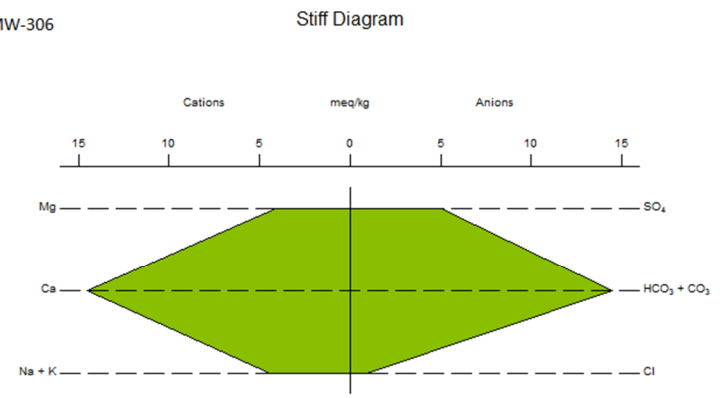
Stiff Diagrams – April 2021 Groundwater Results
Lansing Generating Station

MW-305



Lansing Generating Station

MW-306



Lansing Generating Station

Appendix F

Statistical Evaluation

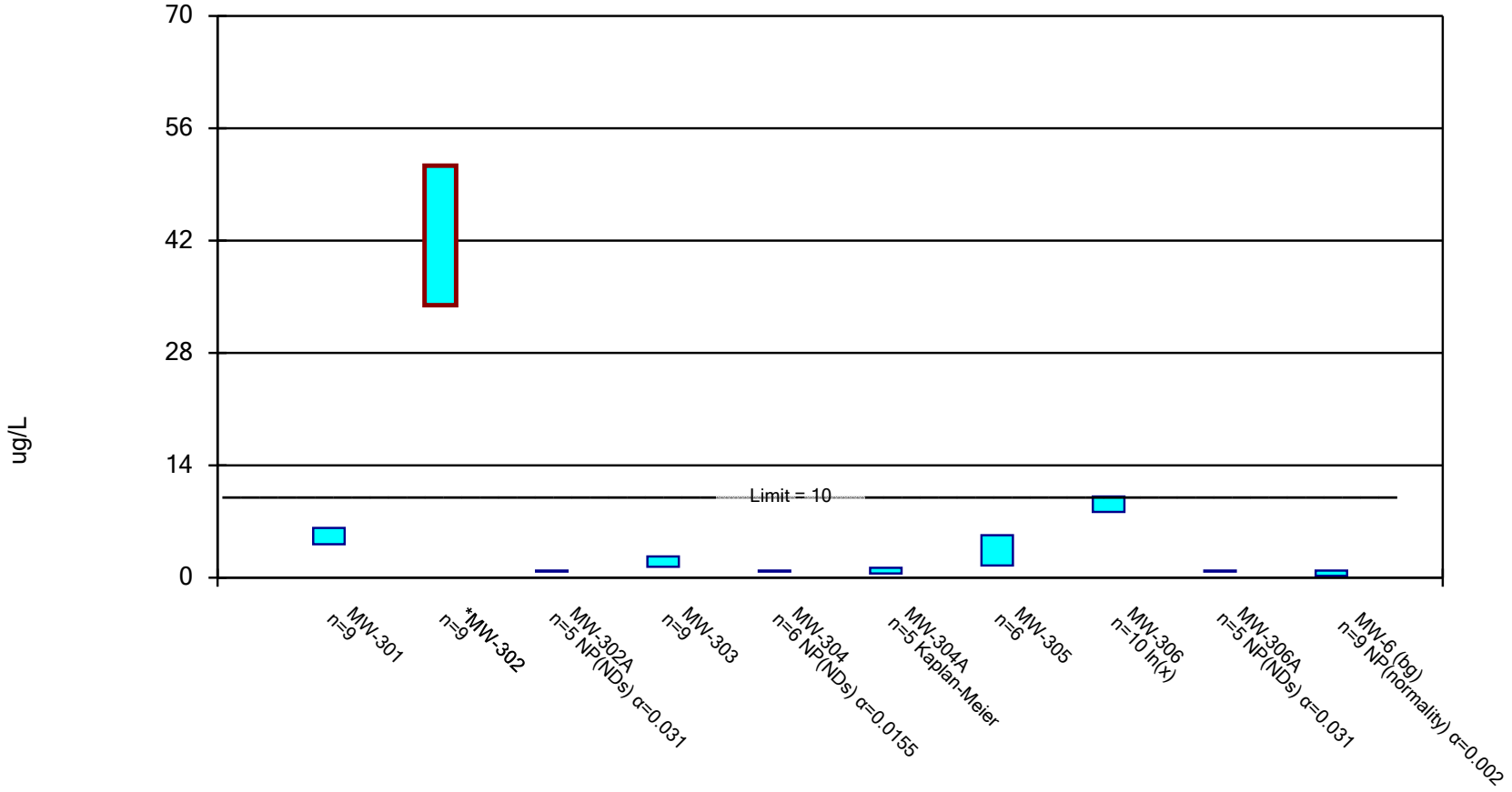
Confidence Interval

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev Printed 12/13/2021, 10:26 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (ug/L)	MW-301	6.191	4.164	10	No	9	0	None	No	0.01	Param.
Arsenic (ug/L)	**MW-302**	**51.34**	**33.95**	**10**	**Yes**	**9**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (ug/L)	MW-302A	0.88	0.75	10	No	5	100	None	No	0.031	NP (NDs)
Arsenic (ug/L)	MW-303	2.64	1.36	10	No	9	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-304	0.88	0.75	10	No	6	100	None	No	0.0155	NP (NDs)
Arsenic (ug/L)	MW-304A	1.231	0.5127	10	No	5	60	Kapla...	No	0.01	Param.
Arsenic (ug/L)	MW-305	5.29	1.51	10	No	6	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-306	10.11	8.19	10	No	10	0	None	ln(x)	0.01	Param.
Arsenic (ug/L)	MW-306A	0.88	0.75	10	No	5	100	None	No	0.031	NP (NDs)
Arsenic (ug/L)	MW-6 (bg)	0.88	0.23	10	No	9	66.67	None	No	0.002	NP (normality)
Molybdenum (ug/L)	MW-301	9.965	5.569	100	No	9	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-302	1.438	0.8747	100	No	9	33.33	Kapla...	No	0.01	Param.
Molybdenum (ug/L)	MW-302A	1.3	1.1	100	No	5	100	Kapla...	No	0.031	NP (NDs)
Molybdenum (ug/L)	MW-303	14.35	3.855	100	No	9	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-304	1.3	1.1	100	No	6	100	None	No	0.0155	NP (NDs)
Molybdenum (ug/L)	**MW-304A**	**136.7**	**105.8**	**100**	**Yes**	**8**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (ug/L)	MW-305	1.642	0.925	100	No	6	66.67	Kapla...	No	0.01	Param.
Molybdenum (ug/L)	MW-306	1.3	1.1	100	No	6	100	Kapla...	No	0.0155	NP (NDs)
Molybdenum (ug/L)	MW-306A	1.3	1.1	100	No	5	100	Kapla...	No	0.031	NP (NDs)
Molybdenum (ug/L)	MW-6 (bg)	1.3	0.26	100	No	9	77.78	Kapla...	No	0.002	NP (NDs)
Thallium (ug/L)	MW-301	0.27	0.036	2	No	6	100	None	No	0.0155	NP (NDs)
Thallium (ug/L)	MW-302	0.9713	0.01124	2	No	6	66.67	Kapla...	ln(x)	0.01	Param.
Thallium (ug/L)	MW-302A	0.26	0.26	2	No	4	100	Kapla...	No	0.0625	NP (NDs)
Thallium (ug/L)	MW-303	0.27	0.036	2	No	6	100	Kapla...	No	0.0155	NP (NDs)
Thallium (ug/L)	MW-304	0.27	0.26	2	No	4	100	Kapla...	No	0.0625	NP (NDs)
Thallium (ug/L)	MW-304A	0.26	0.26	2	No	4	100	Kapla...	No	0.0625	NP (NDs)
Thallium (ug/L)	MW-305	0.27	0.26	2	No	4	100	Kapla...	No	0.0625	NP (NDs)
Thallium (ug/L)	MW-306	0.27	0.26	2	No	4	100	Kapla...	No	0.0625	NP (NDs)
Thallium (ug/L)	MW-306A	0.26	0.26	2	No	4	100	Kapla...	No	0.0625	NP (NDs)
Thallium (ug/L)	MW-6 (bg)	0.27	0.036	2	No	6	100	Kapla...	No	0.0155	NP (NDs)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.05.



Constituent: Arsenic Analysis Run 12/13/2021 10:25 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 12/13/2021 10:26 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A
4/16/2018	3.9	30.8		1.2					
4/26/2018									
8/7/2018	4.4	47.6		2.3					
10/8/2018	5.4	50.4		2.3					
4/15/2019	5.4	37		1.4 (J)					
6/20/2019					<0.75 (U)		2.2	8.6	
10/2/2019	5.6	53		2.5	<0.75 (U)		3.4	12	
12/5/2019								9.3	
2/5/2020								9.4	
5/19/2020	3.8			1.4 (J)			3.6	8.5	<0.88 (U)
5/20/2020		33	<0.88 (U)		<0.88 (U)	1.3 (J)			
7/6/2020			<0.88 (U)			<0.88 (U)			<0.88 (U)
10/19/2020	6	48	<0.88 (U)	3.2	<0.88 (U)	<0.88 (U)			
10/20/2020							5.6	10	<0.88 (U)
2/23/2021								9	
4/7/2021									
4/8/2021	5			1.5 (J)					
4/9/2021		33	<0.75 (U)		<0.75 (U)	0.78 (J)	1.7 (J)	8	<0.75 (U)
7/12/2021								8.2	
10/26/2021	7.1			2.2	<0.75 (U)	<0.75 (U)			
10/27/2021		51	<0.75 (U)				3.9	8.6	<0.75 (U)
Mean	5.178	42.64	0.828	2	0.7933	0.918	3.4	9.16	0.828
Std. Dev.	1.05	9.004	0.0712	0.6633	0.06713	0.2214	1.375	1.164	0.0712
Upper Lim.	6.191	51.34	0.88	2.64	0.88	1.231	5.29	10.11	0.88
Lower Lim.	4.164	33.95	0.75	1.36	0.75	0.5127	1.51	8.19	0.75

Confidence Interval

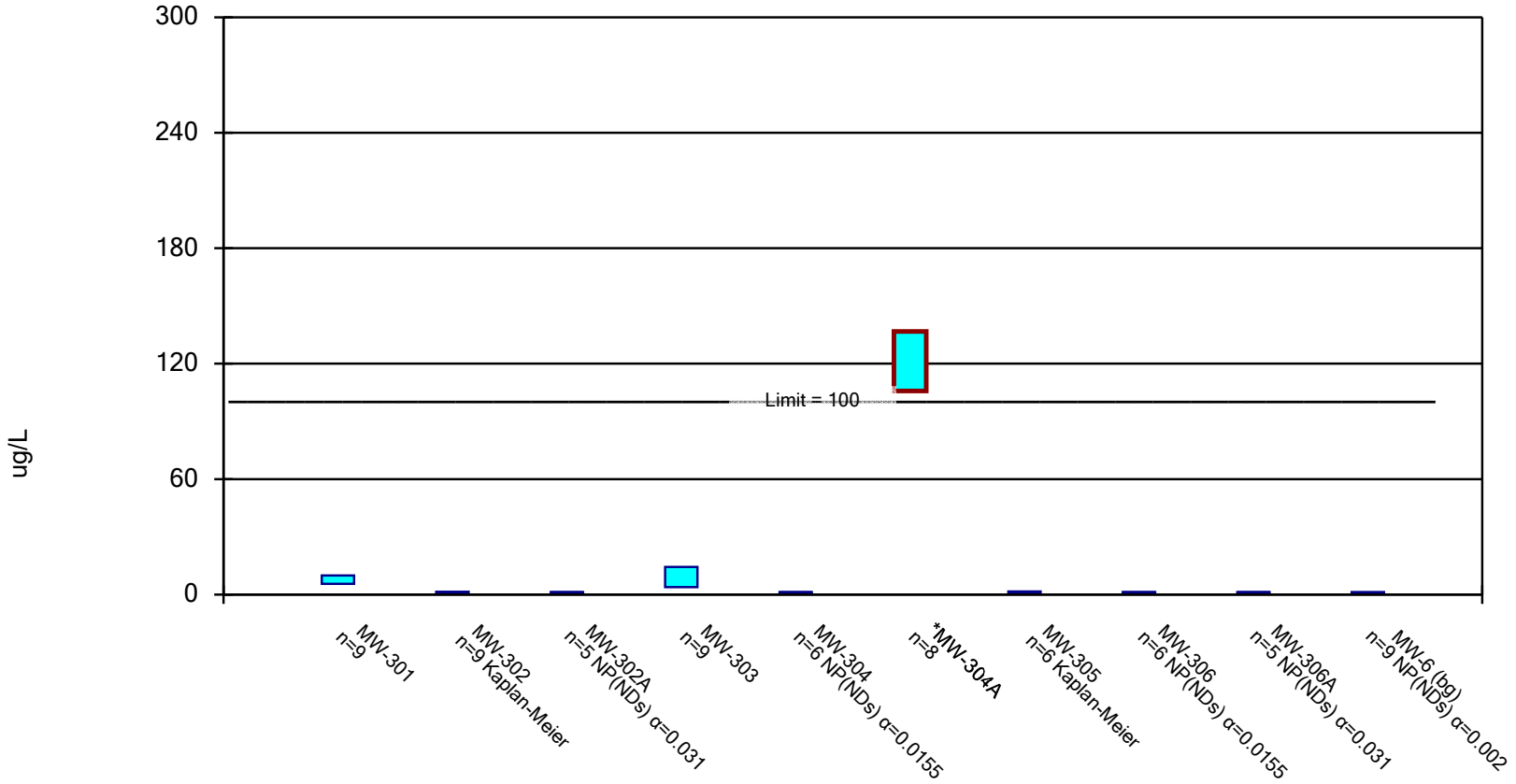
Constituent: Arsenic (ug/L) Analysis Run 12/13/2021 10:26 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-6 (bg)
4/16/2018	
4/26/2018	0.23 (J)
8/7/2018	0.26 (J)
10/8/2018	0.24 (J)
4/15/2019	<0.75 (U)
6/20/2019	
10/2/2019	<0.75 (U)
12/5/2019	
2/5/2020	
5/19/2020	
5/20/2020	<0.88 (U)
7/6/2020	
10/19/2020	
10/20/2020	<0.88 (U)
2/23/2021	
4/7/2021	<0.75 (U)
4/8/2021	
4/9/2021	
7/12/2021	
10/26/2021	<0.75 (U)
10/27/2021	
Mean	0.61
Std. Dev.	0.2802
Upper Lim.	0.88
Lower Lim.	0.23

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.05.



Constituent: Molybdenum Analysis Run 12/13/2021 10:25 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 12/13/2021 10:26 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A
4/16/2018	4.4	0.91 (J)		7.3					
4/26/2018									
8/7/2018	5.6	1.2		21.6					
10/8/2018	10.3	1.5		12					
4/15/2019	11	<1.1 (U)		6.2					
6/20/2019					<1.1 (U)		1.7 (J)	<1.1 (U)	
10/2/2019	10	1.4 (J)		9.8	<1.1 (U)		1.6 (J)	<1.1 (U)	
5/19/2020	8.1			3.1			<1.1 (U)	<1.1 (U)	<1.1 (U)
5/20/2020		<1.1 (U)	<1.1 (U)		<1.1 (U)	110			
7/6/2020			<1.1 (U)			140			<1.1 (U)
8/19/2020						140			
10/19/2020	7.5	<1.1 (U)	<1.1 (U)	10	<1.1 (U)	130			
10/20/2020							<1.1 (U)	<1.1 (U)	<1.1 (U)
2/23/2021						120			
4/7/2021									
4/8/2021	6.8			4.8					
4/9/2021		1.7 (J)	<1.3 (U)		<1.3 (U)	110	<1.3 (U)	<1.3 (U)	<1.3 (U)
7/12/2021						100			
10/26/2021	6.2			7.1	<1.3 (U)	120			
10/27/2021		1.4 (J)	<1.3 (U)				<1.3 (U)	<1.3 (U)	<1.3 (U)
Mean	7.767	1.268	1.18	9.1	1.167	121.3	1.35	1.167	1.18
Std. Dev.	2.277	0.2482	0.1095	5.433	0.1033	14.58	0.251	0.1033	0.1095
Upper Lim.	9.965	1.438	1.3	14.35	1.3	136.7	1.642	1.3	1.3
Lower Lim.	5.569	0.8747	1.1	3.855	1.1	105.8	0.925	1.1	1.1

Confidence Interval

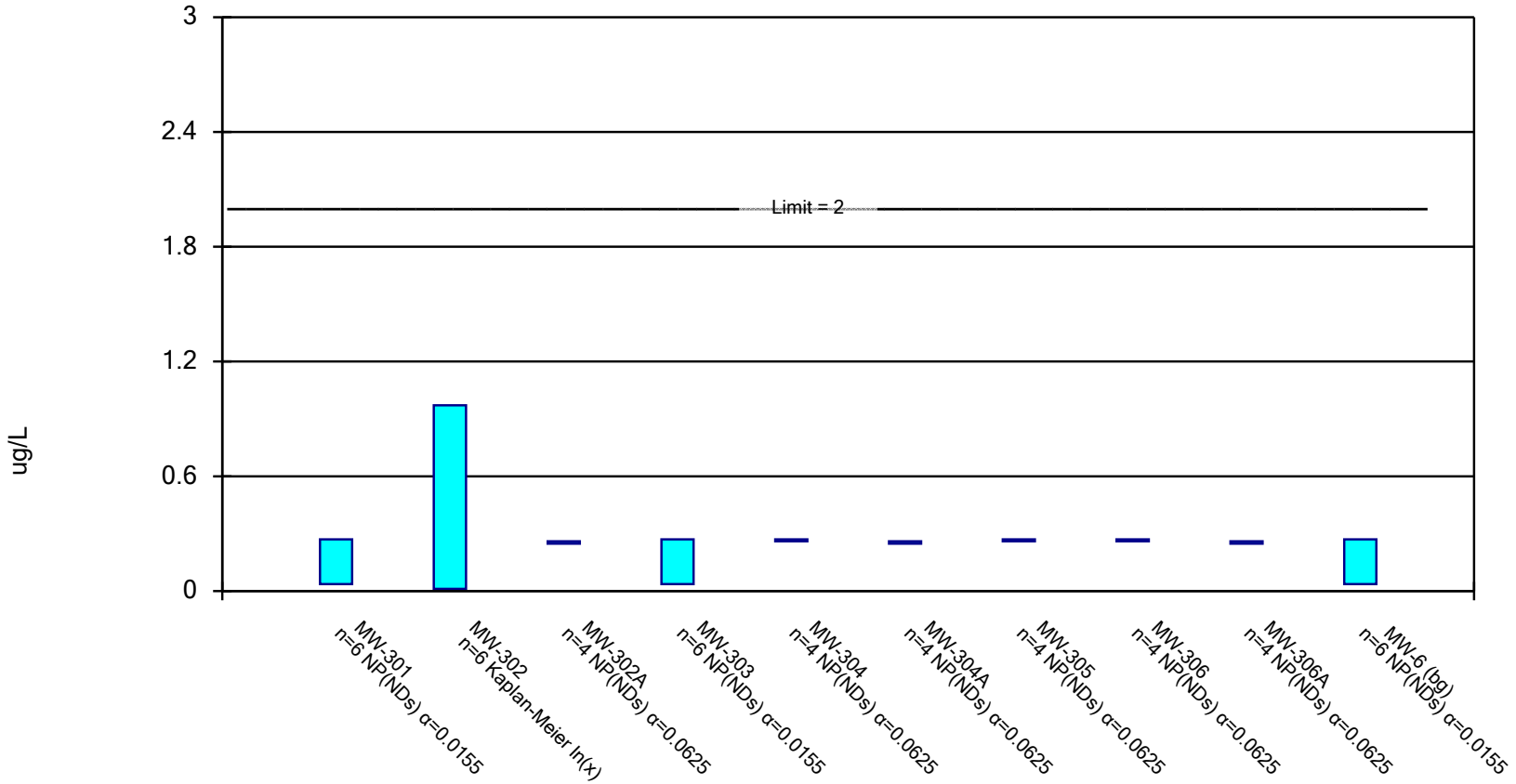
Constituent: Molybdenum (ug/L) Analysis Run 12/13/2021 10:26 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-6 (bg)
4/16/2018	
4/26/2018	0.26 (J)
8/7/2018	0.28 (J)
10/8/2018	<0.57 (U)
4/15/2019	<1.1 (U)
6/20/2019	
10/2/2019	<1.1 (U)
5/19/2020	
5/20/2020	<1.1 (U)
7/6/2020	
8/19/2020	
10/19/2020	
10/20/2020	<1.1 (U)
2/23/2021	
4/7/2021	<1.3 (U)
4/8/2021	
4/9/2021	
7/12/2021	
10/26/2021	<1.3 (U)
10/27/2021	
Mean	0.9011
Std. Dev.	0.4158
Upper Lim.	1.3
Lower Lim.	0.26

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.05.



Constituent: Thallium Analysis Run 12/13/2021 10:25 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Confidence Interval

Constituent: Thallium (ug/L) Analysis Run 12/13/2021 10:26 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A
4/16/2018	<0.036 (U)	<0.036 (U)		<0.036 (U)					
4/26/2018									
10/8/2018	<0.099 (U)	<0.099 (U)		<0.099 (U)					
4/15/2019	<0.27 (U)	<0.27 (U)		<0.27 (U)					
6/20/2019					<0.27 (U)		<0.27 (U)	<0.27 (U)	
5/19/2020	<0.26 (U)			<0.26 (U)			<0.26 (U)	<0.26 (U)	<0.26 (U)
5/20/2020		<0.26 (U)	<0.26 (U)		<0.26 (U)	<0.26 (U)			
7/6/2020			<0.26 (U)			<0.26 (U)			<0.26 (U)
4/7/2021									
4/8/2021	<0.26 (U)			<0.26 (U)					
4/9/2021		2.5 (B)	<0.26 (U)		<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)
10/26/2021	<0.26 (U)			<0.26 (U)	<0.26 (U)	<0.26 (U)			
10/27/2021		0.31 (J)	<0.26 (U)				<0.26 (U)	<0.26 (U)	<0.26 (U)
Mean	0.1975	0.5792	0.26	0.1975	0.2625	0.26	0.2625	0.2625	0.26
Std. Dev.	0.1027	0.9471	0	0.1027	0.005	0	0.005	0.005	0
Upper Lim.	0.27	0.9713	0.26	0.27	0.27	0.26	0.27	0.27	0.26
Lower Lim.	0.036	0.01124	0.26	0.036	0.26	0.26	0.26	0.26	0.26

Confidence Interval

Constituent: Thallium (ug/L) Analysis Run 12/13/2021 10:26 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-6 (bg)
4/16/2018	
4/26/2018	<0.036 (U)
10/8/2018	<0.099 (U)
4/15/2019	<0.27 (U)
6/20/2019	
5/19/2020	
5/20/2020	<0.26 (U)
7/6/2020	
4/7/2021	<0.26 (U)
4/8/2021	
4/9/2021	
10/26/2021	<0.26 (U)
10/27/2021	
Mean	0.1975
Std. Dev.	0.1027
Upper Lim.	0.27
Lower Lim.	0.036

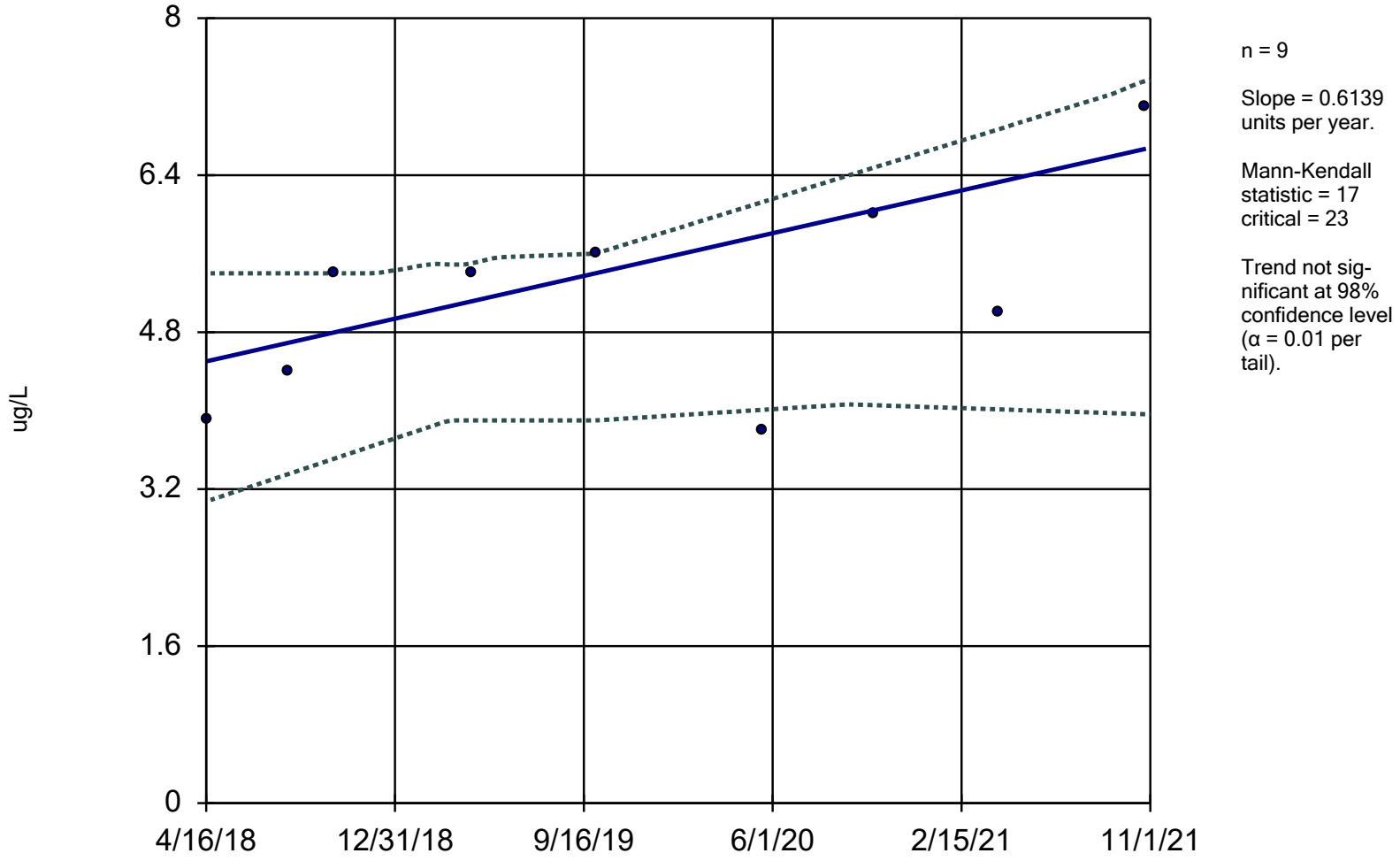
Trend Test

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev Printed 1/4/2022, 10:06 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (ug/L)	MW-301	0.6139	17	23	No	9	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-302	0.8935	7	23	No	9	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-302A	-0.09482	-6	-10	No	5	100	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-303	0.1066	8	23	No	9	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-304	0	0	13	No	6	100	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-304A	-0.172	-9	-10	No	5	60	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-305	0.3174	5	13	No	6	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-306	-0.4635	-16	-27	No	10	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-306A	-0.09474	-6	-10	No	5	100	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-307	1.364	NaN	NaN	No	3	0	n/a	n/a	NaN	NP
Arsenic (ug/L)	MW-307A	1.876	NaN	NaN	No	3	33.33	n/a	n/a	NaN	NP

Arsenic

MW-301



n = 9

Slope = 0.6139 units per year.

Mann-Kendall statistic = 17
critical = 23

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 95% Confidence Band Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

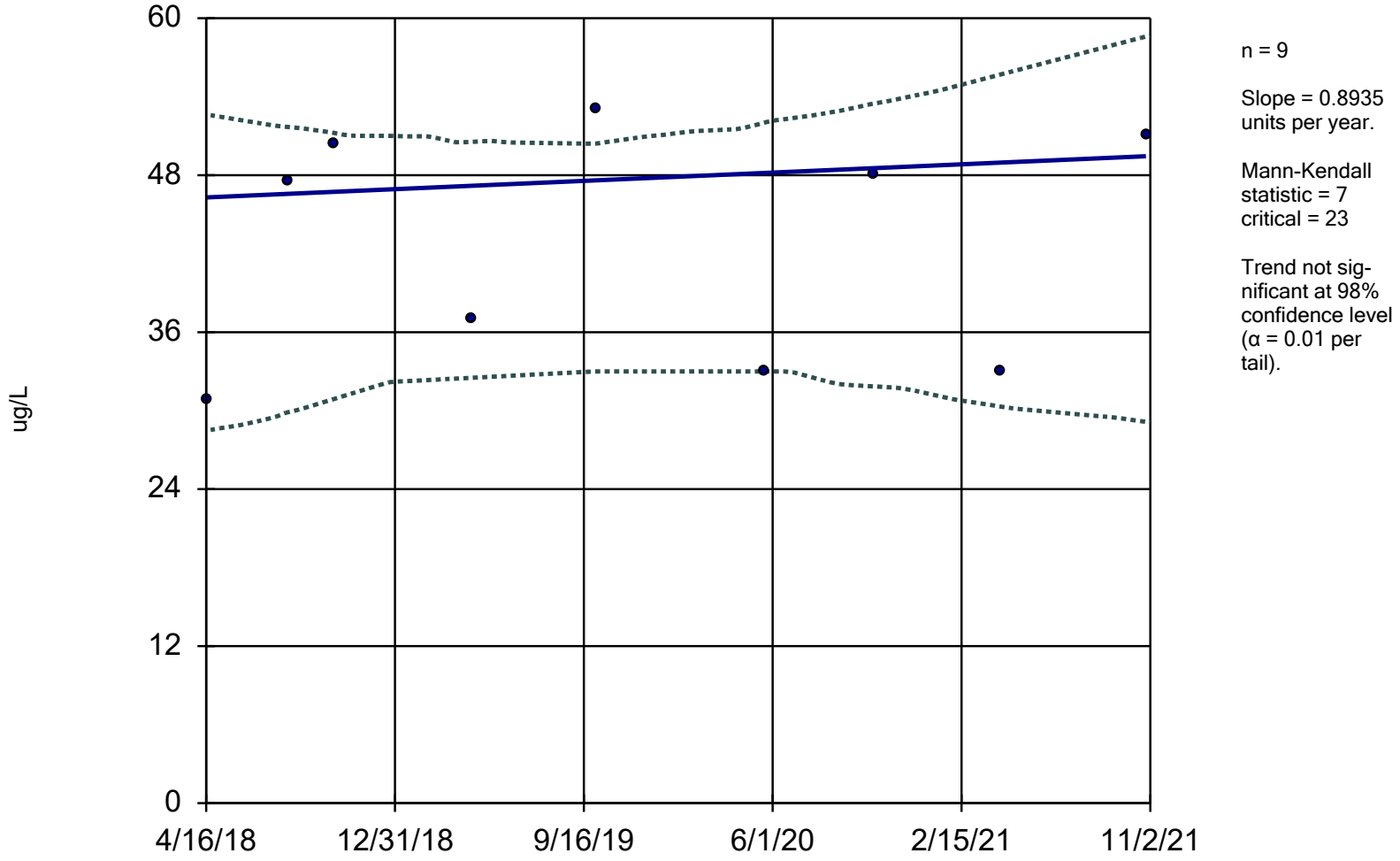
Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301
4/16/2018	3.9
8/7/2018	4.4
10/8/2018	5.4
4/15/2019	5.4
10/2/2019	5.6
5/19/2020	3.8
10/19/2020	6
4/8/2021	5
10/26/2021	7.1

Arsenic

MW-302



Sen's Slope and 95% Confidence Band Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

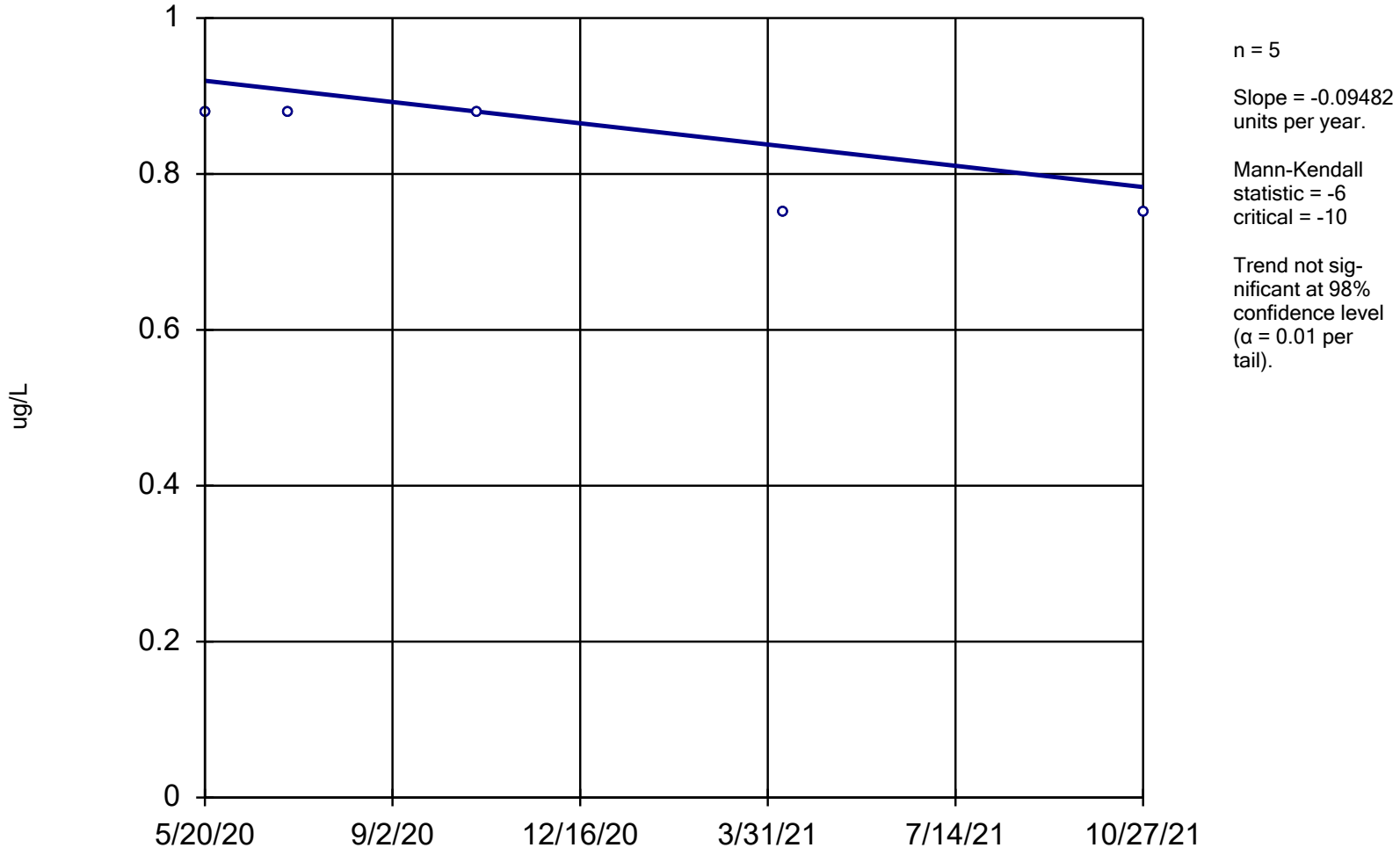
Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-302
4/16/2018	30.8
8/7/2018	47.6
10/8/2018	50.4
4/15/2019	37
10/2/2019	53
5/20/2020	33
10/19/2020	48
4/9/2021	33
10/27/2021	51

Hollow symbols indicate censored values.

Arsenic

MW-302A



n = 5

Slope = -0.09482 units per year.

Mann-Kendall statistic = -6
critical = -10

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

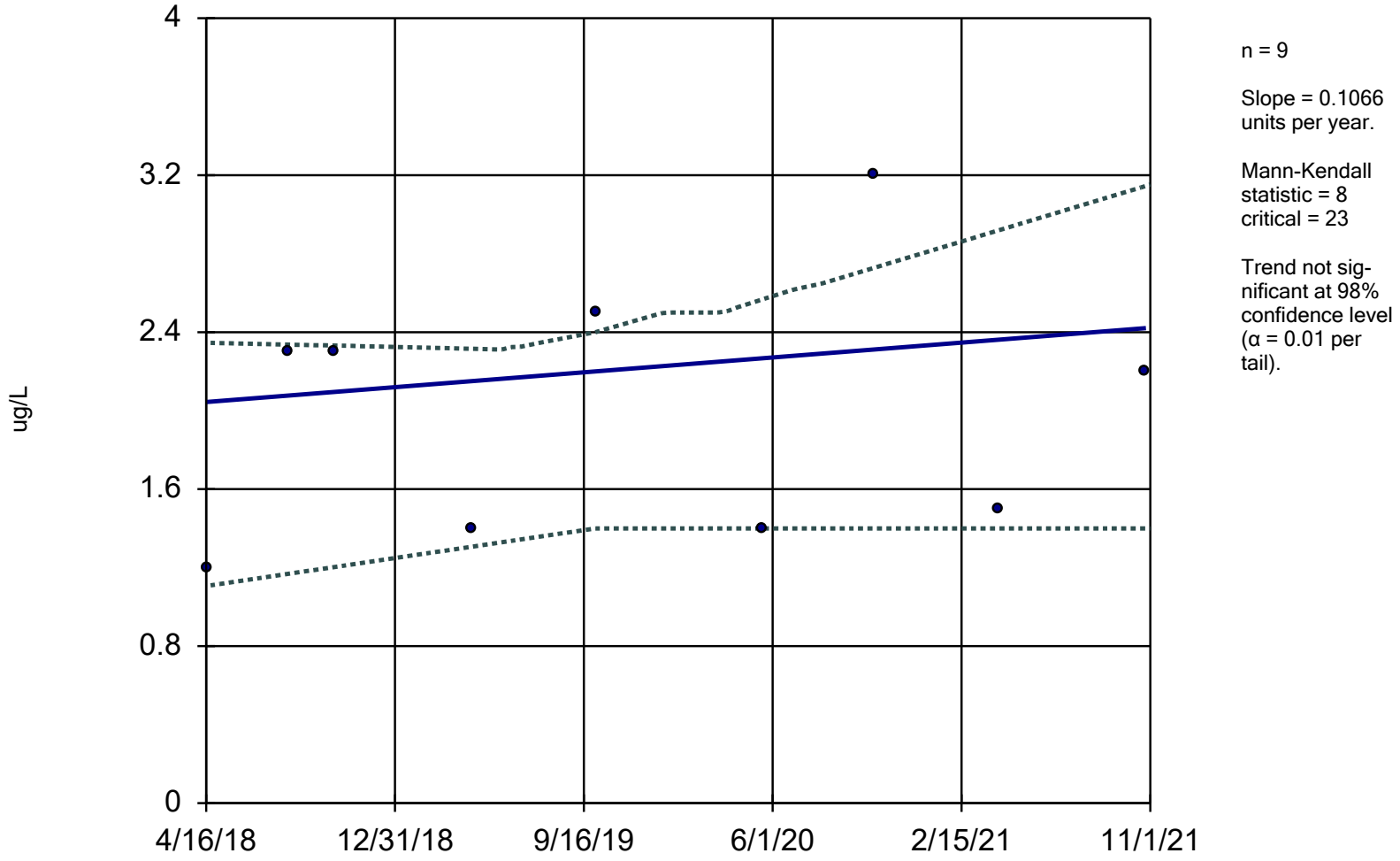
Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-302A
5/20/2020	<0.88 (U)
7/6/2020	<0.88 (U)
10/19/2020	<0.88 (U)
4/9/2021	<0.75 (U)
10/27/2021	<0.75 (U)

Arsenic

MW-303



n = 9

Slope = 0.1066 units per year.

Mann-Kendall statistic = 8
critical = 23

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 95% Confidence Band Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

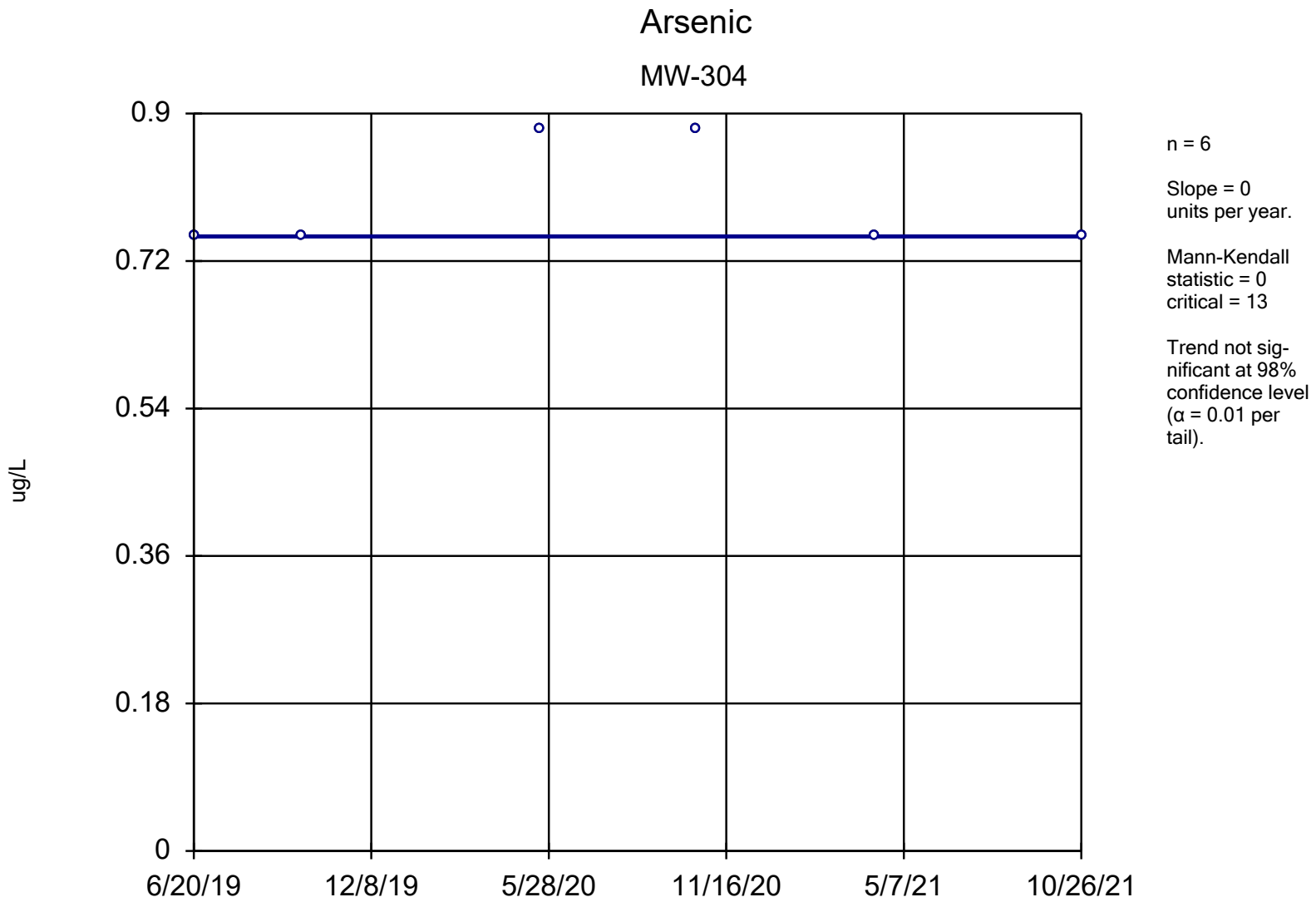
Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend
Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-303
4/16/2018	1.2
8/7/2018	2.3
10/8/2018	2.3
4/15/2019	1.4 (J)
10/2/2019	2.5
5/19/2020	1.4 (J)
10/19/2020	3.2
4/8/2021	1.5 (J)
10/26/2021	2.2

Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

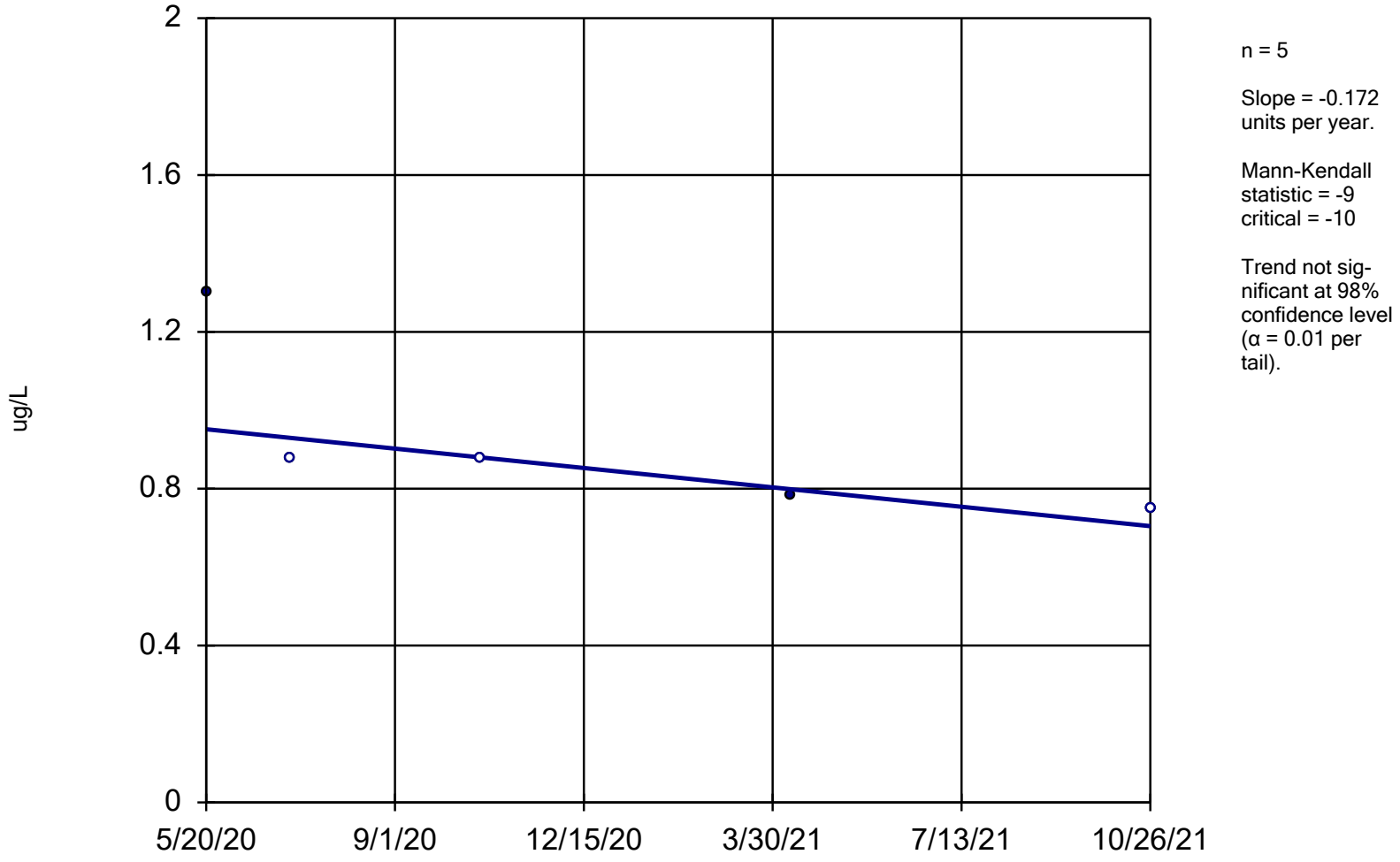
Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-304
6/20/2019	<0.75 (U)
10/2/2019	<0.75 (U)
5/20/2020	<0.88 (U)
10/19/2020	<0.88 (U)
4/9/2021	<0.75 (U)
10/26/2021	<0.75 (U)

Hollow symbols indicate censored values.

Arsenic

MW-304A



Sen's Slope Estimator Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

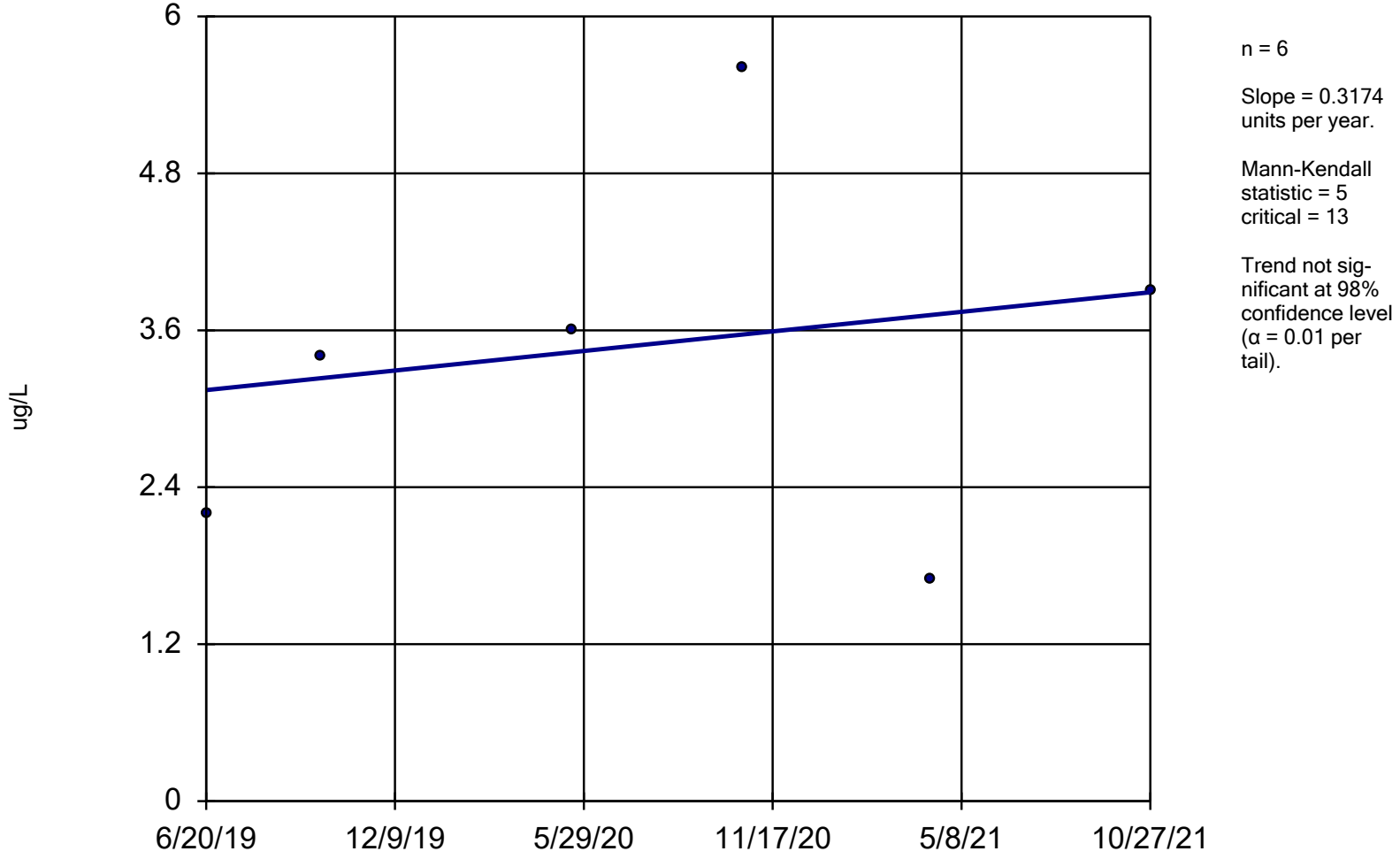
Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-304A
5/20/2020	1.3 (J)
7/6/2020	<0.88 (U)
10/19/2020	<0.88 (U)
4/9/2021	0.78 (J)
10/26/2021	<0.75 (U)

Arsenic

MW-305



Sen's Slope Estimator Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

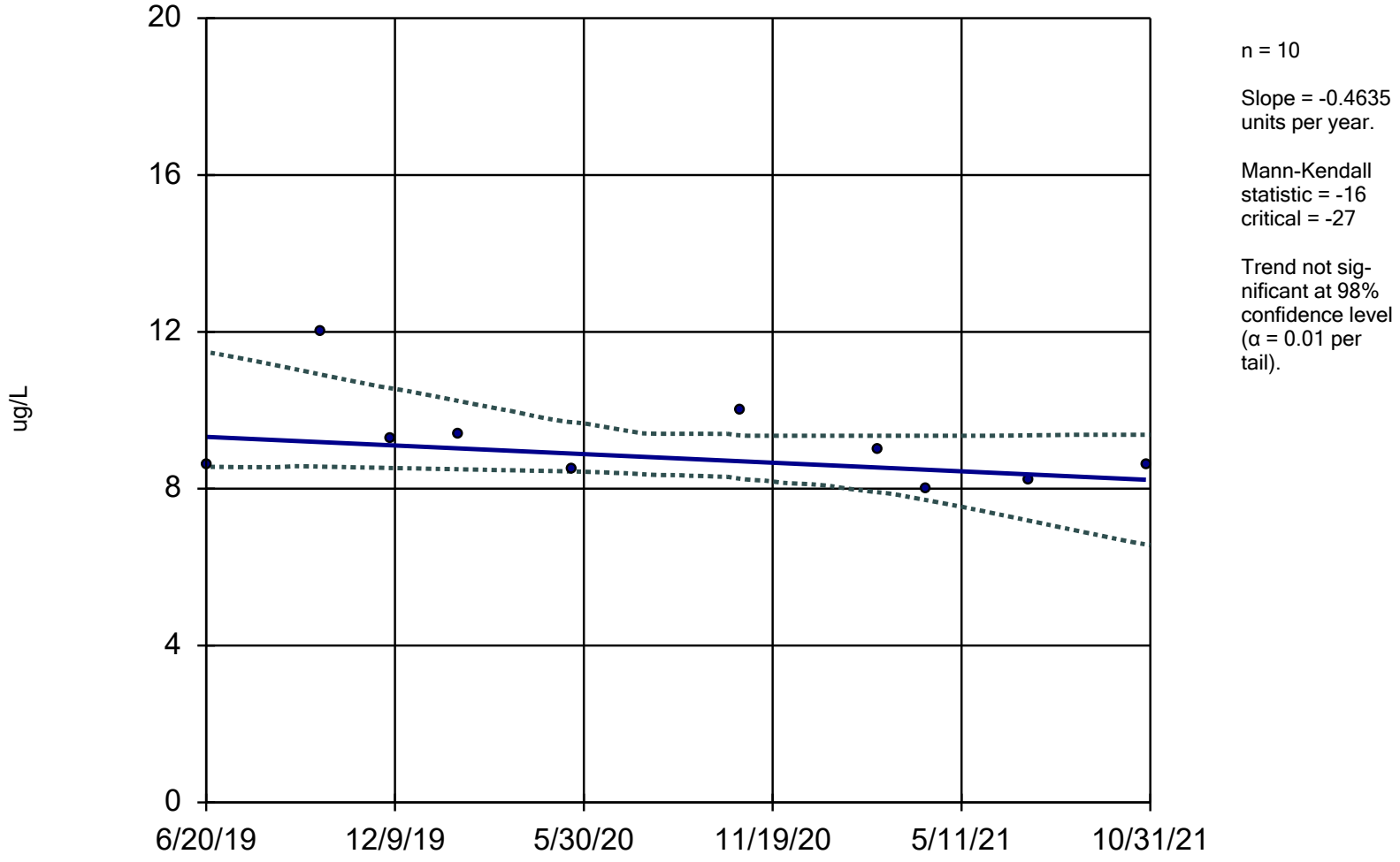
Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-305
6/20/2019	2.2
10/2/2019	3.4
5/19/2020	3.6
10/20/2020	5.6
4/9/2021	1.7 (J)
10/27/2021	3.9

Arsenic

MW-306



Sen's Slope and 95% Confidence Band Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

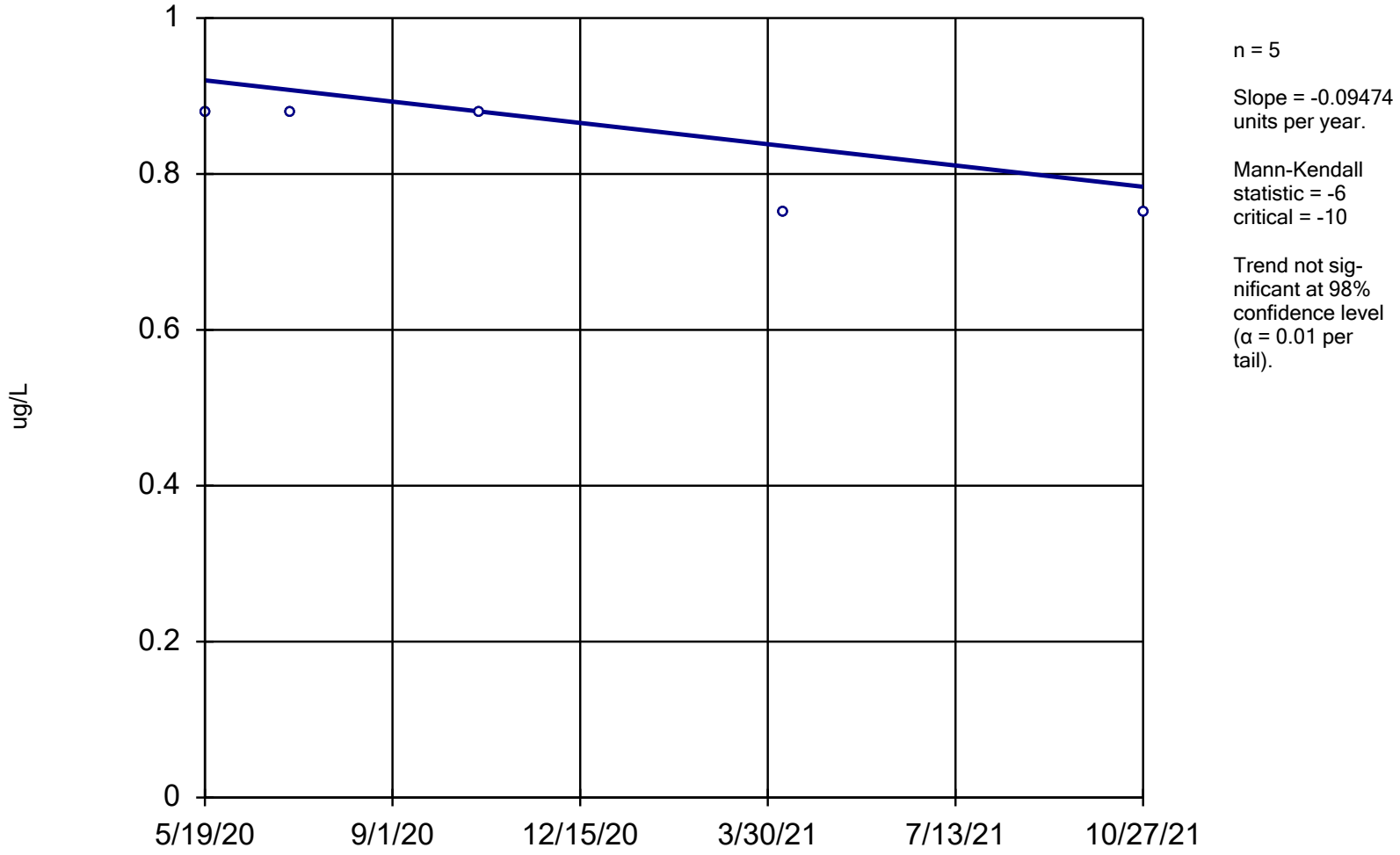
Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-306
6/20/2019	8.6
10/2/2019	12
12/5/2019	9.3
2/5/2020	9.4
5/19/2020	8.5
10/20/2020	10
2/23/2021	9
4/9/2021	8
7/12/2021	8.2
10/27/2021	8.6

Hollow symbols indicate censored values.

Arsenic

MW-306A



n = 5

Slope = -0.09474 units per year.

Mann-Kendall statistic = -6
critical = -10

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope Estimator Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

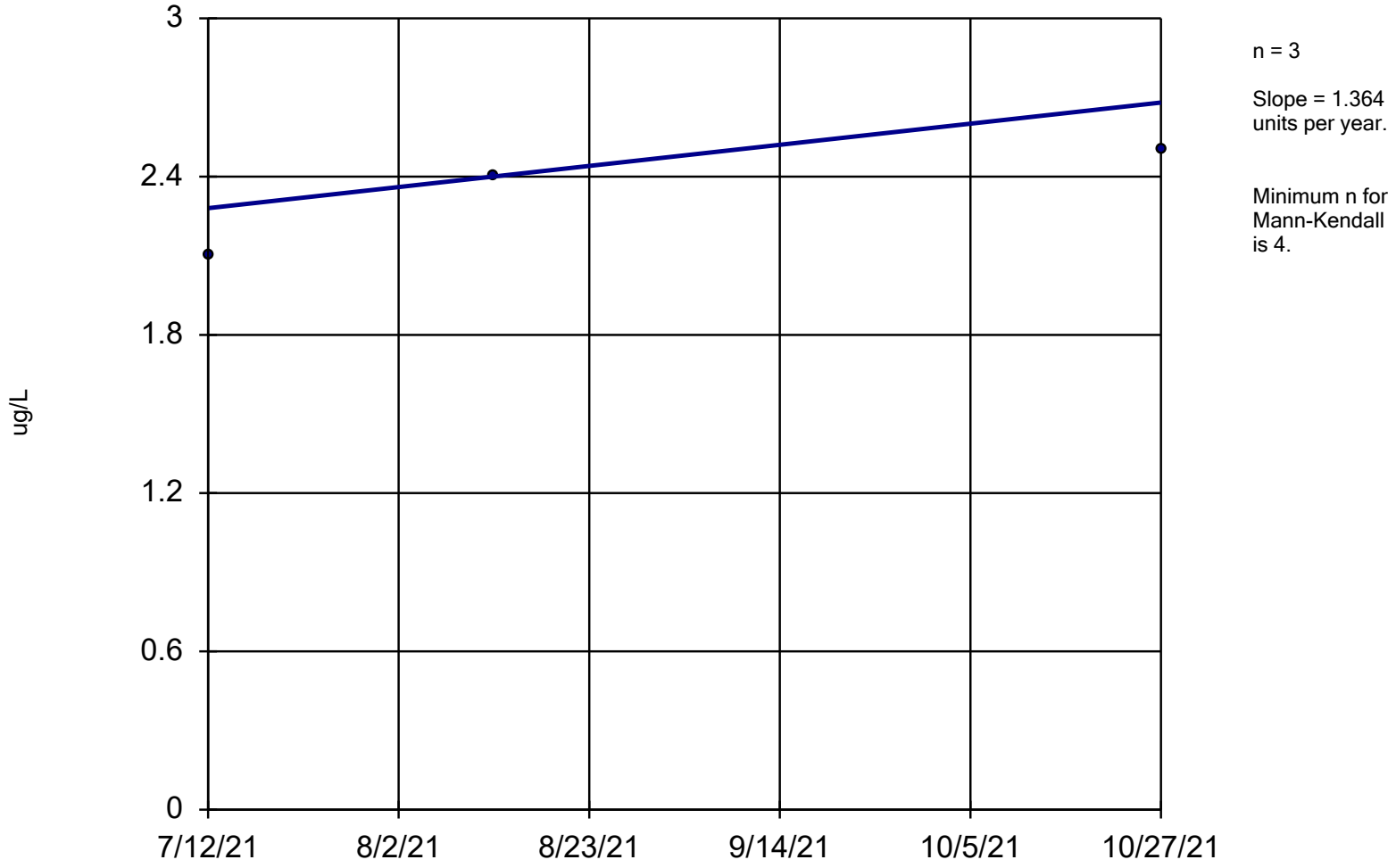
Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-306A
5/19/2020	<0.88 (U)
7/6/2020	<0.88 (U)
10/20/2020	<0.88 (U)
4/9/2021	<0.75 (U)
10/27/2021	<0.75 (U)

Arsenic

MW-307



Sen's Slope Estimator Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

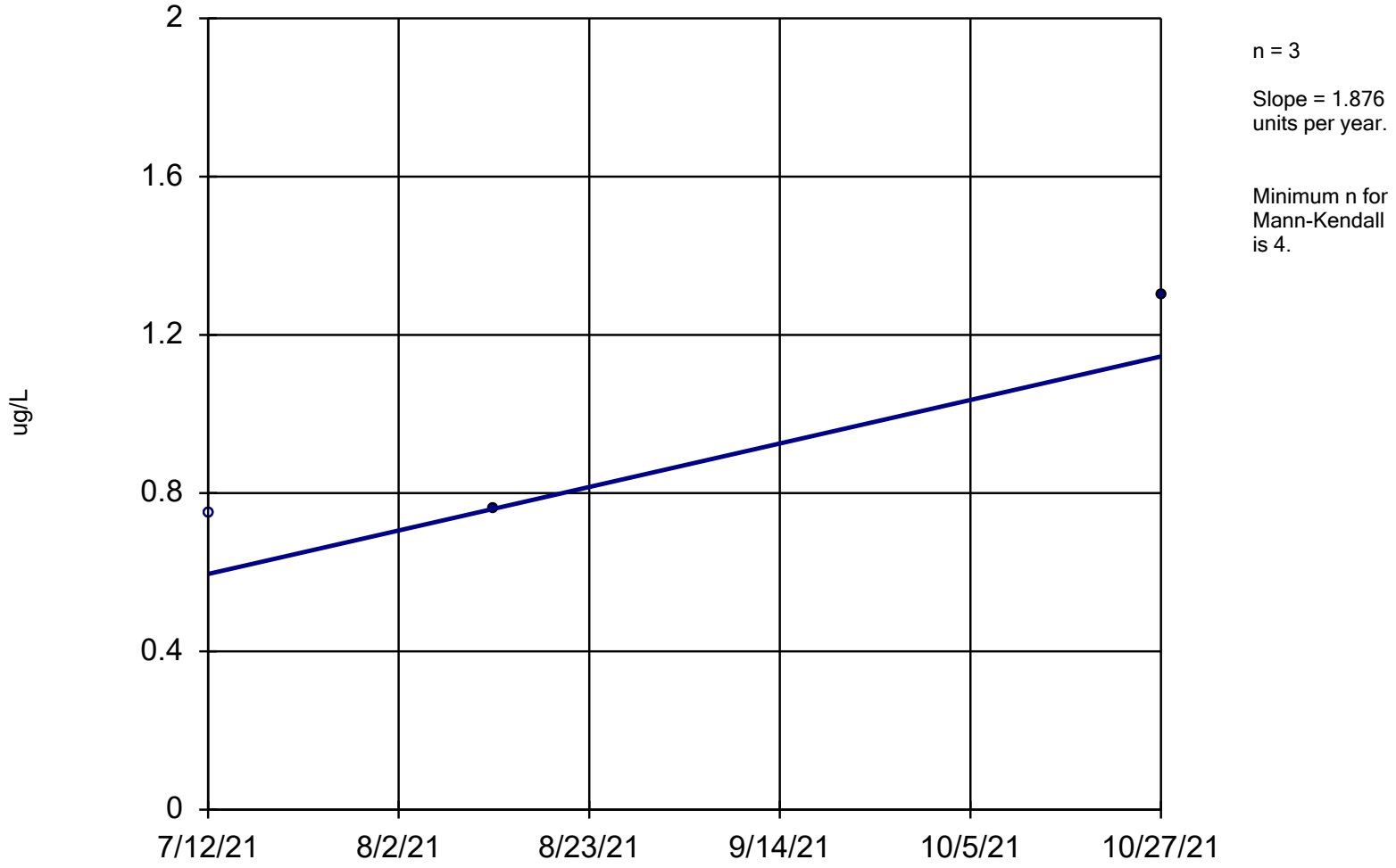
Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-307
7/12/2021	2.1
8/13/2021	2.4
10/27/2021	2.5

Hollow symbols indicate censored values.

Arsenic

MW-307A



Sen's Slope Estimator Analysis Run 1/4/2022 10:05 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/4/2022 10:06 PM View: LAN As Trend

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-307A
7/12/2021	<0.75 (U)
8/13/2021	0.76 (J)
10/27/2021	1.3 (J)