

2020 Annual Groundwater Monitoring and Corrective Action Report

Lansing Generating Station
Lansing, Iowa

Prepared for:

Alliant Energy



SCS ENGINEERS

25220070.00 | January 29, 2021

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

Overview of Current Status
Lansing Generating Station, Landfill and Upper Ash Pond
2020 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)	<p>(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e):</p> <p>(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and</p>	<p><u>May 2020</u> Boron: MW-301, MW-302, MW-303, Calcium: MW-302, Chloride: MW-301, MW-302, MW-303 Fluoride: MW-301 Sulfate: MW-301, MW-303 Total Dissolved Solids: MW-301, MW-302, MW-303</p> <p><u>October 2020</u> Boron: MW-301, MW-302 Calcium: MW-302 Chloride: MW-301, MW-302, MW-303 Field pH: MW-301 Sulfate: MW-301 Total Dissolved Solids: MW-302</p>

Category	Rule Requirement	Site Status
		Note: Includes semiannual events for compliance wells at waste boundary only; see Table 5 for complete results
	(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	(iv) If it was determined that there was a statistically significant level above the groundwater protection standard 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
	(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;	April 15, 2019
	(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and	October 12, 2020
	(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.	September 12, 2019 - Original ACM November 25, 2020 – Addendum No. 1 to ACM
Selection of Remedy	(v) Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection; and	Selection of remedy 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 - Selection of remedy is in progress

Table of Contents

Section	Page
Overview of Current Status.....	i
1.0 Introduction.....	1
2.0 Background.....	1
2.1 Geologic and Hydrogeologic Setting.....	1
2.1.1 Regional Information.....	1
2.1.2 Site Information.....	2
2.2 CCR Rule Monitoring system	2
3.0 § 257.90(e) Annual Report Requirements	3
3.1 §257.90(e)(1) Site Map.....	3
3.2 §257.90(e)(2) Monitoring System Changes.....	3
3.3 §257.90(e)(3) Summary of Sampling Events.....	3
3.4 § 257.90(e)(4) Monitoring Transition Narrative.....	4
3.5 § 257.90(e)(5) Other Requirements.....	5
3.5.1 § 257.90(e) General Requirements.....	6
3.5.2 § 257.94(d) Alternative Detection Monitoring Frequency.....	7
3.5.3 § 257.94(e)(2) Alternative Source Demonstration for Detection Monitoring	7
3.5.4 § 257.95(c) Alternative Assessment Monitoring Frequency.....	7
3.5.5 § 257.95(d)(3) Assessment Monitoring Results and Standards	7
3.5.6 § 257.95(g)(3)(ii) Alternative Source Demonstration for Assessment Monitoring.....	8
3.5.7 § 257.96(a) Extension of Time for Corrective Measures Assessment	8
3.6 §257.90(e)(6) Overview.....	8

Tables

Table 1	Groundwater Monitoring Well Network
Table 2	CCR Rule Groundwater Samples Summary
Table 3	Groundwater Elevation Summary
Table 4A	Horizontal Gradients and Flow Velocity
Table 4B	Vertical Gradients
Table 5	2020 Groundwater Analytical Results Summary
Table 6	2020 Groundwater Field Data Summary

Figures

Figure 1	Site Location Map
Figure 2	Site Plan and Monitoring Well Locations
Figure 3	Water Table Map, May 20-21, 2020
Figure 4	Potentiometric Surface Map, May 20-21, 2020
Figure 5	Water Table Map, October 19-20, 2020
Figure 6	Potentiometric Surface Map, October 19-20, 2020

Appendices

Appendix A	Regional Hydrogeologic Information
Appendix B	Boring Logs and Well Construction Documentation
Appendix C	Laboratory Reports
	C1 February 2020 Resampling Event
	C2 May 2020 Assessment Monitoring
	C3 July 2020 Resampling Event
	C4 August 2020 Assessment Monitoring
	C5 October 2020 Assessment Monitoring
Appendix D	Historical Monitoring Results
Appendix E	Statistical Evaluation

I:\25220070.00\Deliverables\2020 Fed Annual Report - LAN\210129_2020 Annual CCR GW Report_LAN_Final.docx

[This page left blank intentionally]

1.0 INTRODUCTION

This 2020 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 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 2020 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, 2020, through December 31, 2020.

The groundwater monitoring system at the Lansing Generating Station (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 6 additional downgradient wells. Three of the additional six downgradient wells were installed as deeper delineation piezometers (**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 Lansing Generating Station 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 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-306 and piezometers MW-302A, MW-304A, and MW306A 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-306 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-306A are between 50 and 56 feet. Bedrock was not encountered in any of the piezometer borings. Boring logs and well construction forms for all CCR monitoring wells and piezometers 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 May 2020 water level measurements are shown on **Figures 3** and **4**. The water table and potentiometric surface contours and groundwater flow patterns for the October 2020 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. Three additional water table wells (MW-304, MW-305, and MW-306) and three deeper piezometers (MW-302A,

MW-304A, and MW-306A) were added as delineation wells to support the evaluation of the nature and extent of groundwater impacts and characterization of the site conditions.

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;

No new monitoring wells were installed and no wells were decommissioned as part of the groundwater monitoring programs for the CCR unit in 2020.

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 2020. 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 May and October 2020. Supplemental monitoring events performed in February, July, and August 2020 were limited to a subset of the wells and/or parameters as described below.

In February 2020, MW-306 was resampled for arsenic in response to the detection of arsenic above the GPS in one of three previous samples at this well. The supplemental arsenic result was collected to allow evaluation of whether arsenic is at a statistically significant level above the GPS at MW-306, as described in **Section 3.4**.

In July 2020, the three new piezometers (MW-302A, MW-304A, and MW-306A) were sampled for Appendix III and Appendix IV parameters. This was the second round of samples from these three wells.

In August 2020, all wells were sampled for parameters chosen to assist with the selection of remedy 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 GPS in the initial samples from new piezometer MW-304A.

The October 2020 semiannual assessment monitoring event also included supplemental parameters to support remedy selection and evaluation of MNA. Samples were also collected from selected wells for tritium analysis as part of site characterization and to support the evaluation of potential sources of molybdenum at well MW-304A.

The 2020 monitoring results are summarized in **Table 5**. Field parameter results for the 2020 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 2020.

The LAN monitoring program transitioned to assessment monitoring beginning in April 2018 and assessment monitoring continued through 2020. 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 selection of remedy is in progress. The ACM was initiated in response to the detection of arsenic at statistically significant levels exceeding the Groundwater Protection Standards (GPS). Assessment monitoring continued during the ACM and will continue during the selection of remedy.

The statistical evaluation of the October 2019 semiannual monitoring event was completed in January 2020. Evaluation of the May 2020 semiannual monitoring event and the July 2020 resampling event was completed in August 2020. Evaluation of the August 2020 supplemental monitoring event for the piezometers was completed in November 2020. Evaluation of the October 2020 semiannual monitoring event was completed in January 2021.

In 2020, Appendix IV parameters arsenic 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 and molybdenum is discussed below.

In accordance with the Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (USEPA, 2009), the comparison of assessment monitoring results to the Groundwater Protection Standard (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 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 2020 event, is provided in **Appendix E**.

Based on the LCL evaluation, the only parameter at a statistically significant level above the GPS is arsenic at compliance well MW-302, as previously identified. For delineation well MW-306, individual arsenic results have slightly exceeded the GPS, but the LCL for the mean remains below the GPS.

The LCL for the mean for molybdenum at MW-304A was only slightly below the GPS; therefore, the source of molybdenum at this well is being evaluated. As shown in the confidence interval plot in **Attachment B**, 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 E**. 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 2020 to support the selection of remedy process, including the evaluation of monitored natural attenuation (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 2020 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 selection of remedy process, with assessment monitoring continuing.

Summary of Key Actions Completed.

- Statistical evaluation for the October 2019 assessment monitoring event completed January 28, 2020.
- Statistical evaluation for the May 2020 assessment monitoring event and July 2020 resampling event completed August 14, 2020.
- Statistical evaluation for the August 2020 assessment monitoring event for the piezometers completed November 13, 2020.
- Two semiannual assessment monitoring events (May and October 2020).
- Supplemental monitoring events in February, July, and August 2020 to characterize groundwater quality at selected wells installed to delineate the nature and extent of impacts.
- Continued work on the selection of remedy in accordance with § 257.97.
- Semiannual progress reports for the Selection of Remedy process (March and September 2020).
- Initial public meeting held for the ACM (October 12, 2020).
- ACM addendum completed (November 25, 2020).

Description of Any Problems Encountered.

- No problems were encountered during the groundwater sampling events in 2020.

Discussion of Actions to Resolve the Problems. Not applicable.

Projection of Key Activities for the Upcoming Year (2021):

- Statistical evaluation and determination of any statistically significant levels exceeding the GPS for the October 2020 monitoring event (January 2021).
- Statistical evaluation and determination of any statistically significant levels exceeding the GPS for the April 2021 monitoring event (July 2021).

- Continued work on the selection of remedy in accordance with § 257.97.
- Two semiannual assessment monitoring events (April and October 2021).

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 2020 assessment monitoring results, background upper prediction limits (UPLs), and GPSs established for PCS 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 2020 to support the selection of remedy 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.

Not applicable. No alternative source demonstration evaluation for assessment monitoring was completed in 2020.

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.

[This page left blank intentionally]

Tables

- 1 Groundwater Monitoring Well Network
- 2 CCR Rule Groundwater Samples Summary
- 3 Groundwater Elevation Summary
- 4A Horizontal Gradients and Flow Velocity
- 4B Vertical Gradients
- 5 2020 Groundwater Analytical Results Summary
- 6 2020 Groundwater Field Data Summary

**Table 1. Groundwater Monitoring Well Network
Lansing Generating Station / SCS Engineers Project #25220070.00**

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

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

Date: 12/14/2020
 Date: 1/11/2021
 Date: 1/18/2021

**Table 2. CCR Rule Groundwater Samples Summary
Lansing Generating Station / SCS Engineers Project #25220070.0**

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
2/5/2020	--	--	--	--	--	--	--	--	A-R	--
5/19-20/2020	A	A	A	A	A	A	A	A	A	A
7/6/2020	--	--	--	A-R	--	--	A-R	--	--	A-R
8/18-19/2020	A	A	A	A	A	A	A	A	A	A
10/19-20/2020	A	A	A	A	A	A	A	A	A	A
Total Samples	3	3	3	4	3	3	4	3	4	4

Abbreviations:

A = Assessment Monitoring Sample

A-R = Resampling event under Assessment Monitoring Program

-- = Not Sampled

Created by: NDK Date: 1/8/2018
 Last revision by: RM Date: 1/19/2021
 Checked by: NDK Date: 1/19/2021

**Table 4A. Horizontal Gradients and Flow Velocity
Lansing Generating Station /
SCS Engineers Project #25220070.00**

Sampling Dates	North				
	h1 (ft)	h2 (ft)	Δl (ft)	Δh/Δl (ft/ft)	V (ft/d)
5/20-21/2020 Shallow	635.00	625.00	356	0.028	1.86
5/20-21/2021 Deep	624.88	620.40	1201	0.004	0.25
10/19-20/2020 Shallow	635.00	625.00	350	0.029	1.89
10/19-20/2021 Deep	624.41	620.17	1219	0.003	0.23

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
Geometric Mean	9.3E-03	26

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
Last revision by: TK
Checked by: RM

Date: 12/29/2020
Date: 1/22/2021
Date: 1/22/2021

Table 4B. Vertical Gradients
Interstate Power & Light - Lansing, Iowa / SCS Engineers Project #25220070.00
2020

Vertical Hydraulic Gradients	MW302/MW302A		MW304/MW304A		MW306/MW306A	
	Shallow Well Screen midpoint ⁽²⁾ (feet amsl)	MW302 621.90		MW304 625.43		MW306 616.48
Deep Well Screen midpoint (feet amsl)	MW302A 592.43		MW304A 591.10		MW306A 587.06	
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)
May 20-21, 2020	29.5	-0.152	29.9	0.111	28.9	-0.001
August 19-21, 2020	29.5	-0.136	30.0	NM	28.9	0.009
October 19-20, 2020	29.5	-0.139	29.8	0.101	28.6	0.009

Notes:

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

2: MW-304 and MW-306 are water table wells, and their screens were not fully submerged during the 2020 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.

NM: Not Measured

Created by:	<u>TK</u>	Date:	<u>10/23/2020</u>
Last revision by:	<u>RM</u>	Date:	<u>1/20/2021</u>
Checked by:	<u>MDB</u>	Date:	<u>1/20/2021</u>

**Table 5. 2020 Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25220070.00**

Parameter Name	UPL Method	UPL	GPS	Background Well																				
				MW-6			MW-301			MW-302			MW-302A				MW-303			MW-304				
				5/20/2020	8/19/2020	10/20/2020	5/19/2020	8/18/2020	10/19/2020	5/20/2020	8/19/2020	10/19-22/2020	5/20/2020	7/6/2020	8/19/2020	10/19-22/2020	5/19/2020	8/18/2020	10/19/2020	5/20/2020	8/19/2020	10/19-22/2020		
Appendix III																								
Boron, ug/L	P*	100		<73.0	NA	<80	150	NA	260	480	NA	640	190	250	NA	160	150	NA	370	<73	NA	<80		
Calcium, mg/L	P	73.9		72	76	69	56	65	57	120	130	110	79	78	81	72	54	58	34	70	77	66		
Chloride, mg/L	P	8.52		7.7	6.8	5.6	17	15	15	14	12	11	7.8	6.9	7.1	6.0	15	16	15	6.2	7.7	6.2		
Fluoride, mg/L	P*	0.2		<0.23	NA	<0.23	0.56	NA	<0.23	0.25 J	0.27 J	<0.23	<0.23	<0.23	NA	<0.23	0.38 J	NA	<0.23	<0.23	NA	<0.23		
Field pH, Std. Units	P	7.9		7.34	7.98	7.42	7.85	8.33	8.06	6.93	7.18	7.06	7.27	7.22	7.41	7.33	7.67	7.65	7.77	7.32	7.55	7.16		
Sulfate, mg/L	P	29.4		27	25	25	34	44	48	<3.6	<3.6	<3.6	53	47	49	47	42	33	20	17	15	16		
Total Dissolved Solids, mg/L	P	386.7		580	NA	300	480	NA	280	710	NA	490	520	350	NA	350	450	NA	180	470	NA	270		
Appendix IV																								
		UPL	GPS																					
Antimony, ug/L	NP*	0.037	6	<0.58	NA	NA	<0.58	NA	NA	<0.58	NA	NA	<0.58	<0.51	NA	NA	<0.58	NA	NA	<0.58	NA	NA		
Arsenic, ug/L	P*	0.37	10	<0.88	NA	<0.88	3.8	NA	6.0	33	NA	48	<0.88	<0.88	NA	<0.88	1.4 J	NA	3.2	<0.88	NA	<0.88		
Barium, ug/L	P	48.5	2,000	46	NA	45	140	NA	150	610	NA	630	51	47	NA	46	210	NA	190	42.0	NA	42.0		
Beryllium, ug/L	DQ	DQ	4	<0.27	NA	NA	<0.27	NA	NA	<0.27	NA	NA	<0.27	<0.27	NA	NA	<0.27	NA	NA	<0.27	NA	NA		
Cadmium, ug/L	DQ	DQ	5	<0.039	NA	<0.049	<0.039	NA	<0.049	<0.039	NA	<0.049	<0.039	<0.049	NA	<0.049	<0.039	NA	<0.049	<0.039	NA	<0.049		
Chromium, ug/L	P	1.20	100	<1.1	NA	<1.1	<1.1	NA	<1.1	<1.1	NA	<1.1	<1.1	<1.1	NA	1.2 J	<1.1	NA	<1.1	8.2	NA	<1.1		
Cobalt, ug/L	NP*	0.34	6	<0.091	NA	<0.091	0.11 J	NA	0.11 J	1.0	NA	0.86	0.41 J	0.098 J	NA	<0.091	<0.091	NA	0.098 J	0.22 J	NA	<0.091		
Lithium, ug/L	NP*	3	40	<2.3	NA	<2.5	7.0 J	NA	7.9 J	<2.3	NA	<2.5	<2.3	<2.5	NA	<2.5	4.2 J	NA	9.5 J	<2.3	NA	<2.5		
Mercury, ug/L	DQ	DQ	2	<0.10	NA	NA	<0.10	NA	NA	<0.10	NA	NA	<0.10	<0.10	NA	NA	<0.10	NA	NA	<0.10	NA	NA		
Molybdenum, ug/L	P*	0.37	100	<1.1	<1.1	<1.1	8.1	5.8	7.5	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	3.1	23	10	<1.1	1.2 J	<1.1		
Selenium, ug/L	P*	0.72	50	<1.0	NA	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	1.3 J	1.1 J	NA	<1.0	1.4 J	NA	<1.0	<1.0	NA	<1.0		
Thallium, ug/L	NP*	SCC	2	<0.26 ##	NA	NA	<0.26	NA	NA	<0.26	NA	NA	<0.26	<0.26	NA	NA	<0.26	NA	NA	<0.26	NA	NA		
Radium 226/228 Combined, pCi/L	P	1.88	5	0.504	NA	0.644	0.200	NA	0.889	1.54	NA	1.41	0.24	0.0963	NA	0.732	0.131	NA	0.27	0.0689	NA	0.139		
Additional Parameters - Selection of Remedy																								
Arsenic, dissolved [#] , ug/L	UPL or GPS not applicable			NA	2.8	NA	NA	4.5	NA	NA	46	44	NA	NA	<0.88	NA	NA	2.1	NA	NA	<0.88	NA		
Tritium content of water, TU				NA	NA	NA	NA	NA	NA	NA	NA	NA	5.38 ± 0.20	NA	NA	NA	3.43 ± 0.13	NA	NA	NA	NA	NA	NA	4.45 ± 0.23
Calcium, ug/L				NA	NA	74,000	NA	NA	62,000	NA	NA	130,000	NA	NA	NA	81,000	NA	NA	35,000	NA	NA	75,000	NA	NA
Iron, dissolved [#] , ug/L				NA	<50	<50.0	NA	330	110	NA	32,000	30,000	NA	NA	330	56 J	NA	<50	<50	NA	<50	<50.0	NA	<50
Iron, ug/L				NA	<50	<50.0	NA	680	500	NA	33,000	33,000	NA	NA	230	<50	NA	<50	<50	NA	51 J	<50.0	NA	<50.0
Magnesium, ug/L				NA	38,000	37,000	NA	19,000	18,000	NA	43,000	42,000	NA	NA	39,000	38,000	NA	19,000	13,000	NA	36,000	35,000	NA	35,000
Manganese, dissolved, ug/L [#]				NA	6.6 J	25	NA	810	530	NA	2,800	2,500	NA	NA	38	10	NA	120	160	NA	6.9 J	4.1 J	NA	4.1 J
Manganese, ug/L				NA	<4	<4.0	NA	800	560	NA	2,800	2,700	NA	NA	19	<4.0	NA	120	180	NA	11	6.0 J	NA	6.0 J
Molybdenum, dissolved, ug/L [#]				NA	4.7	NA	NA	6.1	NA	NA	1.4 J	NA	NA	NA	<1.1	NA	23	NA	NA	1.6 J	NA	NA	NA	NA
Potassium, ug/L				NA	1.2	1,100	NA	3,200	3,600	NA	4,700	4,300	NA	NA	1,200	1,000	NA	5,600	2,200	NA	1,500	1,300	NA	1,300
Sodium, ug/L				NA	5.0	4,500	NA	13,000	11,000	NA	17,000	17,000	NA	NA	7,500	6,700	NA	13,000	12,000	NA	5,600	6,100	NA	6,100
Total Alkalinity, mg/L				NA	290	300	NA	200	160	NA	530	540	NA	NA	290	300	NA	190	120	NA	300	310	NA	310
Carbonate Alkalinity, mg/L				NA	<3.8	<3.8	NA	<3.8	<3.8	NA	<7.6	<3.8	NA	NA	<3.8	<3.8	NA	<3.8	<3.8	NA	<3.8	<3.8	NA	<3.8
Bicarbonate Alkalinity, mg/L	NA	290	300	NA	200	160	NA	530	540	NA	NA	290	300	NA	190	120	NA	300	310	NA	310			

4.4
30.8
17

Blue highlighted cell indicates the compliance well result exceeds the UPL (background) and the LOQ.
 Yellow highlighted cell indicates the compliance well result exceeds the GPS.
 Grayscale indicates Additional Parameters sampled for selection of remedy and evaluation of MNA.

See Page 3 for abbreviations and notes.

Table 5. 2020 Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25220070.00

Parameter Name	UPL Method	UPL	GPS	Delineation Wells															
				MW-304A				MW-305			MW-306				MW-306A				
				5/20/2020	7/6/2020	8/19/2020	10/19-22/2020	5/19/2020	8/18/2020	10/20/2020	2/5/2020	5/19/2020	8/18/2020	10/20/2020	5/19/2020	7/6/2020	8/18/2020	10/20/2020	
Appendix III																			
Boron, ug/L	P*	100		1,800	1,700	NA	1,700	210	NA	220	NA	720	NA	720	290	340	NA	280	
Calcium, mg/L	P	73.9		54	41	50	35	82	90	76	NA	340	290	260	83	82	86	76	
Chloride, mg/L	P	8.52		15	13	13	12	7.5	6.9	6	NA	32	28	27	7.8	7.1	7.4	7.2	
Fluoride, mg/L	P*	0.2		0.57	0.42	J	NA	<0.23	0.23	J	NA	<0.23	NA	<0.23	<0.23	<0.23	NA	<0.23	
Field pH, Std. Units	P	7.9		8.04	7.90	8.48	7.89	6.90	7.23	7.24	6.95	6.66	7.12	6.88	6.99	7.04	7.38	7.18	
Sulfate, mg/L	P	29.4		83	77	76	76	<3.6	<3.6	<3.6	NA	430	260	220	44	40	41	41	
Total Dissolved Solids, mg/L	P	386.7		680	330	NA	310	540	NA	320	NA	3,400	NA	1,100	610	360	NA	350	
Appendix IV																			
Antimony, ug/L	NP*	0.037	6	<0.58	<0.51	NA	NA	<0.58	NA	NA	NA	<0.58	NA	NA	<0.58	<0.51	NA	NA	
Arsenic, ug/L	P*	0.37	10	1.3	J	<0.88	NA	<0.88	3.6	NA	5.6	9.4	8.5	10	<0.88	<0.88	NA	<0.88	
Barium, ug/L	P	48.5	2,000	67.0	34.0	NA	28.0	220	NA	200	NA	260	NA	250	61.0	58.0	NA	58.0	
Beryllium, ug/L	DQ	DQ	4	<0.27	<0.27	NA	NA	<0.27	NA	NA	NA	<0.27	NA	NA	<0.27	<0.27	NA	NA	
Cadmium, ug/L	DQ	DQ	5	0.19	0.098	J	NA	0.073	J	<0.039	NA	<0.039	NA	<0.039	<0.039	<0.039	NA	<0.039	
Chromium, ug/L	P	1.20	100	2.2	J	1.1	J	NA	<1.1	<1.1	NA	<1.1	NA	<1.1	<1.1	<1.1	NA	<1.1	
Cobalt, ug/L	NP*	0.34	6	3.2	0.83	NA	0.43	J	0.32	J	NA	0.12	J	0.53	NA	0.24	J	0.33	J
Lithium, ug/L	NP*	3	40	2.7	J	<2.5	NA	<2.5	<2.3	NA	<2.5	NA	25	NA	26	<2.3	<2.5	NA	<2.5
Mercury, ug/L	DQ	DQ	2	<0.10	<0.10	NA	NA	<0.10	NA	NA	NA	<0.10	NA	NA	<0.10	<0.10	NA	NA	
Molybdenum, ug/L	P*	0.37	100	110	140	140	130	<1.1	1.8	J	<1.1	NA	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	
Selenium, ug/L	P*	0.72	50	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	NA	<1.0	
Thallium, ug/L	NP*	SCC	2	<0.26	<0.26	NA	NA	<0.26	NA	NA	NA	<0.26	NA	NA	<0.26	<0.26	NA	NA	
Radium 226/228 Combined, pCi/L	P	1.88	5	0.630	0.573	NA	0.157	0.837	NA	0.377	NA	1.05	NA	1.16	1.12	0.525	NA	0.124	
Additional Parameters - Selection of Remedy																			
Arsenic, dissolved [#] , ug/L	UPL or GPS not applicable			NA	NA	<0.88	NA	NA	6.4	NA	NA	NA	9.4	NA	NA	NA	<0.88	NA	
Tritium content of water, TU				NA	NA	NA	5.45 ± 0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, ug/L				NA	NA	NA	35,000	NA	NA	87,000	NA	NA	NA	280,000	NA	NA	NA	NA	85,000
Iron, dissolved [#] , ug/L				NA	NA	<50	55	J	NA	11,000	10,000	NA	NA	44,000	39,000	NA	NA	1,900	1,600
Iron, ug/L				NA	NA	940	270	NA	13,000	12,000	NA	NA	43,000	40,000	NA	NA	2,100	1,900	
Magnesium, ug/L				NA	NA	21,000	16,000	NA	32,000	32,000	NA	NA	54,000	46,000	NA	NA	38,000	37,000	
Manganese, dissolved, ug/L [#]				NA	NA	16	7.3	J	NA	2,000	1,800	NA	NA	5,100	4,800	NA	NA	1,200	1,100
Manganese, ug/L				NA	NA	99	26	NA	2,000	1,800	NA	NA	5,200	4,800	NA	NA	1,200	1,100	
Molybdenum, dissolved, ug/L [#]				NA	NA	160	140	NA	2.8	NA	NA	NA	<1.1	NA	NA	NA	<1.1	NA	
Potassium, ug/L				NA	NA	830	680	NA	2,200	1,800	NA	NA	8,200	7,100	NA	NA	1,400	1,200	
Sodium, ug/L				NA	NA	69,000	63,000	NA	8,900	7,700	NA	NA	110,000	110,000	NA	NA	12,000	11,000	
Total Alkalinity, mg/L				NA	NA	190	190	NA	340	340	NA	NA	850	800	NA	NA	330	320	
Carbonate Alkalinity, mg/L				NA	NA	<7.6	<3.8	NA	<7.6	<3.8	NA	NA	<7.6	<3.8	NA	NA	<7.6	<1.9	
Bicarbonate Alkalinity, mg/L				NA	NA	190	190	NA	340	340	NA	NA	850	800	NA	NA	330	320	

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 Grayscale indicates Additional Parameters sampled for selection of remedy and evaluation of MNA.

See Page 3 for abbreviations and notes.

**Table 5. 2020 Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25220070.00**

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.

DQ = Double Quantification rule applies (not detected in background samples)

* = 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
 Last revision by: NDK
 Checked by: ZTW
 Proj Mgr QA/QC: TK

Date: 5/1/2018
 Date: 1/28/2021
 Date: 1/28/2021
 Date: 1/28/2021

Table 6. 2020 Groundwater Field Data Summary
Lansing Generating Station / SCS Engineers Project #25220070.00

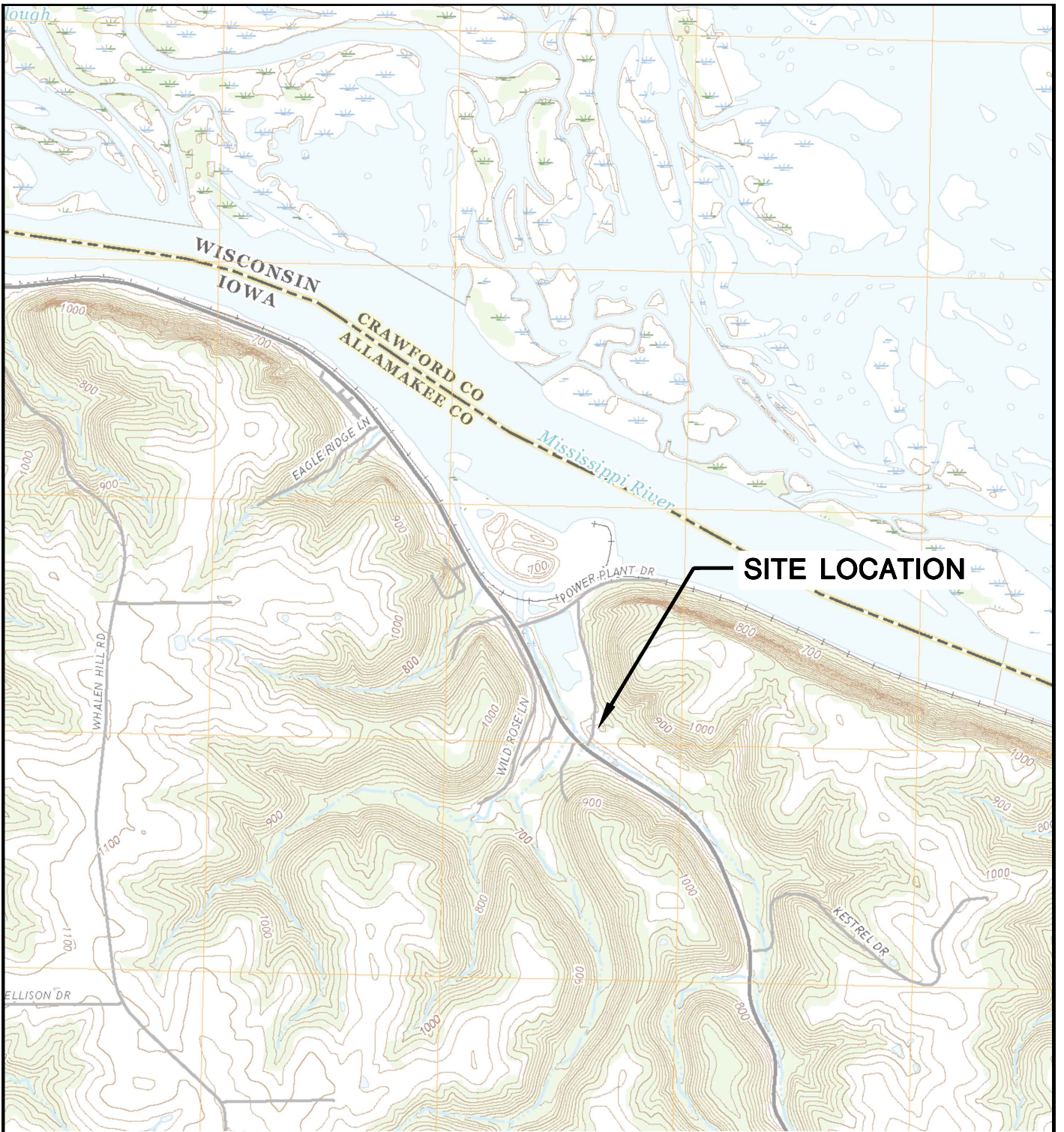
Well	Sample Date	Groundwater Elevation (feet)	Field Temperature (deg C)	Field pH (Std. Units)	Oxygen, Dissolved (mg/L)	Field Specific Conductance (umhos/cm)	Field Oxidation Potential (mV)	Turbidity (NTU)
MW-301	5/19/2020	624.46	11.3	7.85	0.75	474	-77.6	1.4
	8/18/2020	625.02	15.0	8.33	0.16	476	-115.3	1.7
	10/19/2020	624.42	14.7	8.06	0.42	489	-97.0	0.8
MW-302	5/20/2020	627.68	8.7	6.93	0.19	1,070	-161.5	4.2
	8/19/2020	627.53	16.2	7.18	0.05	1,039	-173.0	4.0
	10/19/2020	627.14	14.4	7.06	0.10	1,074	-182.5	3.0
MW-302A	5/20/2020	623.19	11.7	7.27	6.55	644	126.9	11.9
	7/6/2020	624.20	11.7	7.22	6.60	641	47.0	4.7
	8/19/2020	623.52	11.8	7.41	6.23	638	74.1	0.2
	10/19/2020	623.03	11.4	7.33	6.46	650	125.4	0.6
MW-303	5/19/2020	637.98	6.3	7.67	1.29	464	28.9	0.0
	8/18/2020	638.22	30.4	7.65	0.15	468	25.8	1.6
	10/19/2020	636.96	23.5	7.77	0.58	340	38.4	0.0
MW-304	5/20/2020	621.57	9.0	7.32	7.78	574	104.9	3.7
	8/19/2020	621.75	11.8	7.55	6.76	583	109.6	1.1
	10/19/2020	621.40	11.8	7.16	6.84	602	155.6	0.4
MW-304A	5/20/2020	624.88	12.6	8.04	0.48	529	61.8	586
	7/6/2020	625.76	19.1	7.90	0.30	541	-15.8	182
	8/19/2020	--	14.0	8.48	0.27	533	50.5	236
	10/19/2020	624.41	10.1	7.89	0.78	547	162.7	90
MW-305	5/19/2020	627.24	9.8	6.90	0.48	684	-138.0	20.4
	8/18/2020	626.98	19.0	7.23	0.07	654	-162.9	27.3
	10/20/2020	626.54	15.6	7.24	0.22	634	-145.4	3.7
MW-306	2/5/2020	620.83	13.7	6.95	0.23	2,477	-127.7	4.4
	5/19/2020	620.43	12.7	6.66	0.30	2,332	-137.0	2.6
	8/18/2020	620.37	15.0	7.12	0.10	1,911	-139.1	0.2
	10/20/2020	619.92	16.2	6.88	0.26	1,832	-142.3	3.1
MW-306A	5/19/2020	620.40	14.6	6.99	1.18	697	-21.7	4.2
	7/6/2020	621.66	15.3	7.04	1.24	683	-55.8	1.4
	8/18/2020	620.63	15.5	7.38	1.16	654	21.2	2.7
	10/20/2020	620.17	14.4	7.18	1.30	681	-38.5	1.6
MW-6	5/20/2020	674.47	10.0	7.34	9.20	597	119.6	0.0
	8/19/2020	674.64	9.8	7.98	9.45	597	113.9	0.0
	10/20/2020	673.37	9.7	7.42	8.23	576	68.5	0.0

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

Date: 12/23/2020
 Date: 1/11/2021
 Date: 1/19/2021

Figures

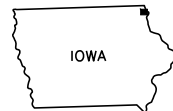
- 1 Site Location Map
- 2 Site Plan and Monitoring Well Locations
- 3 Water Table Map, May 20-21, 2020
- 4 Potentiometric Surface Map, May 20-21, 2020
- 5 Water Table Map, October 19-20, 2020
- 6 Potentiometric Surface Map, October 19-20, 2020



SITE LOCATION

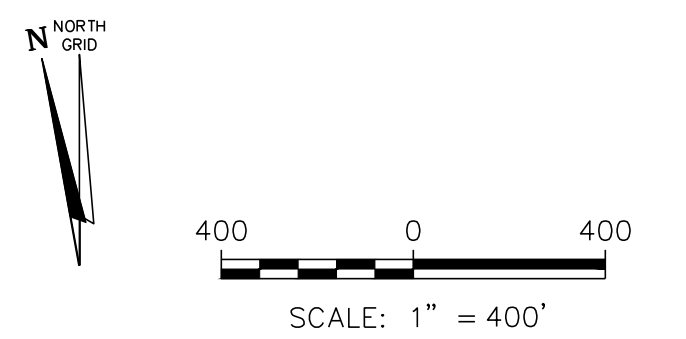
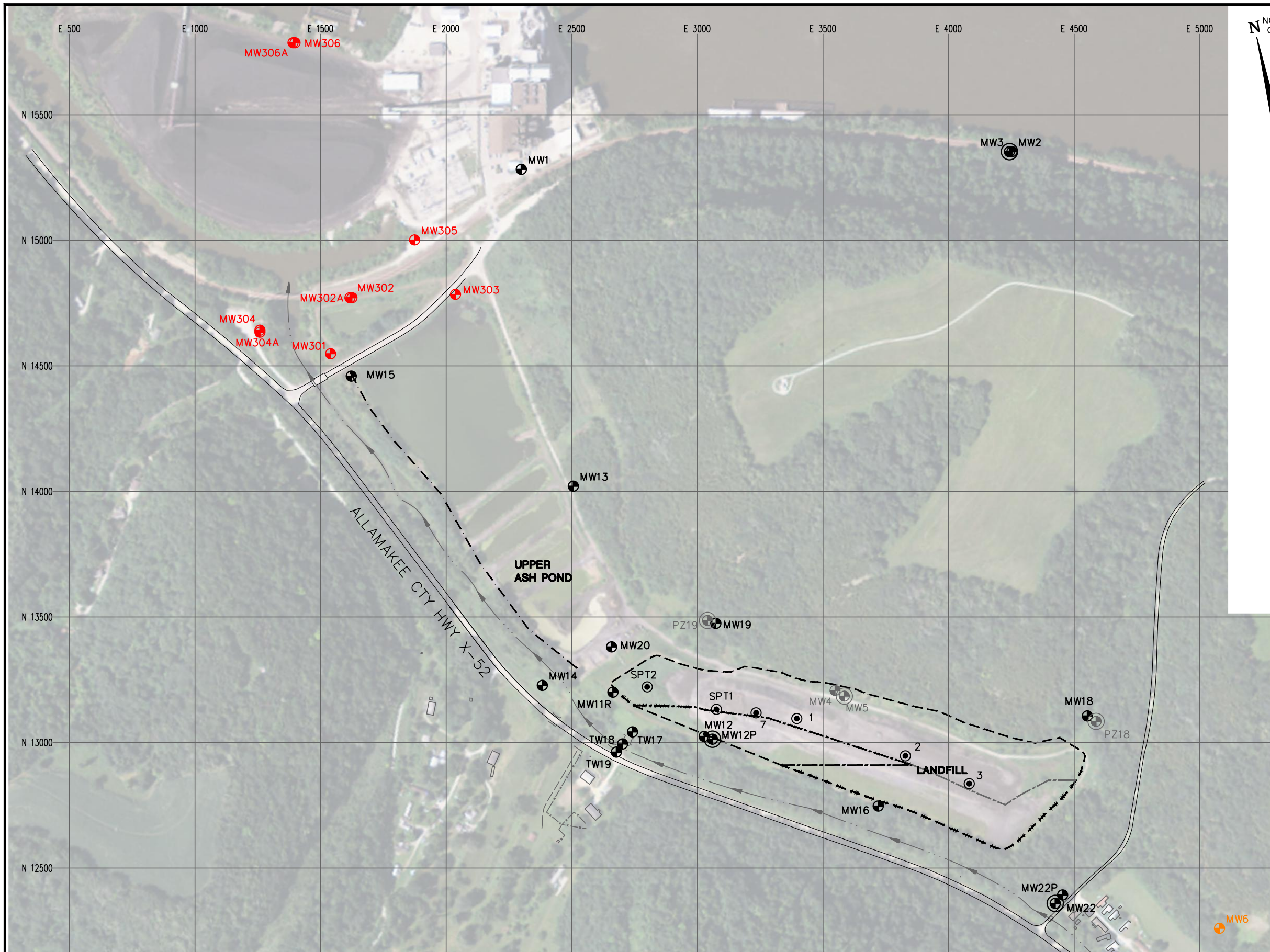


LANSING QUADRANGLE
 IOWA-ALLAMAKEE CO.
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 2018
 SCALE: 1" = 2,000'



CLIENT	INTERSTATE POWER AND LIGHT 2320 POWER PLANT DRIVE LANSING, IA 52151-9733		SITE	ALLIANT ENERGY LANSING GENERATING STATION LANSING, IOWA		ENGINEER	SITE LOCATION MAP		
	PROJECT NO.	25219070.00		DRAWN BY:	BSS		SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE	1
	DRAWN:	11/27/2019		CHECKED BY:	MDB				
REVISD:	11/27/2019	APPROVED BY:	TK 01/30/2020						

I:\25219070.00\Drawings\CCR 2019 Annual Report\Site Location Map.dwg, 1/30/2020 3:31:40 PM



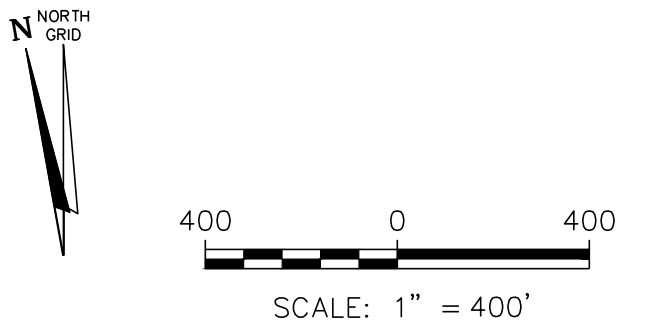
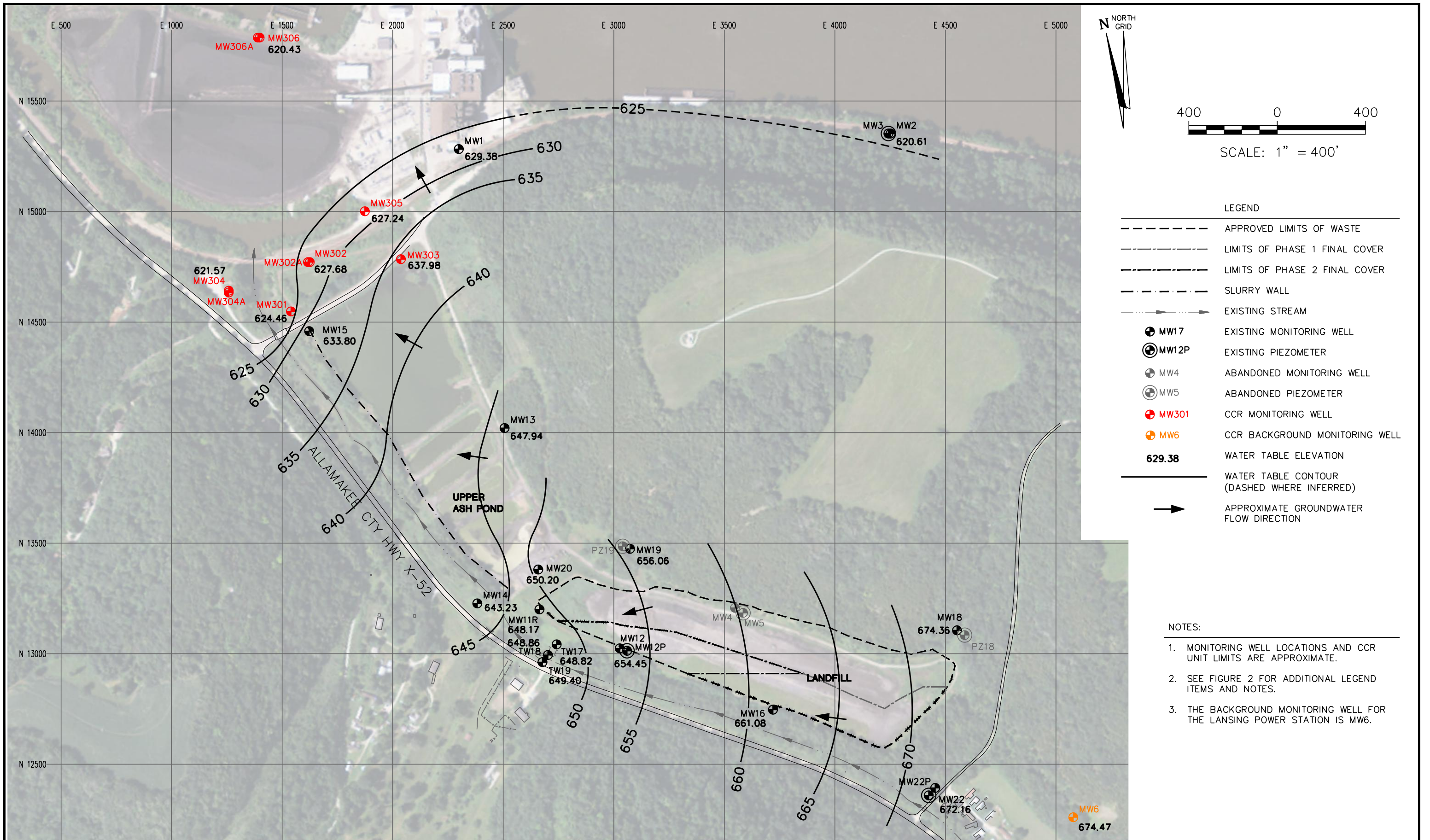
LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
	EXISTING MONITORING WELL
	EXISTING PIEZOMETER
	ABANDONED MONITORING WELL
	ABANDONED PIEZOMETER
	CCR MONITORING WELL
	CCR BACKGROUND MONITORING WELL
	SOIL BORING

- NOTES:
- 2011 AERIAL PHOTOGRAPH FROM THE USDA-FSA AERIAL PHOTOGRAPHY FIELD OFFICE.
 - MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
 - MONITORING WELLS MW20, MW301, MW302, AND MW303 WERE INSTALLED BY CASCADE DRILLING IN NOVEMBER 2015.
 - MONITORING WELLS MW304, MW305, AND MW306 WERE INSTALLED BY ROBERTS ENVIRONMENTAL DRILLING IN MAY 2019.
 - MONITORING WELLS MW302A, MW304A, AND MW306A WERE INSTALLED BY CASCADE DRILLING IN DECEMBER 2019.
 - ONLY BORINGS USED FOR GEOLOGIC CROSS SECTION A-A' ARE SHOWN.
 - MW6 IS SAMPLED UNDER BOTH THE STATE AND CCR RULE MONITORING PROGRAMS.
 - THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

PROJECT NO. 25220070.00	DRAWN BY: BSS	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
DRAWN: 11/27/2019	CHECKED BY: MDB								2
REVISED: 11/09/2020	APPROVED BY: TK 01/28/2021								

I:\25220070.00\Drawings\Site Plan and Monitoring - Well Locations - PDA - D.dwg, 1/27/2021 10:01:00 AM

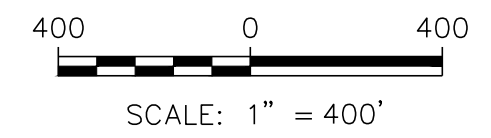
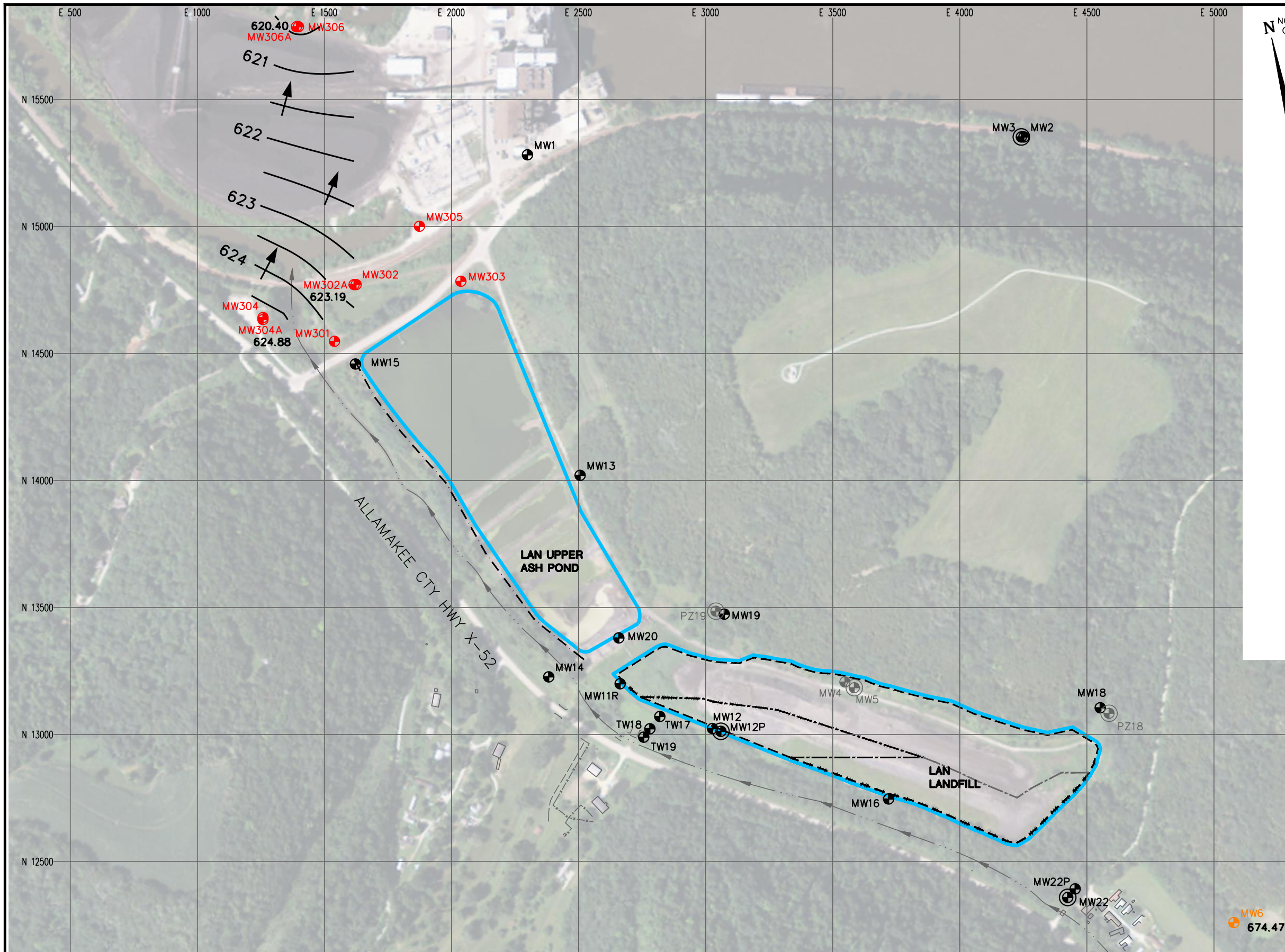


LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
	EXISTING MONITORING WELL
	EXISTING PIEZOMETER
	ABANDONED MONITORING WELL
	ABANDONED PIEZOMETER
	CCR MONITORING WELL
	CCR BACKGROUND MONITORING WELL
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.

PROJECT NO. 25220070.00	DRAWN BY: KP/BSS	 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	FIGURE 3
DRAWN: 09/18/2020	CHECKED BY: MDB		WATER TABLE MAP MAY 20-21, 2020		
REVISED: 11/09/2020	APPROVED BY: TK 01/28/2021				
I:\25220070.00\Drawings\Map\2020\25220070.dwg, 1/2/2021 9:21:52 AM					



- LEGEND**
- APPROVED LIMITS OF WASTE
 - LIMITS OF PHASE 1 FINAL COVER
 - LIMITS OF PHASE 2 FINAL COVER
 - SLURRY WALL
 - EXISTING STREAM
 - 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
 - 623.19 WATER TABLE ELEVATION MEASURED ON MAY 20-21, 2020
 - WATER TABLE CONTOUR
 - APPROXIMATE GROUNDWATER FLOW DIRECTION

- 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. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

PROJECT NO.	25220070.00	DRAWN BY:	BSS
DRAWN:	07/31/2020	CHECKED BY:	MDB
REVISED:	07/31/2020	APPROVED BY:	TK 01/21/2021

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

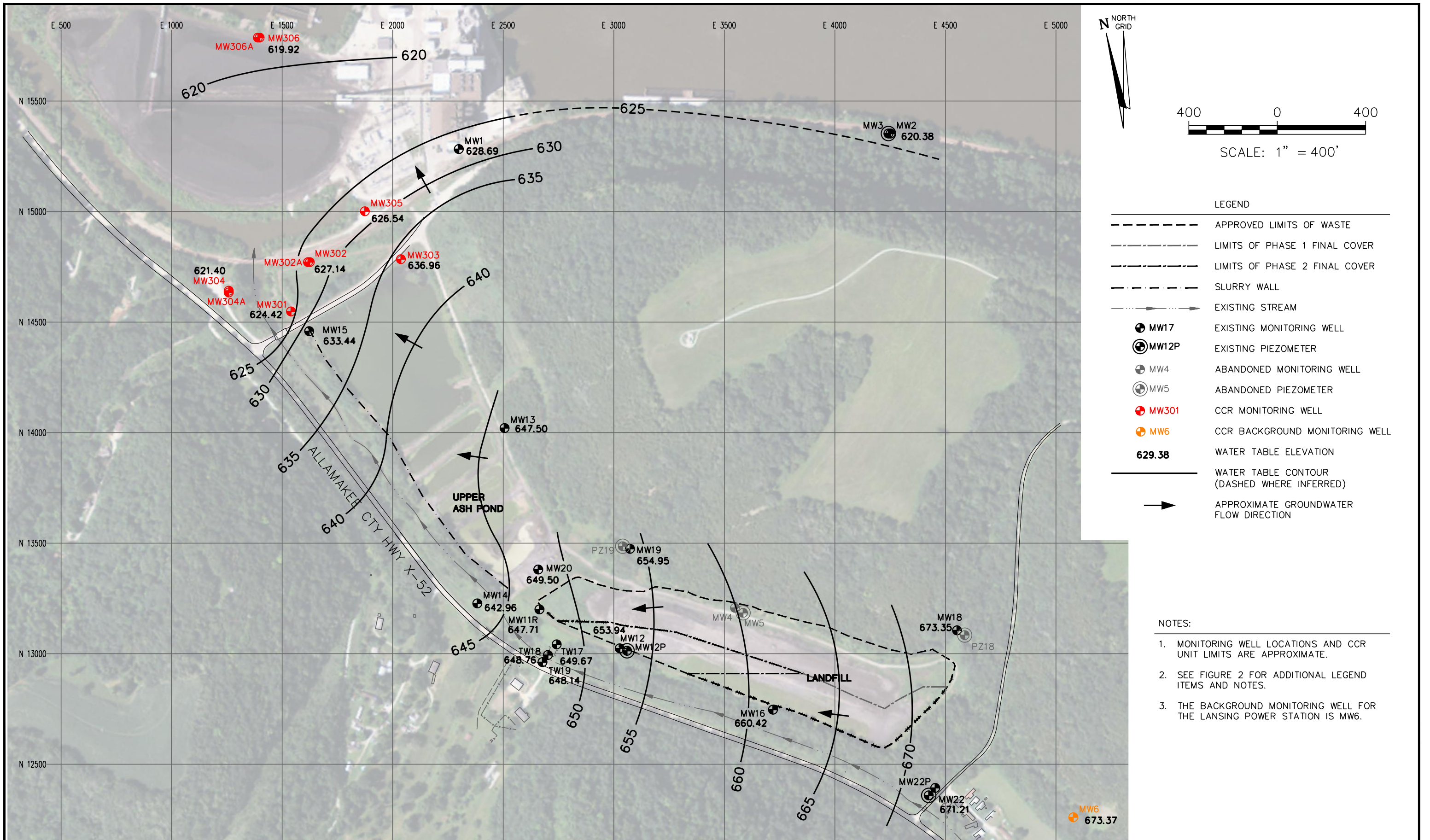
CLIENT INTERSTATE POWER AND LIGHT
 2320 POWER PLANT DRIVE
 LANSING, IA 52151-9733

SITE ALLIANT ENERGY
 LANSING POWER STATION
 LANSING, IOWA

POTENTIOMETRIC SURFACE MAP
 MAY 20-21, 2020

FIGURE
 4

I:\25220070.00\Drawings\IP\Map\2020.dwg, 1/21/2021 3:24:00 PM

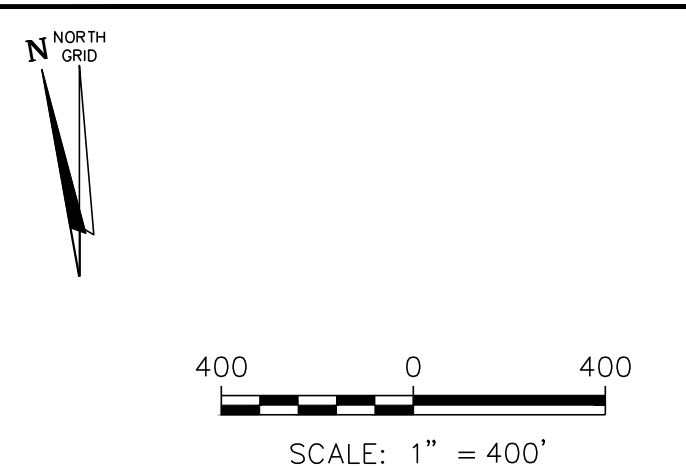
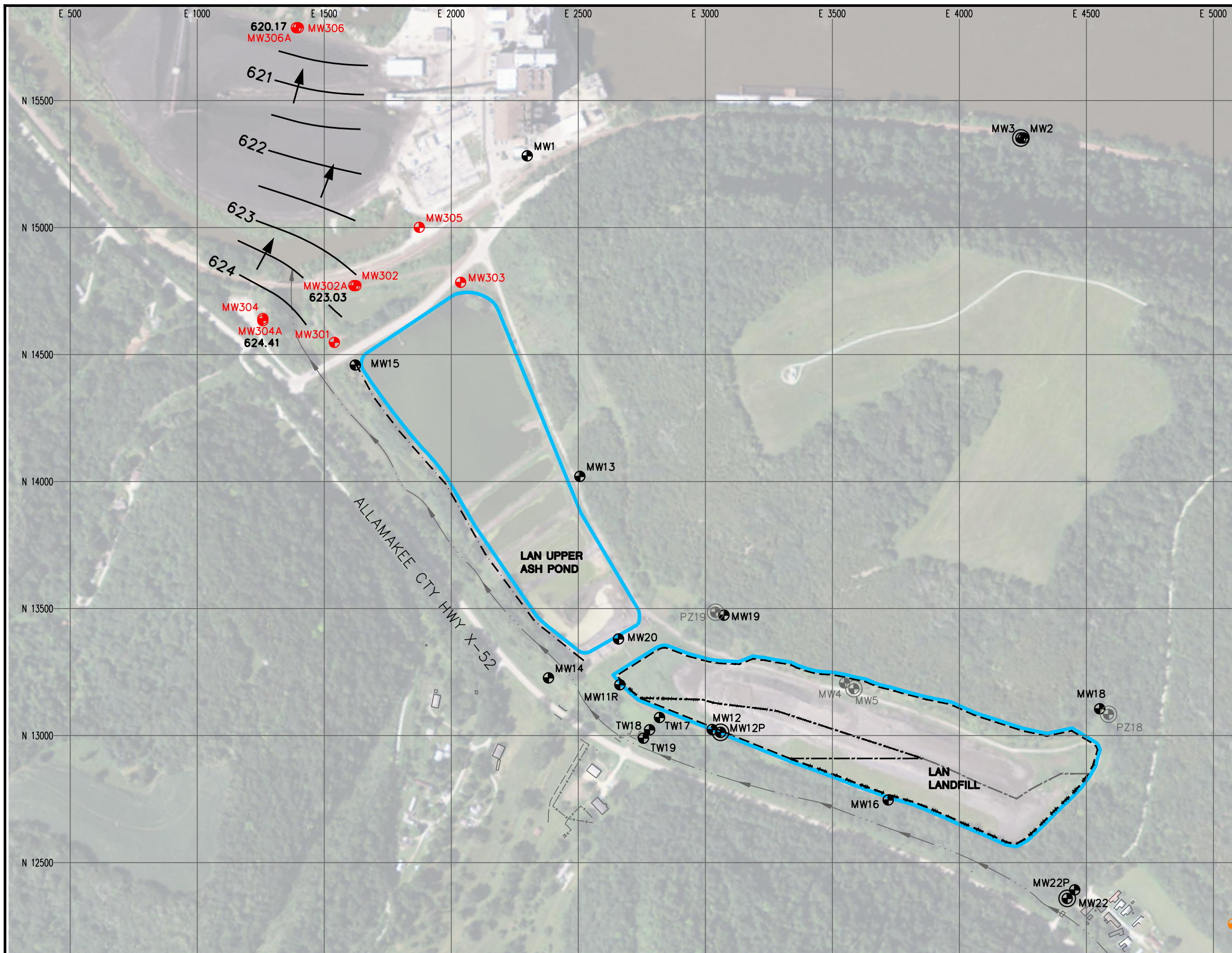


- LEGEND**
- APPROVED LIMITS OF WASTE
 - LIMITS OF PHASE 1 FINAL COVER
 - LIMITS OF PHASE 2 FINAL COVER
 - - - SLURRY WALL
 - EXISTING STREAM
 - MW17 EXISTING MONITORING WELL
 - ⊕ MW12P EXISTING PIEZOMETER
 - ⊕ MW4 ABANDONED MONITORING WELL
 - ⊕ MW5 ABANDONED PIEZOMETER
 - MW301 CCR MONITORING WELL
 - MW6 CCR BACKGROUND MONITORING WELL
 - 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.

PROJECT NO. 25220070.00	DRAWN BY: KP/BSS/ZTW	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 19-20, 2020	FIGURE	
DRAWN: 09/18/2020	CHECKED BY: MDB									5
REVISED: 01/22/2021	APPROVED BY: TK 01/28/2021									

I:\25220070.00\Drawings\Map\2020\12.dwg, 1/2/2021 9:24:49 AM



- LEGEND**
- APPROVED LIMITS OF WASTE
 - - - LIMITS OF PHASE 1 FINAL COVER
 - - - LIMITS OF PHASE 2 FINAL COVER
 - - - SLURRY WALL
 - EXISTING STREAM
 - 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
 - 624.20 WATER TABLE ELEVATION MEASURED ON OCTOBER 19-20, 2020
 - WATER TABLE CONTOUR
 - APPROXIMATE GROUNDWATER FLOW DIRECTION

- 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. THE BACKGROUND MONITORING WELL FOR THE LANSING POWER STATION IS MW6.

PROJECT NO.	25220070.00	DRAWN BY:	BSS/ZTW
DRAWN:	07/31/2020	CHECKED BY:	TK
REVISED:	12/09/2020	APPROVED BY:	TK 01/20/2021

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 19-20, 2020

FIGURE
 6

I:\25220070.00\Drawings\IP\1\2020.dwg, 1/2/2021 3:21:53 PM



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 Fort Atkinson – Elgin aquifer	Shale and dolostone, some chert	Non-aquifer to local aquifer, small- to-moderate yields	0 – 300	425 – 455 m.y.
		Galena Gp	Dubuque Fm Wise Lake Fm Dunleith Fm Decorah Fm				
		Platteville Fm Glenwood Fm	Decorah- Platteville- Glenwood confining beds	Limestone and shale	Non-aquifer	0 – 50	
		St. Peter Sandstone	Cambrian- Ordovician aquifer	Sandstone	Major aquifer, mostly artesian, large yields	0 – 580	460 – 500 m.y.
		Prairie du Chien Gr		Dolostone, minor sandstone and chert			500 – 503 m.y.
Cambrian		Jordan Sandstone	Cambrian confining beds	Sandstone, dolomitic	Non-aquifer	0 – 400	503 – 508 m.y.
		St. Lawrence Fm Lone Rock (Franconia) Fm		Dolostone, silty 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

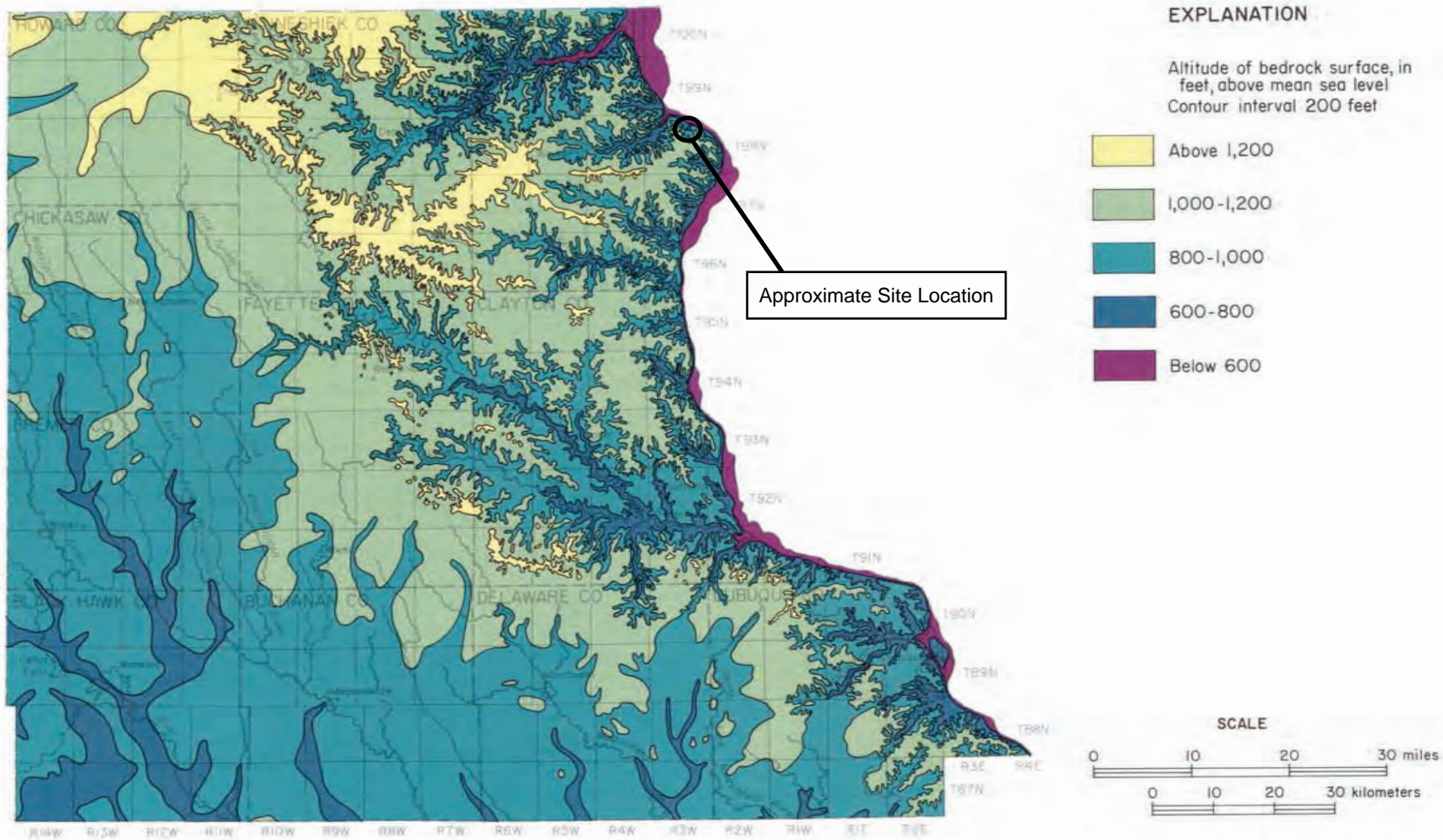


Figure 30. Altitude and configuration of the bedrock surface

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

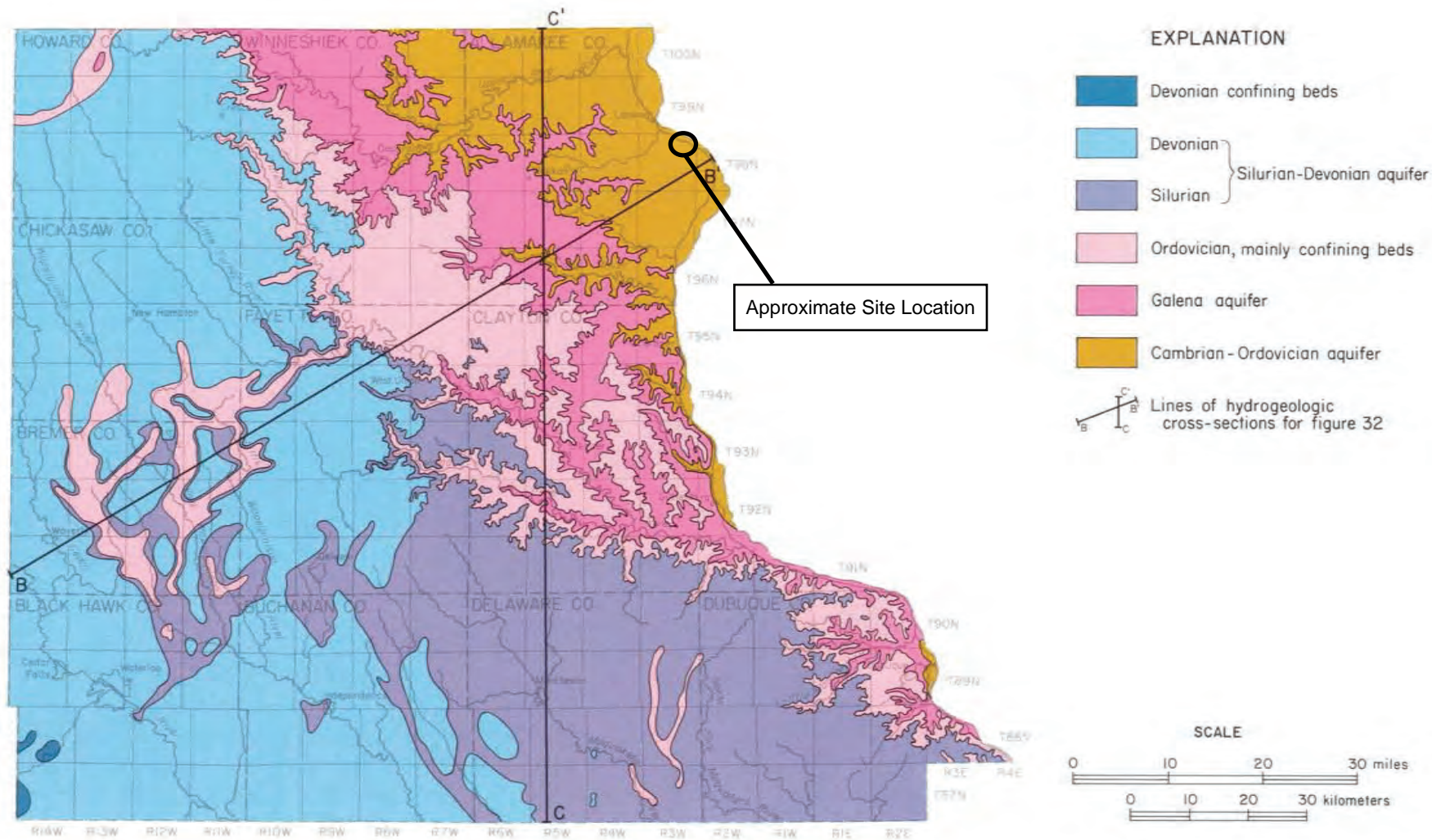
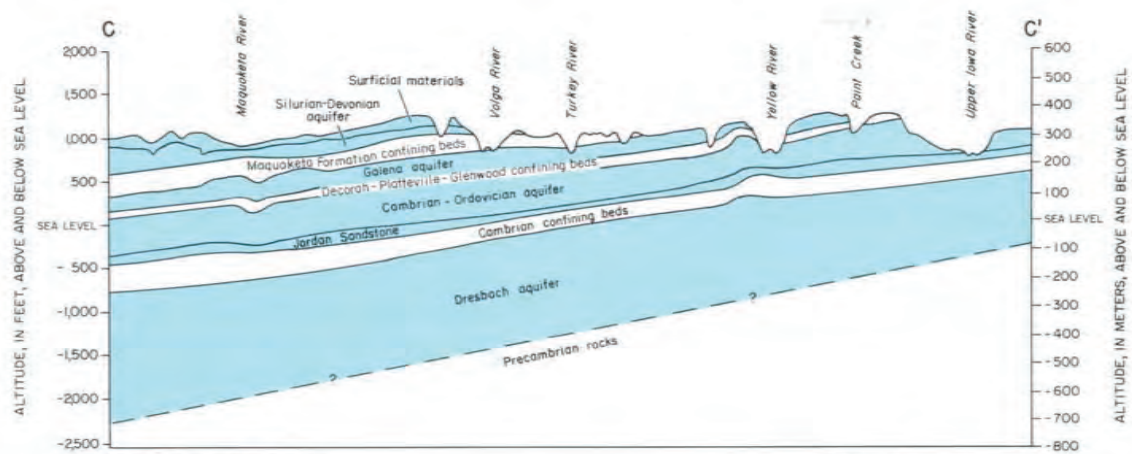
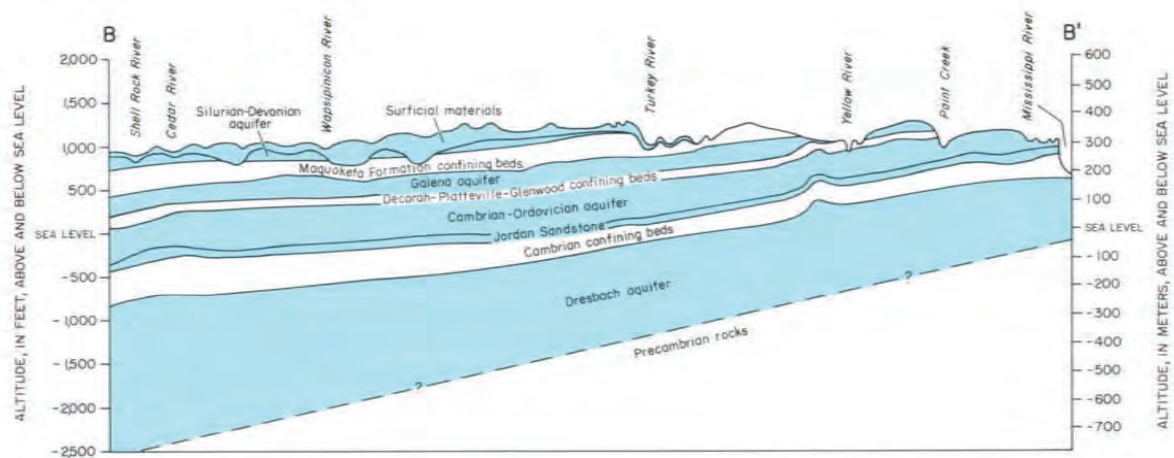


Figure 31. Bedrock hydrogeologic map

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



VERTICAL EXAGGERATION = 42X
 Location of sections shown in figure 31

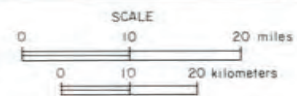


Figure 32. Hydrogeologic cross-sections

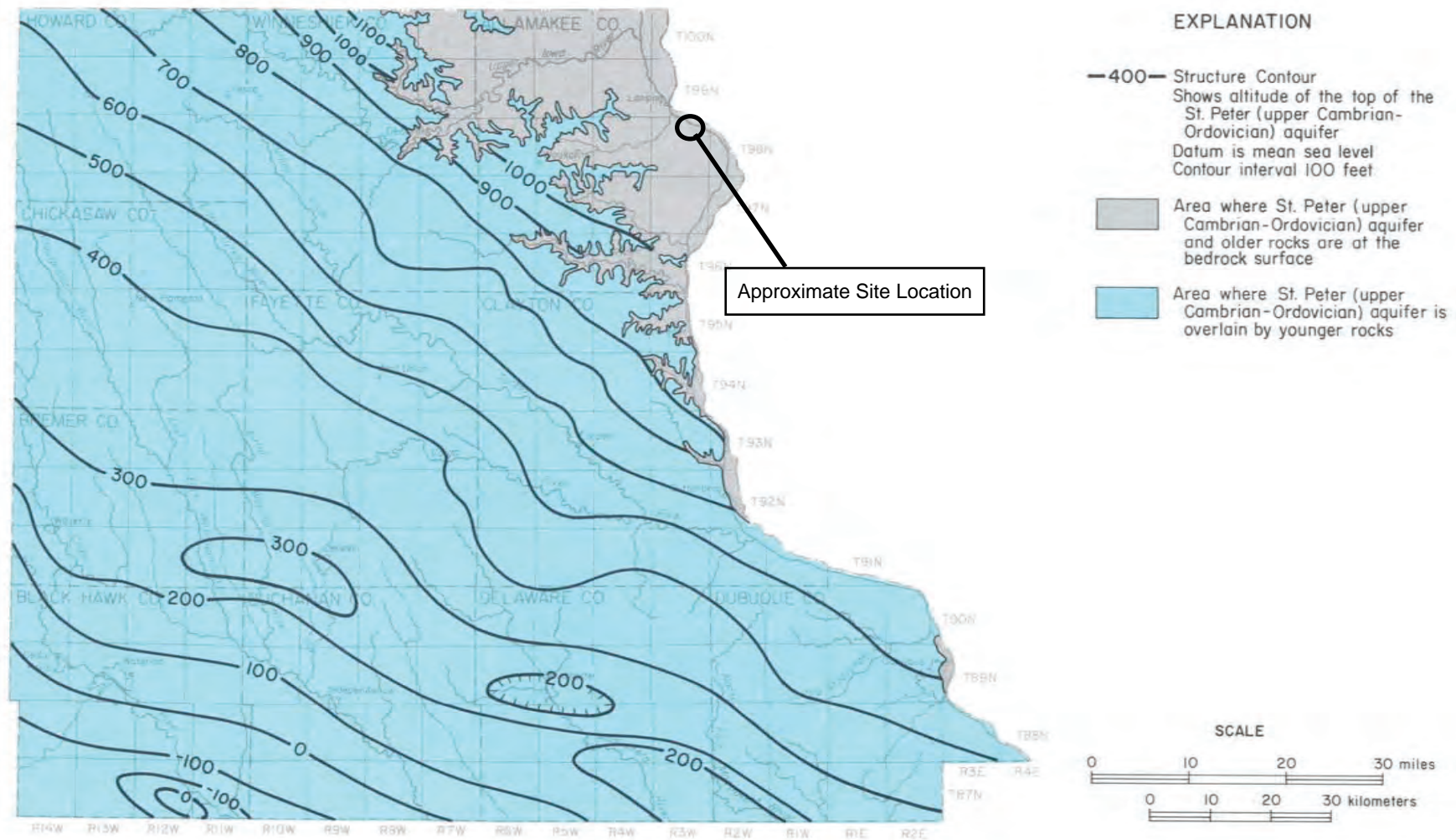


Figure 38. Altitude of the top of the St. Peter (upper Cambrian-Ordovician) aquifer

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

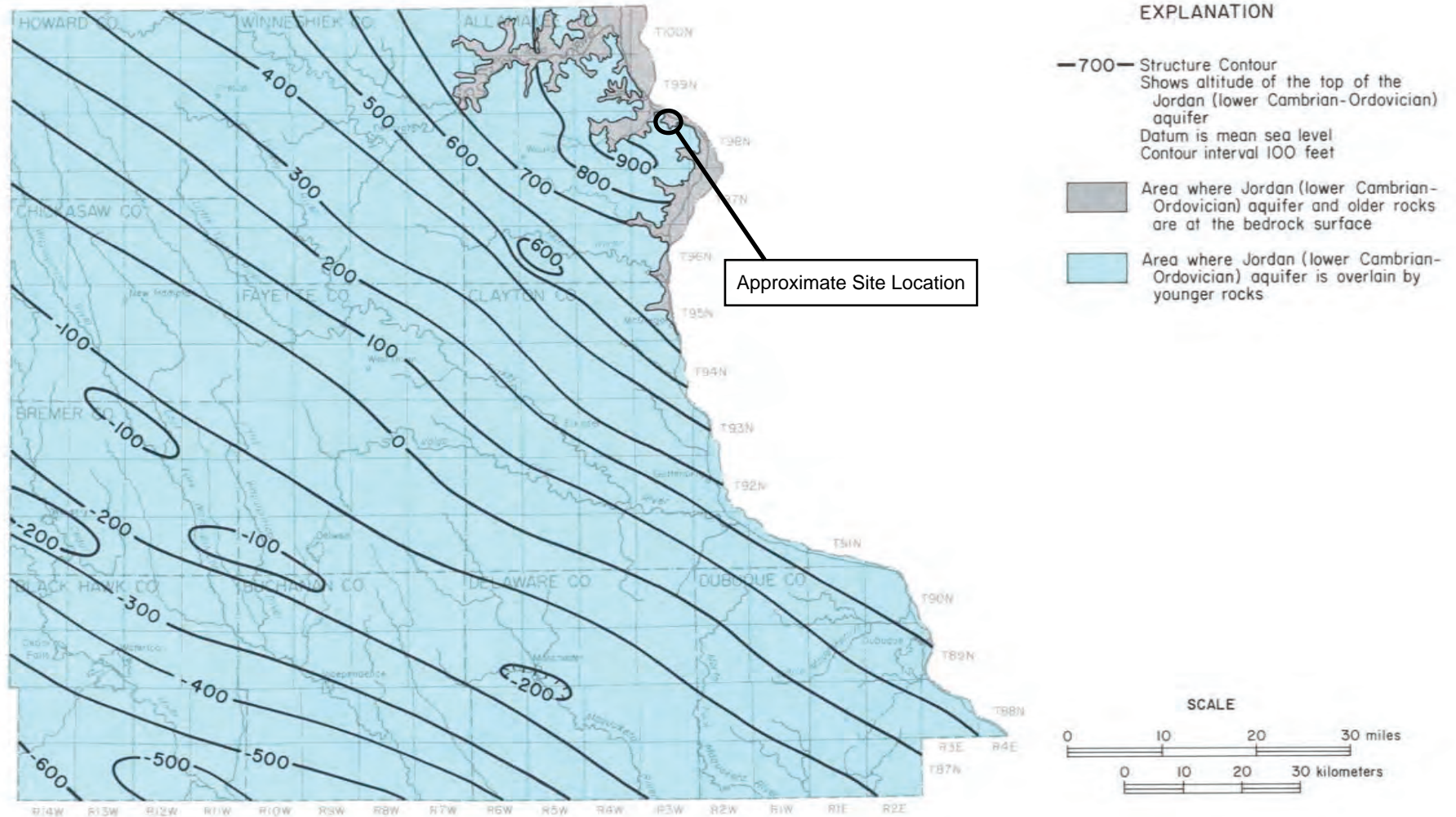


Figure 39. Altitude of the top of the Jordan (lower Cambrian-Ordovician) aquifer

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

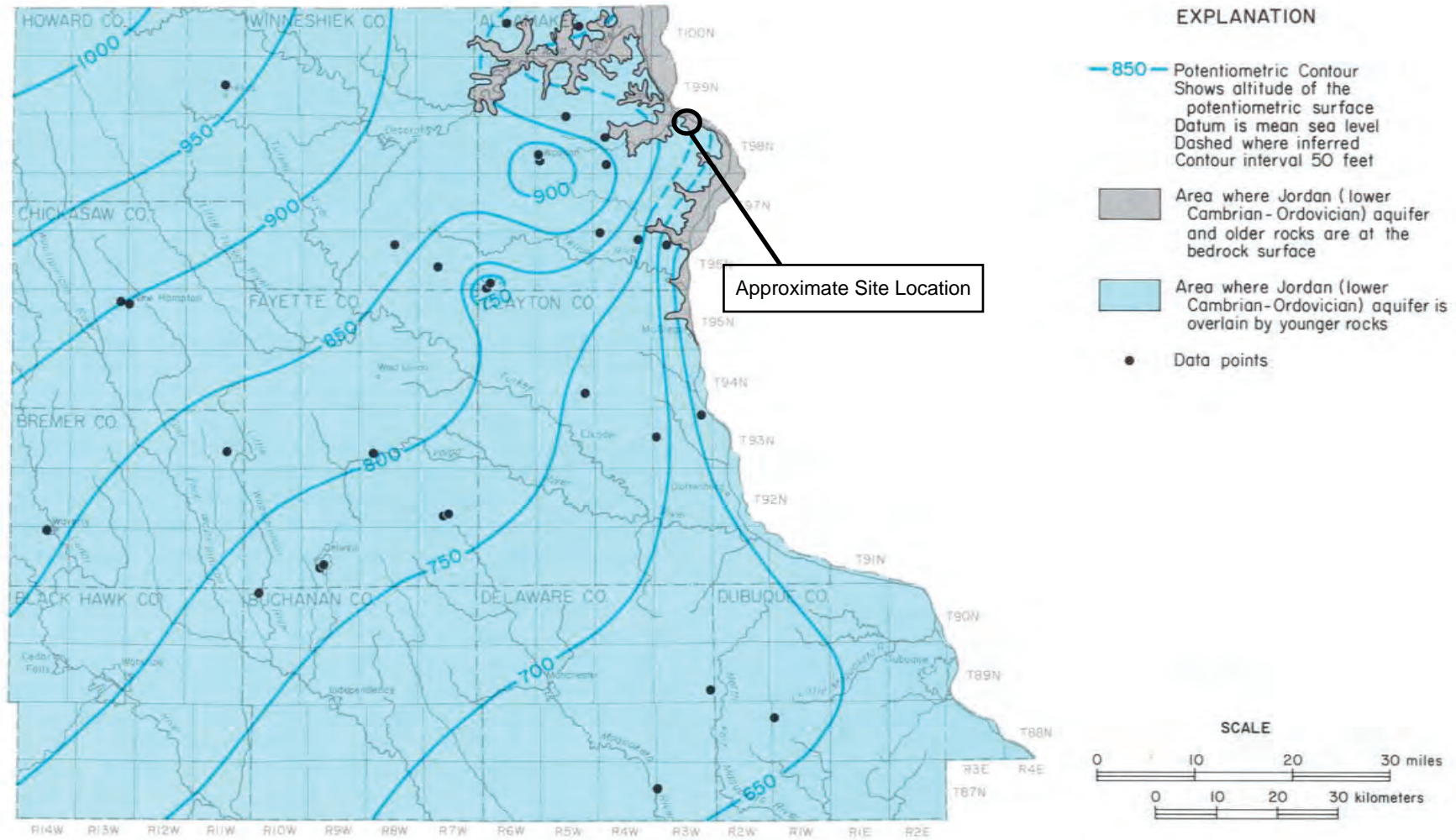





Figure 56. Potentiometric surface of the Jordan (lower Cambrian-Ordovician) aquifer

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

Appendix B


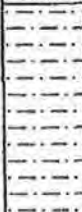




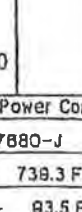

Boring Logs and Well Construction Documentation

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. Siltstone 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		



PROJECT Interstate Power Company
 PROJECT NUMBER 717680-J
 SURFACE ELEVATION 738.3 Feet MSL
 TOTAL DEPTH OF HOLE 93.5 Feet

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

CaCO3	K (cm/sec)		MW-6	ELEVATION (ft, msl)	DEPTH (feet)	LITHOLOGY	MATERIALS DESCRIPTION
				684.0	55		Siltstone from 58.0 to 88.0.
				679.0	60		
				674.0	65		Interbedded sandstone and siltstone from 68.0 to 78.0.
				669.0	70		
				664.0	75		Siltstone from 78.0 to 83.0
				659.0	80		
				654.0	85		No sample from 83.0 to 93.5. Likely Interbedded sandstone and siltstone by comparison to same interval on log of MW-4 and MW-5. Lower few feet may be primarily siltstone.
				649.0	90		
				644.0	95		
				639.0	100		



PROJECT	Interstate Power Company	LOG OF MW-6	
PROJECT NUMBER	717880-J		
SURFACE ELEVATION	739.3 Feet MSL	LOCATION	Lansing, Iowa
TOTAL DEPTH OF HOLE	93.5 Feet	GEOLOGIST	Barbara Torney

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	
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 <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,957,744 N, 5,541,108 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of SW 1/4 of Section 2 , T 98 N, R 3 W		Lat _____ "		Long _____ "	

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	Soil Properties						RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S1	23	10 31 38 48	1	POORLY GRADED SAND, medium grained, very dark gray brown (10YR 3/2).	SP										
			2												
S2	24	32 47 50	3	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/4).	SP-SM										
			4												
S3	22	18 33 47 43	5	POORLY GRADED SAND WITH SILT AND GRAVEL, medium grained sand, large grained gravel, dark yellowish brown (10YR 3/6).	SP-SM										
			6												
S4	24	36 46 50	7	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/6).	SP-SM										
			8												
S5	22	13 9 7 10	9												
			10												
			11												
			12												
			13												
			14												
			15												

Water @ 10 ft bgs

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:
--	--	---------------------------

Boring Number **B-301**

Page 2 of 2


Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S6	20	3 2	16	SILT, black (10YR 3/1).	ML									
		4	17											
S7	24	2 2	18	SILT WITH SAND, black (10YR 3/1).	ML									
		2 2	19											
S8	24	2 2	20	POORLY GRADED SAND WITH SILT, black (10YR 3/1).	SP-SM									
		4	21											
S9	24	2 9	23	SILT, dark olive gray (5Y 3/2).	ML									
		12 14	24											
			26	End of Boring at 26 ft bgs.										

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-302	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling			Date Drilling Started 11/4/2015	Date Drilling Completed 11/4/2015	Drilling Method hollow stem auger
Unique Well No.	DNR Well ID No.	Common Well Name MW-302	Final Static Water Level Feet	Surface Elevation 635.9 Feet	Borehole Diameter 8.0 in
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 3,957,929 N, 5,541,179 E S/C/N			Lat <input type="checkbox"/> ° <input type="checkbox"/> ' <input type="checkbox"/> "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E
NW 1/4 of SW 1/4 of Section 2 , T 98 N, R 3 W			Long <input type="checkbox"/> ° <input type="checkbox"/> ' <input type="checkbox"/> "		Feet <input type="checkbox"/> S Feet <input type="checkbox"/> 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	Soil Properties						RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S1	24	6 14 17 19	1	POORLY GRADED SAND, medium grained, dark grayish brown (10YR 4/2).	SP										
			2												
			3												
S2	24	26 45 50	4	SANDY SILT, trace small gravcl, black (10YR 3/1).											
			5												
S3	24	12 13 10 8	6	Large gravel											
			7												
S4	11	9 11 13 12	8	Large gravel	ML										
			9												
S5	8	32 23 30 36	10	Large gravel											
			11												
			12												
			13												
			14												
			15												

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

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

Boring Number **B-302**

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

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S6	24	55 68	16	SANDY SILT, trace small gravel, black (10YR 3/1). <i>(continued)</i>	ML									
			17											
S7	18		18	Silt, Black (10YR 3/1).	ML									
			19											
			20	End of Boring at 20 ft bgs.										

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

Facility/Project Name IPL - Lansing Generating Station SCS#: 25218221.00		License/Permit/Monitoring Number		Boring Number MW-302A	
Boring Drilled By: Name of crew chief (first, last) and Firm Paul Dickinson Cascade Drilling			Date Drilling Started 12/16/2019		Date Drilling Completed 12/17/2019
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level 13.01 Feet		Surface Elevation 636.2 Feet
					Borehole Diameter 6 in
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> 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 _____ ' _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W
			Long _____ ' _____ "		

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

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1 2 3 4 5 6 7 8	Hydrovac to 9' to check for utilities.										
S1	46"		9 10	POORLY GRADED SAND with silt, clay and trace gravel, dark gray.	SP									
			11 12	SILT, gray, trace gravel.	ML									
S2	39"		13 14 15 16	SILTY GRAVEL WITH SAND, gray, sand is fine to medium grained, gravel is subangular to angular.	GM									

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

Page 2 of 3

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S3	48"		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											
S4	40"		20		ML									
			21											
			22	LEAN CLAY, dark gray, roots.										
S5	48"		23											
			24											
			25	Same but dark brown.	CL									
S6	48"		26											
			27											
			28											
S7	48"		29	SILTY SAND, gray to dark gray, fine to medium grained.	SM									
			30											
			31	LEAN CLAY, tan with yellow to brown mottling and gray layers, trace silt.	CL									
S8	48"		32											
			33	LEAN CLAY, reddish brown, massive, very dense.	CL									
			34											
S9	48"		35											
			36	LEAN CLAY, gray.	CL									
			37											
S10	48"		38											
			39	POORLY GRADED SAND, brown, fine to medium grain, trace gravel.	SP									
			40	Same with trace shells										
			41											
			42											

Boring Number MW-302A

Page 3 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S8	48"		43	POORLY GRADED SAND, brown, fine to medium grained, trace gravel. <i>(continued)</i>	SP										
			44	SILTY GRAVEL, light brown, subangular.											
			45		GM										
			46	LEAN CLAY, mostly light brown, trace gray, trace silt.											
			47		CL						W				
			48												
			49	SILTY GRAVEL WITH SAND, light brown, gravel is subangular.	GM										
			50	End of boring at 50 feet.											

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

Facility/Project Name IPL- Lansing Generating Station		SCS#: 25215135.70		License/Permit/Monitoring Number	Boring Number B-303
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-303	Final Static Water Level Feet	Surface Elevation 653.9 Feet	Borehole Diameter 8.0 in
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>			Local Grid Location		
State Plane 3,957,857 N, 5,541,622 E S/C/N			Lat <input type="checkbox"/> N <input type="checkbox"/> E		
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W			Long <input type="checkbox"/> S <input type="checkbox"/> 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	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	24	5 16 17 24	1	SILTY SAND, very dark gray (5Y 3/1)	SM									
			2											
S2	24	11 8 10	3	POORLY GRADED SAND, medium grained, dark grayish brown (10 YR 4/2).	SP									
			4											
S3	24	11 38 50	5	POORLY GRADED SAND, medium grained, grayish brown (2.5Y 5/2)	SP									
			6											
S4	18	16 35 50	7		SP									
			8											
S5	16	27 50 50	9		SP									
			10											
			11											
			12											
			13											
			14											
			15											

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

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

Boring Number **B-303**

Page 2 of 2

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S6	0	38 50	16	POORLY GRADED SAND, medium grained, grayish brown (2.5Y 5/2). (continued)	SP									Rock in Spoon
		17 25	17											
S7	18	40 47	18	POORLY GRADED SAND, medium grained, very dark gray (5Y 3/1).	SP									Saturation @17 ft bgs.
		17 48	19											
S8	17	37 44	20	POORLY GRADED SAND, medium grained, very dark gray (5Y 3/1).	SP									
		21 44	21											
S9	18	11 24	22	POORLY GRADED SAND, medium grained, very dark gray (5Y 3/1).	SP									
		26 27	23											
S10	24	37 50	24	POORLY GRADED SAND, medium grained, very dark gray (5Y 3/1).	SP									
		25 50	25											
			26											
			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 IPL Lansing Generating Station		SCS#: 25218221.00		License/Permit/Monitoring Number	Boring Number MW304
Boring Drilled By: Name of crew chief (first, last) and Firm Eric Wetzel Roberts Environmental Drilling, Inc.			Date Drilling Started 5/15/2019	Date Drilling Completed 5/15/2019	Drilling Method 4.25" HSA
Unique Well No.	DNR Well ID No.	Common Well Name MW304		Final Static Water Level 623.61 Feet MSL	Surface Elevation 635.5 Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,957,893 N, 5,540,876 E S/C/N		Local Grid Location	
SE 1/4 of NE 1/4 of Section 3, T 98 N, R 3 W		Lat _____"		Feet <input type="checkbox"/> N <input type="checkbox"/> E Feet <input type="checkbox"/> S <input type="checkbox"/> 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	Soil Properties						RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	SILT, mottled, (10YR 3/2), some black coal looking material.	ML										
12	3 6 3 3		2												
			3	LEAN CLAY, (10YR 4/3), soft, some organic material	CL										
18	1 2 2 1		4												
			5	SILT, (10YR 2/2), uniform, trace fine sand and clay.											
12	2 2 3 2		6		ML										
			7												
18	1 1 3 2		8												
			9	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial)											
18	1 2 1 1		10												
			11												
12	0 0 1 1		12		SP										
			13												
12	0 0 1 1		14												
			15												

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

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

Boring Number MW304

Page 2 of 2

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments				
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200					
		00 11	16	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial). <i>(continued)</i>														
			17	Same as above but more coarse, (2.5YR 5/4), trace silt.	SP													
		25 66	18															
			19															
			20	End of Boring at 20 feet.														


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

Facility/Project Name IPL - Lansing Generating Station SCS#: 25218221.00		License/Permit/Monitoring Number		Boring Number MW-304A	
Boring Drilled By: Name of crew chief (first, last) and Firm Paul Dickinson Cascade Drilling			Date Drilling Started 12/18/2019		Date Drilling Completed 12/19/2019
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level 10.7 Feet		Surface Elevation 635.6 Feet
					Borehole Diameter 6 in
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> 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 _____ ° _____ ' _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W
			Long _____ ° _____ ' _____ "		Feet <input type="checkbox"/> S Feet <input type="checkbox"/> W

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



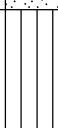
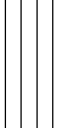
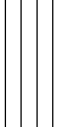






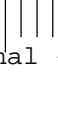
Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1	Hydrovac to 9' to check for utilities.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	SILT, grayish brown, toots and sticks.	ML									
S1	49"		11	POORLY GRADED SAND WITH SILT AND GRAVEL, fine to medium grained, reddish brown.	SP-SM					W				
			12											
			13											
			14	POORLY GRADED SAND, reddish brown, fine to medium grained.	SP									
			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-304A

Page 2 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S2	21"		17	POORLY GRADED SAND, reddish brown, fine to medium grained. <i>(continued)</i>	SP									
			18											
S3	59"		19		SP									
			20	Same but light brown, mostly fine grained.										
S4	24"		21		ML									
			22											
S5	30"		23	SANDY SILT, brown, fine grained.	SM									
			24											
S6	57"		25		SP									
			26											
			27		SP									
			28											
			29		ML									
			30	SILTY SAND, light brown, fine grained.										
			31		SP									
			32											
			33		SP									
			34											
			35		SP									
			36											
			37	POORLY GRADED SAND, light brown, fine to medium grained.	SP									
			38											
			39		SP									
			40											
			41	POORLY GRADED SAND, orange, fine grained.	ML									
			42	SANDY SILT WITH GRAVEL, sand is fine grained.										

Boring Number MW-304A

Page 3 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S7	54"		43	SANDY SILT WITH GRAVEL, sand is fine grained.(continued)	ML				W					
			44											
S8	9"		45	POORLY GRADED SAND, light brown, fine grain, trace coarse grained.	SP				W					
			46	SANDY SILT WITH GRAVEL, light brown with trace yellow, fine grained.										
			47											
S9	48"		48		ML				W					
			49											
			50											
			51	End of boring at 51 feet.										

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#: 25218221.00		License/Permit/Monitoring Number		Boring Number MW305	
Boring Drilled By: Name of crew chief (first, last) and Firm Eric Wetzel Roberts Environmental Drilling, Inc.		Date Drilling Started 5/16/2019		Date Drilling Completed 5/16/2019	
Unique Well No.		DNR Well ID No.		Common Well Name MW305	
Final Static Water Level 629.12 Feet MSL		Surface Elevation 631.8 Feet MSL		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,958,109 N, 5,541,533 E S/C/N		Local Grid Location	
SE 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W		Lat _____"		<input type="checkbox"/> N <input type="checkbox"/> E	
		Long _____"		Feet <input type="checkbox"/> S Feet <input type="checkbox"/> 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	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	Hydrovaced to 9.5 feet.											
			2												
			3												
			4												
			5												
			6												
			7												
			8												
			9												
			10												
			11	FAT CLAY, dark greenish gray, (GLEY 13/10Y), soft, trace red sand, wood pieces and roots											
	24	11 11	12												
			13		CH										
	24	00 02	14												
			15	Sand seams at 13.5 and 14.5 feet.											

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

Signature <i>[Signature]</i>	Firm SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Tel: Fax:
---------------------------------	---	--------------

Boring Number MW305

Page 2 of 2

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			16	FAT CLAY, dark greenish gray, (GLEY 13/10Y), soft, trace red sand, wood pieces and roots. <i>(continued)</i>	CH				W					
				End of Boring at 16 feet.										

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#: 25218221.00		License/Permit/Monitoring Number		Boring Number MW306	
Boring Drilled By: Name of crew chief (first, last) and Firm Eric Wetzel Roberts Environmental Drilling, Inc.		Date Drilling Started 5/16/2019		Date Drilling Completed 5/16/2019	
Unique Well No.		DNR Well ID No.		Common Well Name MW306	
Final Static Water Level 623.05 Feet MSL		Surface Elevation 636.7 Feet MSL		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,958,977 N, 5,541,203 E S/C/N		Local Grid Location	
NE 1/4 of NW 1/4 of Section 2, T 98 N, R 3 W		Lat _____ ° _____ ' _____ "		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> 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	Soil Properties						RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	Hydrovaced to 12 feet											
			2												
			3												
			4												
			5												
			6												
			7												
			8												
			9												
			10												
			11												
	12	12 43	12		POORLY GRADED SAND, medium to coarse, rusty in color, (10YR 4/6), trace fine silt.	SP									
			13												
			14												
			15												

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

Signature <i>[Signature]</i>	Firm SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Tel: Fax:
---------------------------------	--	--------------

Boring Number MW306

Page 2 of 2

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
18	12	24	16	POORLY GRADED SAND, medium to coarse, rusty in color, (10YR 4/6), trace fine silt. <i>(continued)</i>	SP					W					
			16	Same as above but gray, (10YR 4/2).											
18	11	22	17								W				
			18												
18			19								W				
			20												
18			21								W				
			22												
18	3 1	22	23							W					
			24												
18	2 1	3 2	25							W					
			26	End of Boring at 26 feet.											


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

Facility/Project Name IPL - Lansing Generating Station SCS#: 25218221.00		License/Permit/Monitoring Number		Boring Number MW-306A	
Boring Drilled By: Name of crew chief (first, last) and Firm Paul Dickinson Cascade Drilling			Date Drilling Started 12/17/2019	Date Drilling Completed 12/18/2019	Drilling Method Rotosonic
Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level 16.3 Feet	Surface Elevation 636.7 Feet	Borehole Diameter 6 in
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 3958980.99 N, 5541196.46 E S/C/N			Local Grid Location		
NE 1/4 of NW 1/4 of Section 02 , T 98 N, R 03 W			Lat _____° _____' _____"	<input type="checkbox"/> N <input type="checkbox"/> E	
			Long _____° _____' _____"	Feet <input type="checkbox"/> S <input type="checkbox"/> W	

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




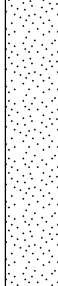

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments				
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200					
S1	52"		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.	SP											
			11															
			12															
			13															
			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

Page 2 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S2	56"		17	POORLY GRADED SAND, reddish brown, trace shells, medium grained. <i>(continued)</i>	SP										
			18												19
S3	57"		20	POORLY GRADED SAND, gray, fine to medium grained, trace coarse grained and shells.											
			21												22
			23												24
S4	54"		25	Same, mostly medium grained with fine grained.											
			26												27
			28												29
S5	58"		30	Same, fine to medium grained with trace coarse grained.	SP										
			31												32
			33												34
S6	53"		35	Same with shell fragments.											
			36												37
			38												39
			40												
			41	LEAN CLAY, dark gray, massive, very dense with roots and sticks.	CL										
			42												

Boring Number MW-306A

Page 3 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S7	58"		43	LEAN CLAY, dark gray, massive, very dense with roots and sticks. <i>(continued)</i>	CL					W					
			44	POORLY GRADED SAND, gray to dark gray, fine grained, trace coarse grain with shell fragments.	SP						W				
45															
46															
S8	52"		47	POORLY GRADED SAND, light gray, fine to medium grained.	SP					W					
			48												
			49												
S9	58"		50	POORLY GRADED SAND, reddish tan, fine to medium grained with shell fragments.	SP					W					
			51												
			52												
			53												
			54	End of boring at 56 feet.											
			55												
			56												



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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): _____	Name & Address of Construction Company: _____
Specify corner of site: <u>NW</u>	<u>Cascade Drilling</u>
Distance & direction along boundary: <u>540' SE</u>	<u>301 Alderson St.</u>
Distance & direction from boundary to wall: <u>230' NE</u>	<u>Schofield, WI 54476</u>
Elevations (± 0.01 ft MSL): _____	Name of Driller: <u>Mike Mueller</u>
Ground Surface: <u>639.35</u>	Drilling Method: <u>HSA</u>
Top of protective casing: <u>642.18</u>	Drilling Fluid: <u>None</u>
Top of well casing: <u>641.61</u>	Bore Hole Diameter: <u>8"</u>
Benchmark elevation: <u>622.86, NAVD 1988 datum</u>	Soil Sampling Method: <u>Spoon</u>
Benchmark description: <u>CP 300, iron rod in concrete</u>	Depth of Boring: <u>26</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: <u>15 ft</u>	Volume: _____
Outside casing diameter: <u>2.40"</u>	Backfill (if different from seal): _____
Inside casing diameter: <u>2"</u>	Material: _____
Casing joint type: <u>threaded</u>	Placement method: _____
Casing/screen joint type: <u>threaded</u>	Volume: _____
Screen material: <u>PVC</u>	Surface seal design: _____
Screen opening size: <u>.010</u>	Material of protective casing: <u>Steel 6"</u>
Screen length: <u>10 ft</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>25 ft</u>	Protective cap: _____
Filter Pack: _____	Material: <u>steel</u>
Material: <u>Red Flint</u>	Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#40</u>	Well Cap: _____
Volume: <u>300 lbs</u>	Material: <u>PVC</u>
Seal (minimum 3 ft length above filter pack): _____	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8" bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>17.63</u>	Stabilization Time: <u>2 hrs.</u>
Well development method: <u>Surged and pumped. Turbidity reduced but not eliminated.</u>	
Average depth of frostline: <u>4 ft.</u>	

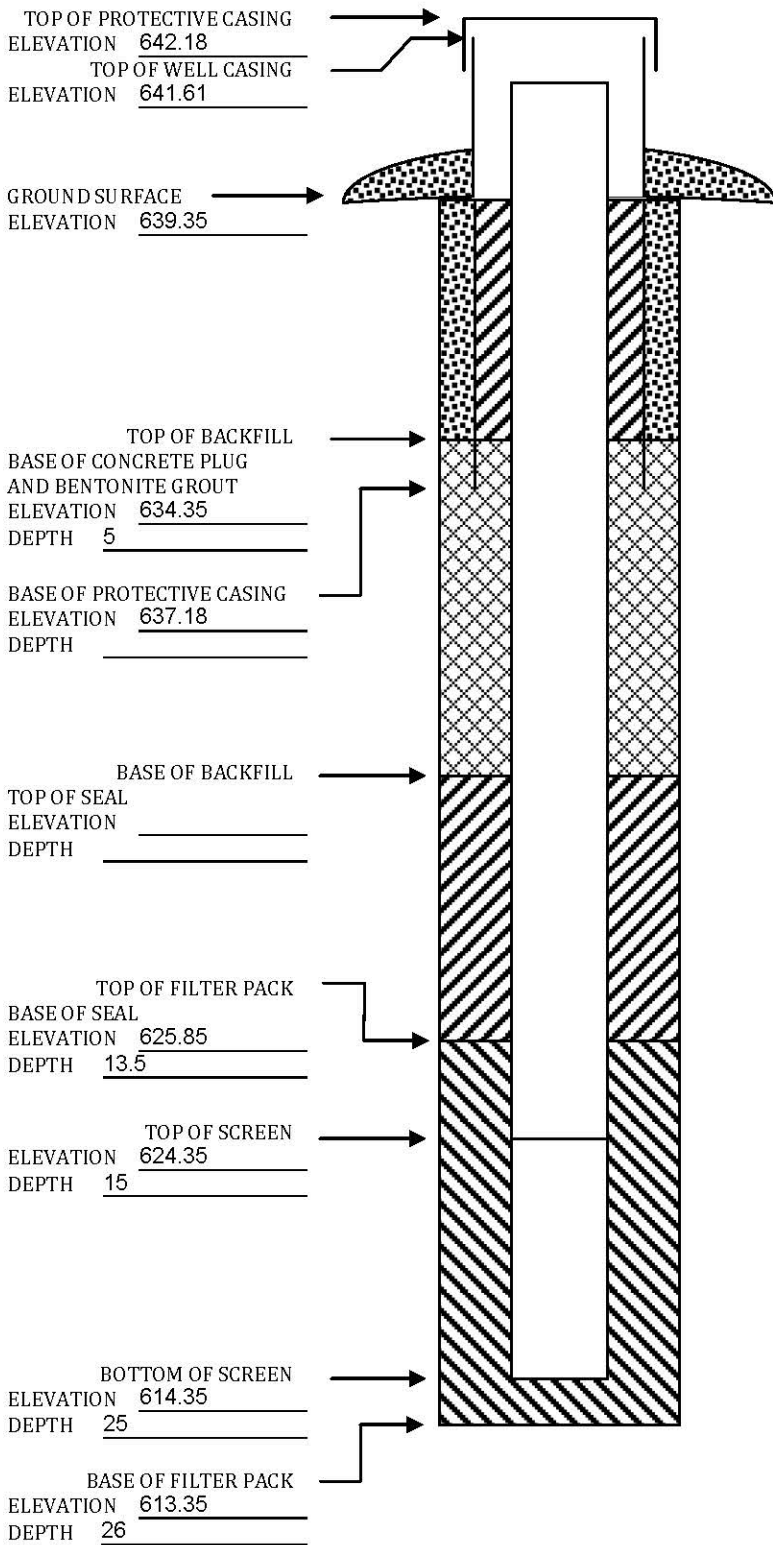
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: 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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): _____	Name & Address of Construction Company: _____
Specify corner of site: <u>NW</u>	<u>Cascade Drilling</u>
Distance & direction along boundary: <u>465' SE</u>	<u>301 Alderson St.</u>
Distance & direction from boundary to wall: <u>405' NE</u>	<u>Schofield, WI 54476</u>
Elevations (± 0.01 ft MSL): _____	Name of Driller: <u>Mike Mueller</u>
Ground Surface: <u>635.85</u>	Drilling Method: <u>HSA</u>
Top of protective casing: <u>638.72</u>	Drilling Fluid: <u>None</u>
Top of well casing: _____ <u>638.40</u>	Bore Hole Diameter: <u>8"</u>
Benchmark elevation: <u>633.86, NAVD 1988 datum</u>	Soil Sampling Method: <u>Spoon</u>
Benchmark description: <u>CP 300, iron rod in concrete</u>	Depth of Boring: <u>20 ft</u>

C. MONITORING WELL INSTALLATION	
Casing material: _____ <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: _____ <u>9'</u>	Volume: _____
Outside casing diameter: _____ <u>2.40"</u>	Backfill (if different from seal): _____
Inside casing diameter: _____ <u>2"</u>	Material: _____
Casing joint type: _____ <u>Threaded</u>	Placement method: _____
Casing/screen joint type: _____ <u>Threaded</u>	Volume: _____
Screen material: _____ <u>PVC</u>	Surface seal design: _____
Screen opening size: _____ <u>.01"</u>	Material of protective casing: <u>Steel 6"</u>
Screen length: _____ <u>10'</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: _____ <u>19'</u>	Protective cap: _____
Filter Pack: _____	Material: <u>steel</u>
Material: _____ <u>Red Flint</u>	Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: _____ <u>#40</u>	Well Cap: _____
Volume: _____ <u>120 lbs</u>	Material: <u>PVC</u>
Seal (minimum 3 ft length above filter pack): _____	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8" hole plug</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>9.95</u>	Stabilization Time: <u>2 hrs.</u>
Well development method: <u>Surged and pumped. Turbidity reduced but not removed.</u>	
Average depth of frostline: <u>4 ft.</u>	

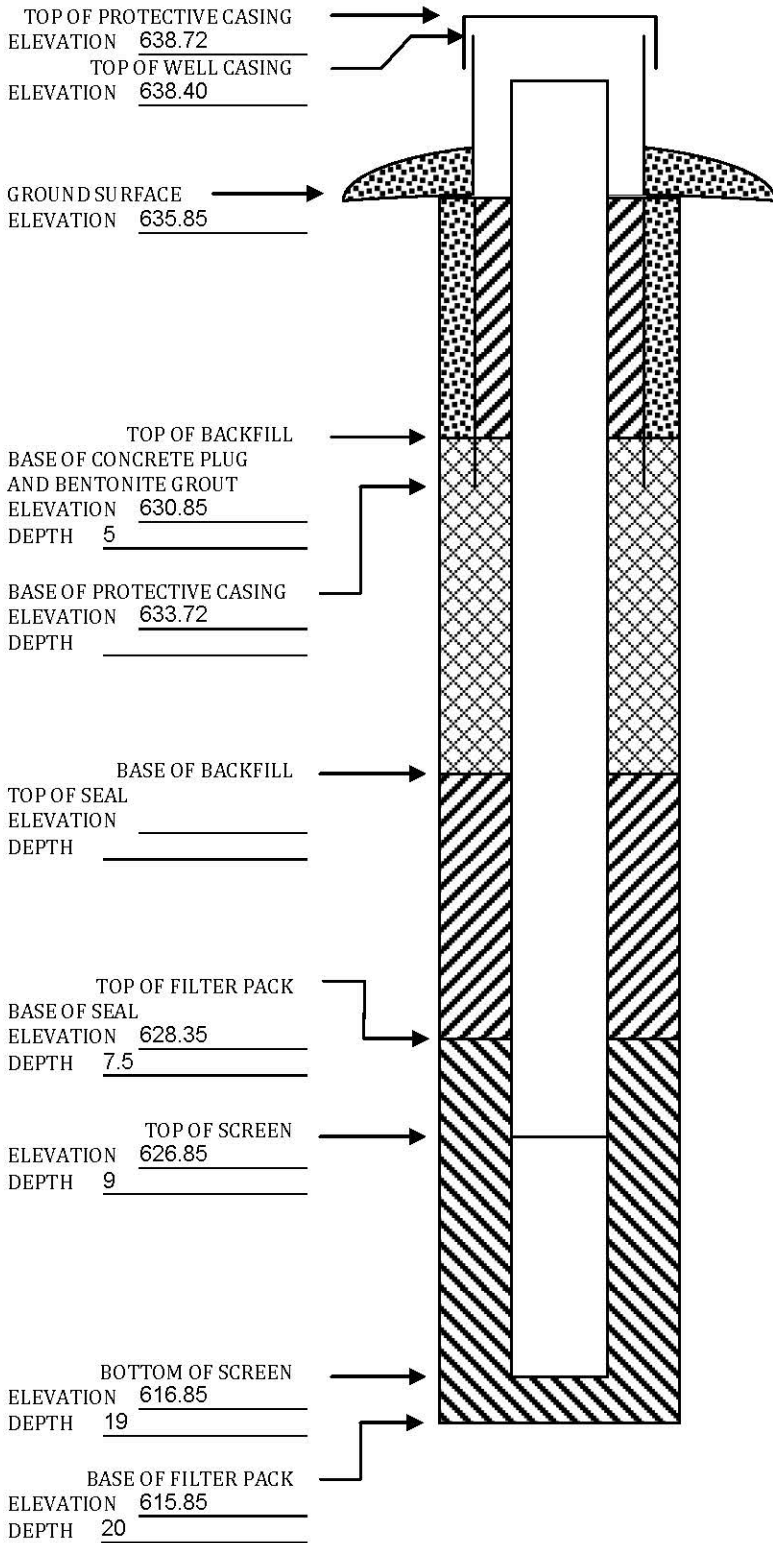
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name 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 <u>Sch. 40 PVC</u>	Placement method <u>Poured</u>
Length of casing <u>52.45'</u>	Volume <u>2 cu. ft.</u>
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2.04"</u>	Material <u>Bentonite grout</u>
Casing joint type <u>Threaded</u>	Placement method <u>Pumped</u>
Casing/screen joint type <u>Threaded</u>	Volume <u>60 gal.</u>
Screen material <u>PVC</u>	Surface seal design: <u>Protop</u>
Screen opening size <u>0.01'</u>	Material of protective casing: <u>Steel</u>
Screen length <u>5'</u>	Material of grout between protective casing and well casing: <u>Sand</u>
Depth of Well <u>49'</u>	Protective cap: <u>6" Royer cap</u>
Filter Pack: _____	Material <u>Aluminum</u>
Material <u>Filter Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#40 red flint, topped with #7</u>	Well cap: _____
Volume <u>2 cu. ft.</u>	Material <u>Plastic and rubber</u>
Seal (minimum 3 ft. length above filter pack): _____	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Material <u>Bentonite Chips</u>	

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

Water level 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  Certification # 9361 Date 12-19-2019

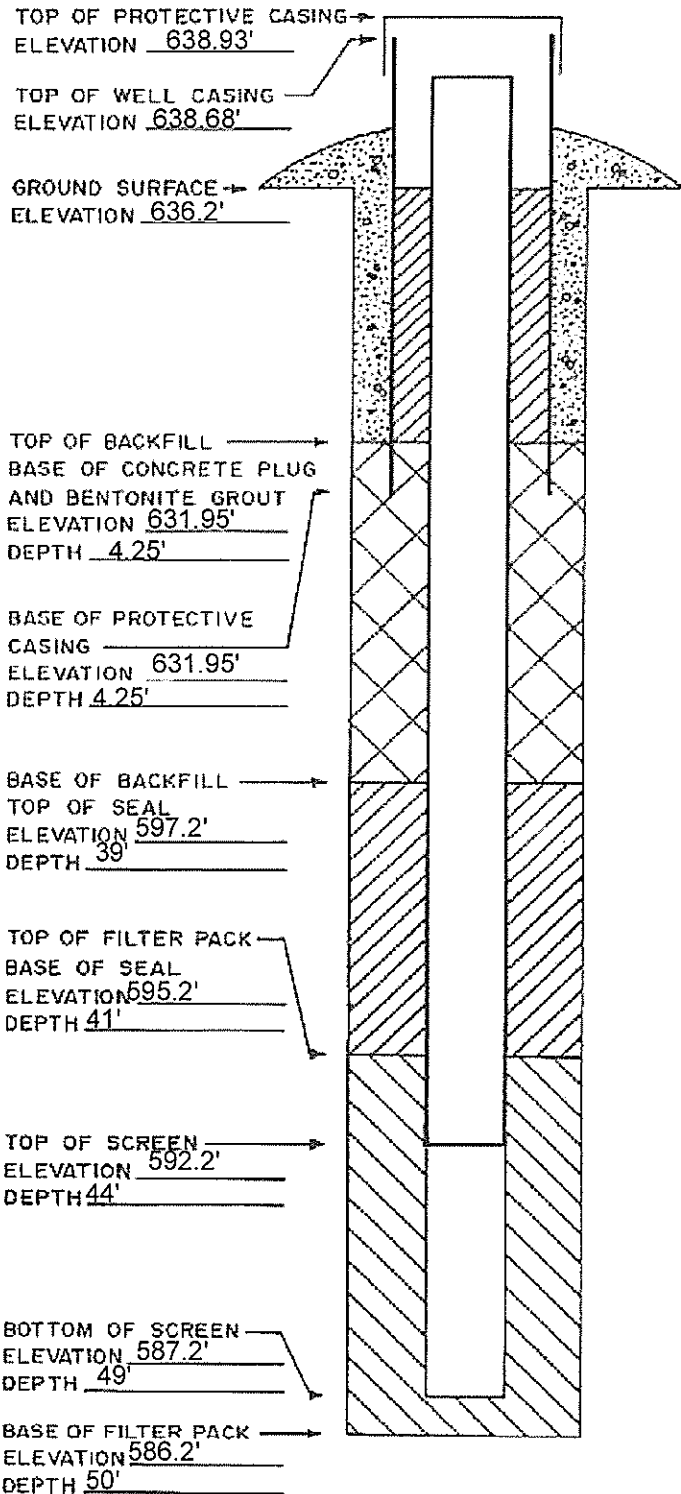
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

ELEVATIONS: ± 0.01 FT. MSL
DEPTHS: ± 0.1 FT. FROM
GROUND SURFACE

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





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

Disposal Site Name: 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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): _____	Name & Address of Construction Company: _____
Specify corner of site: <u>NW</u>	<u>Cascade Drilling</u>
Distance & direction along boundary: <u>730' SE</u>	<u>301 Alderson St</u>
Distance & direction from boundary to wall: <u>760' NE</u>	<u>Schofield, WI 54476</u>
Elevations (± 0.01 ft MSL): _____	Name of Driller: <u>Mike Mueller</u>
Ground Surface: <u>653.85</u>	Drilling Method: <u>HSA</u>
Top of protective casing: <u>656.74</u>	Drilling Fluid: <u>None</u>
Top of well casing: _____ <u>656.27</u>	Bore Hole Diameter: <u>8"</u>
Benchmark elevation: <u>633.86, NAVD 1988 datum</u>	Soil Sampling Method: <u>Spoon</u>
Benchmark description: <u>CP 300, iron rod in concrete</u>	Depth of Boring: <u>27 feet</u>

C. MONITORING WELL INSTALLATION	
Casing material: _____ <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: _____ <u>16</u>	Volume: _____
Outside casing diameter: _____ <u>2.40"</u>	Backfill (if different from seal): _____
Inside casing diameter: _____ <u>2"</u>	Material: _____
Casing joint type: _____ <u>threaded</u>	Placement method: _____
Casing/screen joint type: _____ <u>threaded</u>	Volume: _____
Screen material: _____ <u>PVC</u>	Surface seal design: _____
Screen opening size: _____ <u>.01"</u>	Material of protective casing: <u>Steel 6"</u>
Screen length: _____ <u>10'</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: _____ <u>26'</u>	Protective cap: _____
Filter Pack: _____	Material: <u>steel</u>
Material: _____ <u>Red Flint</u>	Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: _____ <u>#40</u>	Well Cap: _____
Volume: _____ <u>250 lbs</u>	Material: <u>PVC</u>
Seal (minimum 3 ft length above filter pack): _____	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8" bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>16.35</u>	Stabilization Time: <u>< 1 hr.</u>
Well development method: <u>Surged and pumped to reduce turbidity</u>	
Average depth of frostline: <u>4'</u>	

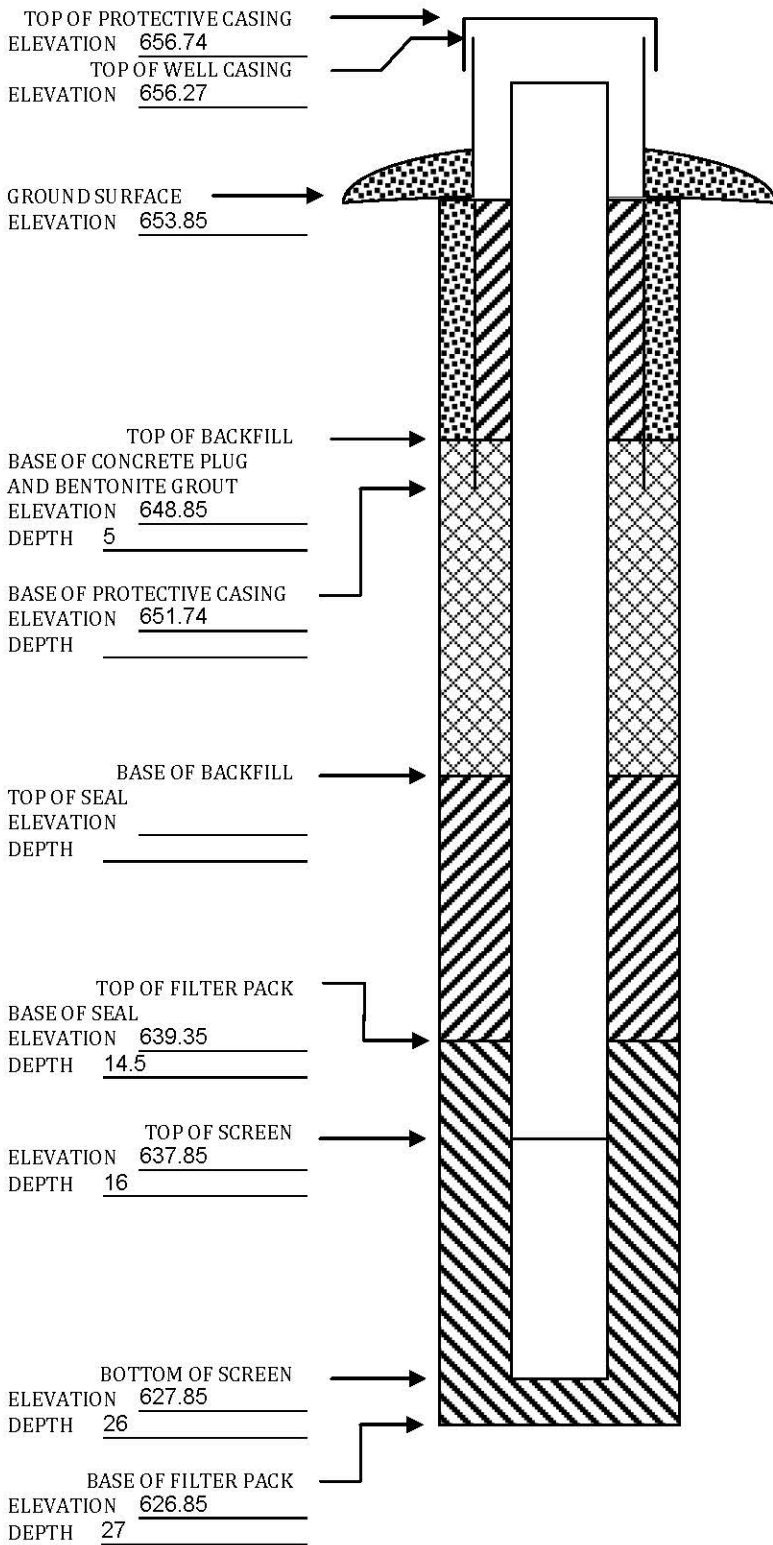
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name 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 <u>PVC</u>	Placement method <u>Gravity</u>
Length of casing <u>20.26'</u>	Volume _____
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2.0"</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type <u>Threaded</u>	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Concrete</u>
Screen opening size <u>0.01'</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite chips</u>
Screen length <u>10'</u>	Protective cap: _____
Depth of Well <u>20'</u>	Material <u>Steel</u>
Filter Pack: _____	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Filter Sand</u>	Well cap: _____
Grain Size _____	Material <u>Plastic</u>
Volume <u>19.4 cubic feet</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): _____	
Material <u>Bentonite</u>	

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

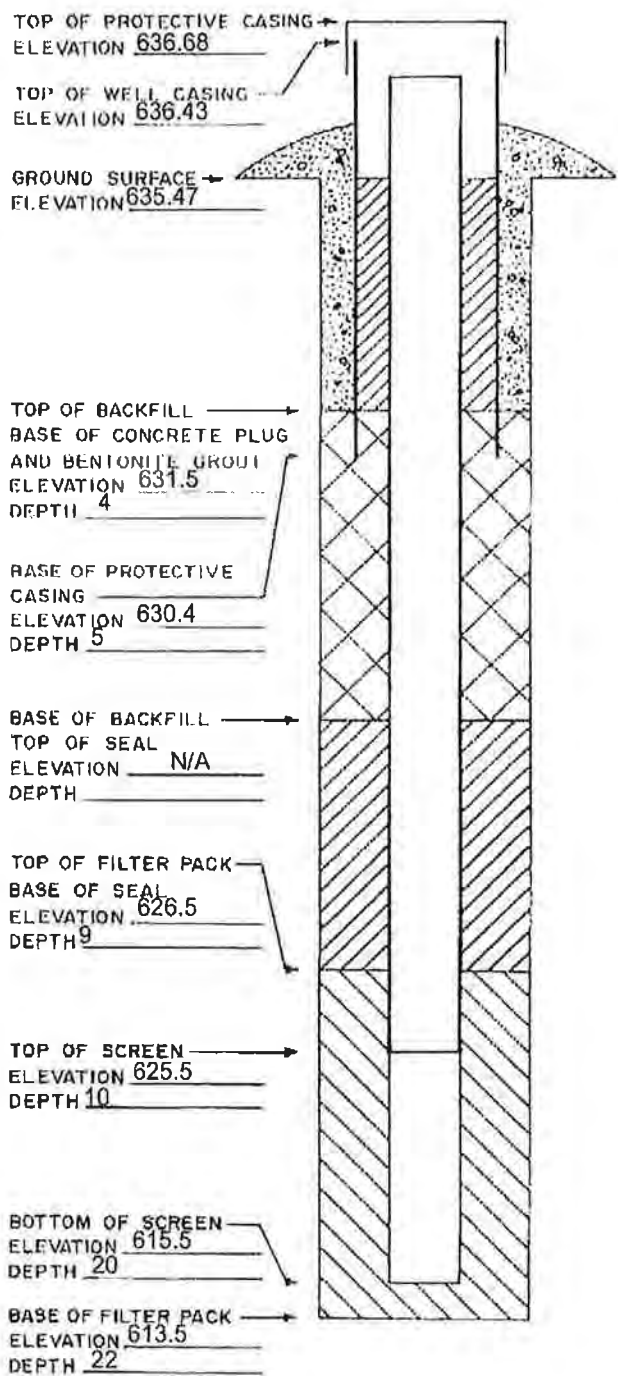
Attachments: Driller's log, Pipe schedules and grouting schedules, 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

ELEVATIONS: ± 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-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 <u>Sch. 80 PVC</u>	Placement method <u>Poured</u>
Length of casing <u>52.45'</u>	Volume <u>2 cu. ft.</u>
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>1.939"</u>	Material <u>Bentonite grout</u>
Casing joint type <u>Threaded</u>	Placement method <u>Pumped</u>
Casing/screen joint type <u>Threaded</u>	Volume <u>60 gal.</u>
Screen material <u>PVC</u>	Surface seal design: <u>Protop</u>
Screen opening size <u>0.01'</u>	Material of protective casing: <u>Steel</u>
Screen length <u>5'</u>	Material of grout between protective casing and well casing: <u>Sand</u>
Depth of Well <u>50'</u>	Protective cap: <u>6" Royer cap</u>
Filter Pack:	Material <u>Aluminum</u>
Material <u>Filter Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#40 red flint, topped with #7</u>	Well cap:
Volume <u>1.5cu. ft.</u>	Material <u>Plastic and rubber</u>
Seal (minimum 3 ft. length above filter pack): _____	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Material <u>Bentonite Chips</u>	

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

Water level 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

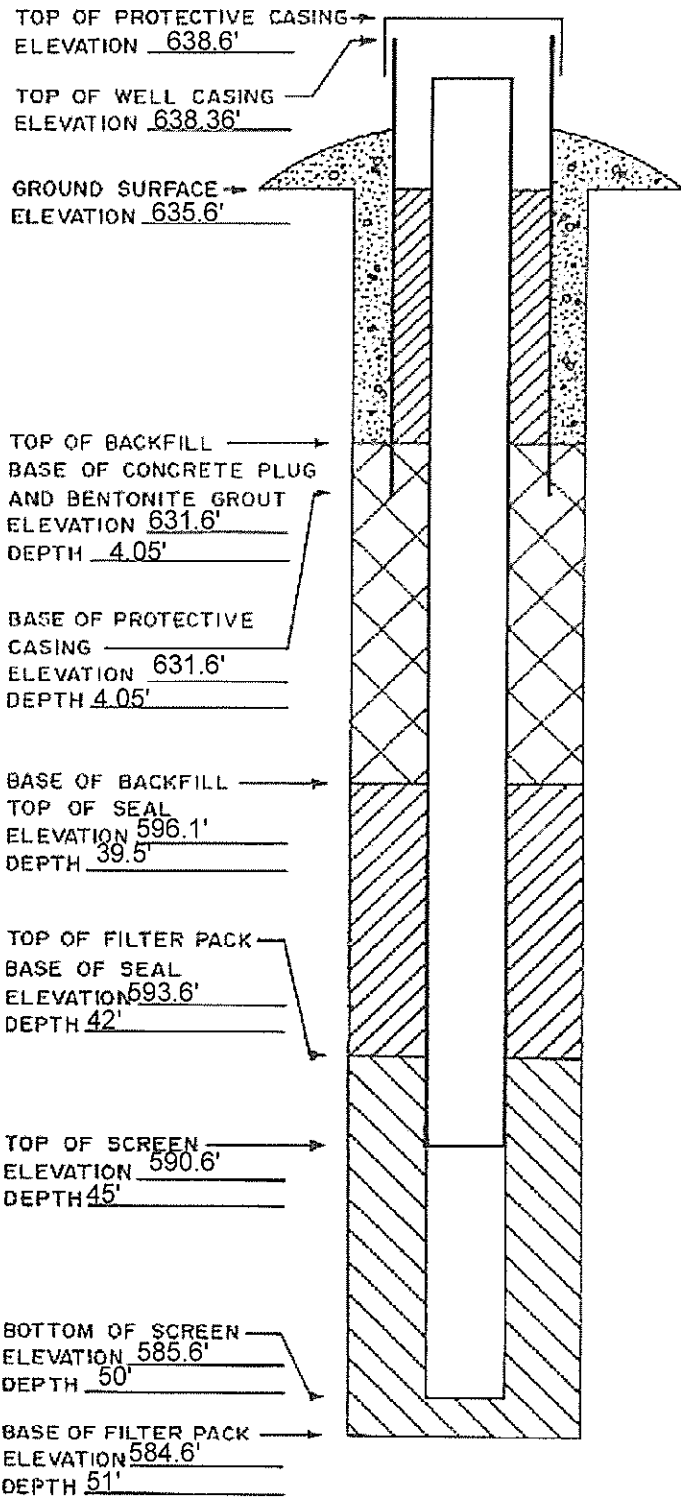
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

ELEVATIONS: ± 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. 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

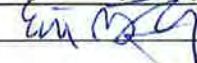
Casing material <u>PVC</u>	Placement method <u>Gravity</u>
Length of casing <u>5'</u>	Volume <u>2.7 cubic ft</u>
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2.0"</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type <u>Threaded</u>	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Concrete</u>
Screen opening size <u>0.01'</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite chips</u>
Screen length <u>10'</u>	Protective cap: _____
Depth of Well <u>14.5'</u>	Material <u>steel</u>
Filter Pack:	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Filter Sand</u>	Well cap: _____
Grain Size _____	Material <u>Plastic</u>
Volume <u>23 bags</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): _____	
Material <u>Bentonite</u>	

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.

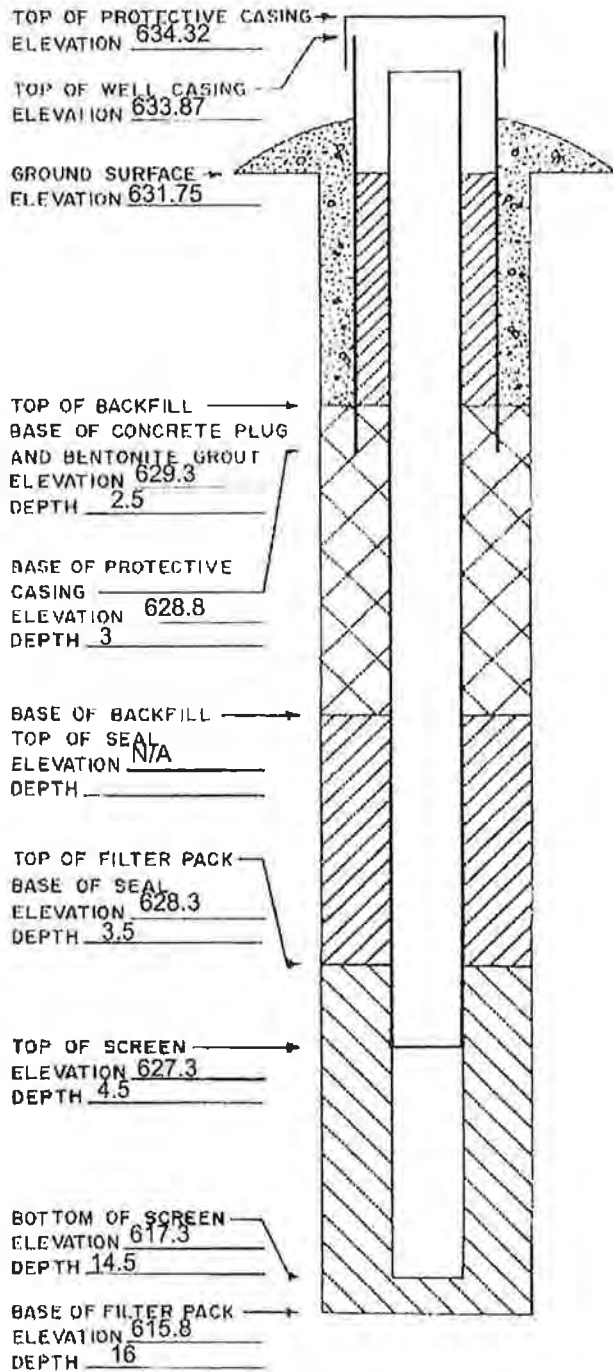
Signature  Certification # 11509 Date 8/8/2019

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

Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.
 Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov
 09/2017 cmc DNR Form 542-1277

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. 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 <u>PVC</u>	Placement method <u>Gravly</u>
Length of casing <u>26'</u>	Volume _____
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2.0"</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type <u>Threaded</u>	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Concrete</u>
Screen opening size <u>0.01'</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite chips</u>
Screen length <u>10'</u>	Protective cap: _____
Depth of Well <u>25'</u>	Material <u>Steel</u>
Filter Pack: _____	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Filter Sand</u>	Well cap: _____
Grain Size _____	Material <u>Plastic</u>
Volume <u>37 cubic feet</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): _____	
Material <u>Bentonite</u>	

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 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

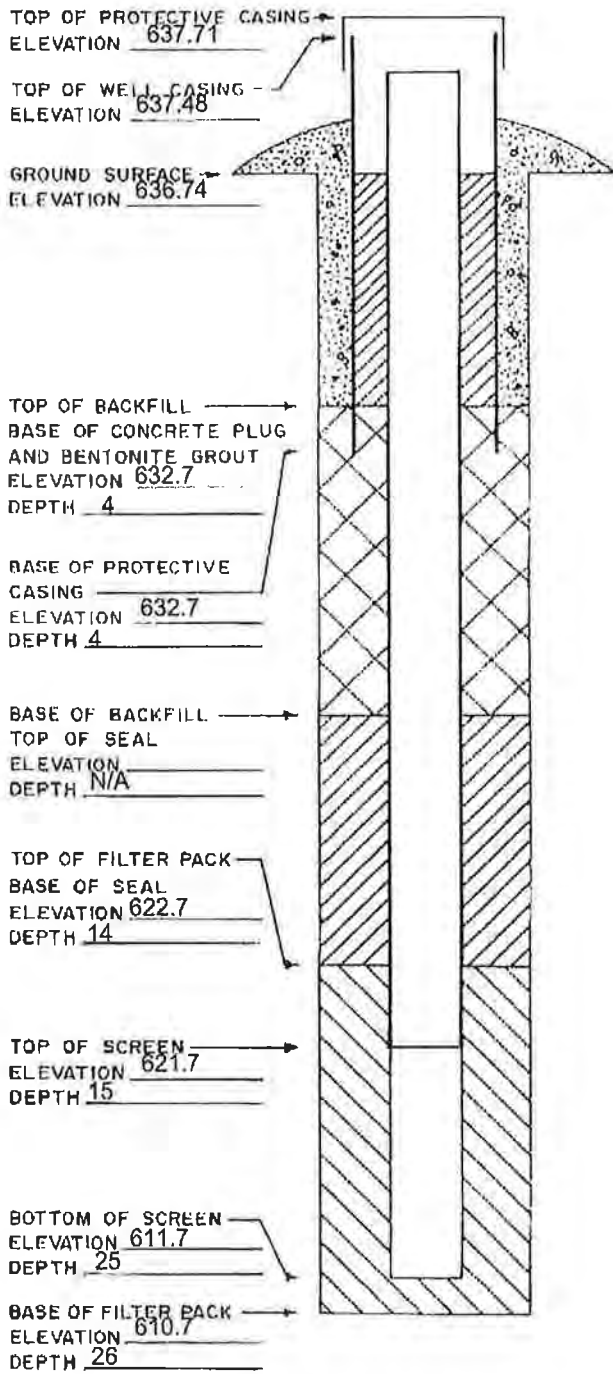
Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

09/2017 cmc

DNR Form 542-1277

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-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 <u>Sch. 80 PVC</u>	Placement method <u>Poured</u>
Length of casing <u>58.06'</u>	Volume <u>2 cu. ft.</u>
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>1.939"</u>	Material <u>Bentonite grout</u>
Casing joint type <u>Threaded</u>	Placement method <u>Pumped</u>
Casing/screen joint type <u>Threaded</u>	Volume <u>60 gal.</u>
Screen material <u>PVC</u>	Surface seal design: <u>Protop</u>
Screen opening size <u>0.01'</u>	Material of protective casing: <u>Steel</u>
Screen length <u>5'</u>	Material of grout between protective casing and well casing: <u>Sand</u>
Depth of Well <u>55'</u>	Protective cap: <u>6" Royer cap</u>
Filter Pack:	Material <u>Aluminum</u>
Material <u>Filter Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#40 red flint, topped with #7</u>	Well cap:
Volume <u>1.5cu. ft.</u>	Material <u>Plastic and rubber</u>
Seal (minimum 3 ft. length above filter pack): _____	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Material <u>Bentonite Chips</u>	

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

Water level 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  Certification # 9361 Date 12-19-2019

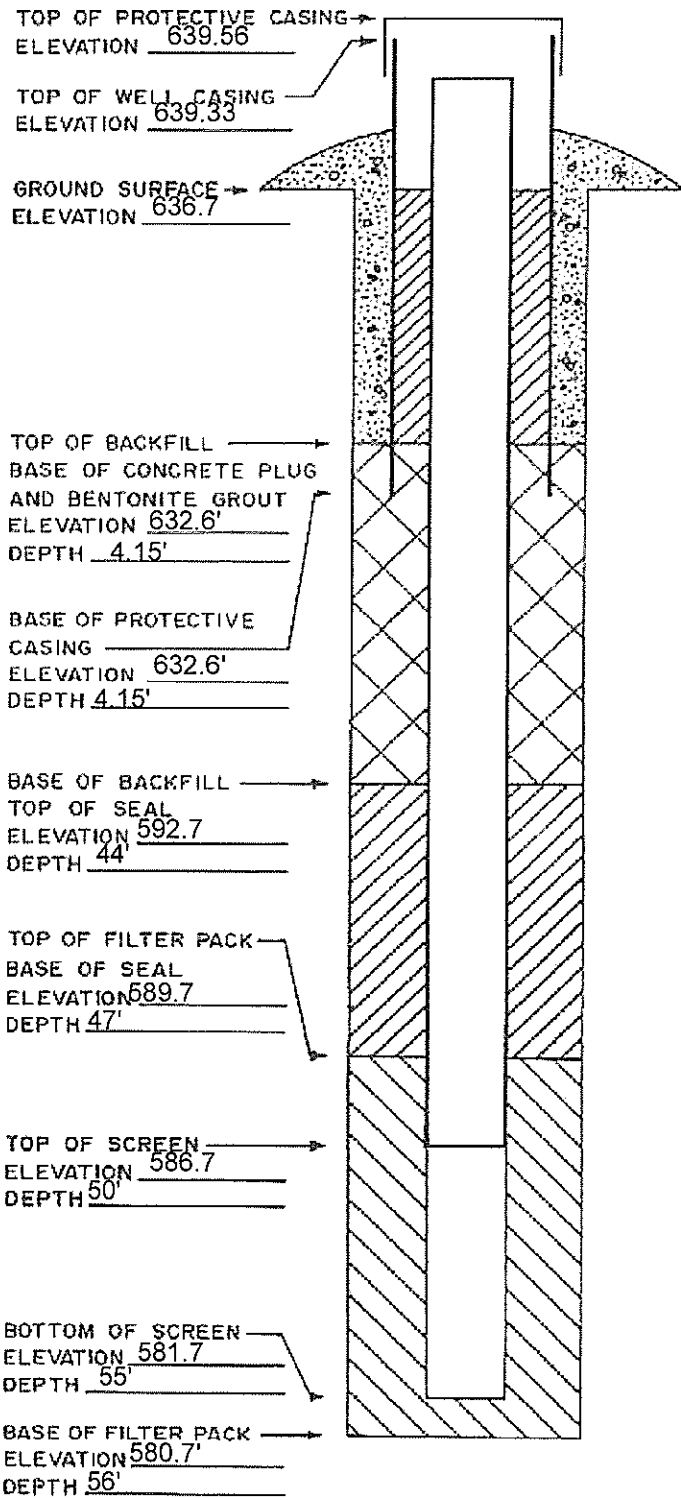
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

ELEVATIONS: ± 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).



Appendix C

Laboratory Reports

C1 February 2020 Resampling Event

ANALYTICAL REPORT

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

Laboratory Job ID: 310-175319-1
Client Project/Site: Alliant Lansing 25219070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
2/19/2020 9:19:25 AM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.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

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	6
Definitions	8
QC Sample Results	9
QC Association	10
Chronicle	11
Certification Summary	12
Method Summary	13
Chain of Custody	14
Receipt Checklists	17

Case Narrative

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Job ID: 310-175319-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-175319-1

Comments

No additional comments.

Receipt

The samples were received on 2/7/2020 10:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.1° C.

Metals

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

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

Sample Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-175319-1	MW-306	Water	02/05/20 11:30	02/07/20 10:50	
310-175319-2	Field Blank	Water	02/05/20 11:30	02/07/20 10:50	

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

Detection Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Client Sample ID: MW-306

Lab Sample ID: 310-175319-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	9.4		2.0	0.88	ug/L			1	6020A	Total/NA
Ground Water Elevation	620.83				ft			1	Field Sampling	Total/NA
Oxidation Reduction Potential	-127.7				millivolts			1	Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.23				mg/L			1	Field Sampling	Total/NA
pH, Field	6.95				SU			1	Field Sampling	Total/NA
Specific Conductance, Field	2477				umhos/cm			1	Field Sampling	Total/NA
Temperature, Field	13.7				Degrees C			1	Field Sampling	Total/NA
Turbidity, Field	4.43				NTU			1	Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-175319-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Client Sample ID: MW-306

Lab Sample ID: 310-175319-1

Date Collected: 02/05/20 11:30

Matrix: Water

Date Received: 02/07/20 10:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.4		2.0	0.88	ug/L		02/11/20 08:11	02/13/20 21:39	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	620.83				ft			02/05/20 11:30	1
Oxidation Reduction Potential	-127.7				millivolts			02/05/20 11:30	1
Oxygen, Dissolved, Client Supplied	0.23				mg/L			02/05/20 11:30	1
pH, Field	6.95				SU			02/05/20 11:30	1
Specific Conductance, Field	2477				umhos/cm			02/05/20 11:30	1
Temperature, Field	13.7				Degrees C			02/05/20 11:30	1
Turbidity, Field	4.43				NTU			02/05/20 11:30	1



Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Client Sample ID: Field Blank

Lab Sample ID: 310-175319-2

Date Collected: 02/05/20 11:30

Matrix: Water

Date Received: 02/07/20 10:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		02/11/20 08:11	02/13/20 21:42	1

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

Definitions/Glossary

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Sample Results

Client: SCS Engineers
 Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-269881/1-A
Matrix: Water
Analysis Batch: 270292

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		02/11/20 08:11	02/13/20 20:58	1

Lab Sample ID: LCS 310-269881/2-A
Matrix: Water
Analysis Batch: 270292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	80.0	79.1		ug/L		99	80 - 120



QC Association Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Metals

Prep Batch: 269881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-175319-1	MW-306	Total/NA	Water	3010A	
310-175319-2	Field Blank	Total/NA	Water	3010A	
MB 310-269881/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-269881/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 270292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-175319-1	MW-306	Total/NA	Water	6020A	269881
310-175319-2	Field Blank	Total/NA	Water	6020A	269881
MB 310-269881/1-A	Method Blank	Total/NA	Water	6020A	269881
LCS 310-269881/2-A	Lab Control Sample	Total/NA	Water	6020A	269881

Field Service / Mobile Lab

Analysis Batch: 270523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-175319-1	MW-306	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Client Sample ID: MW-306

Lab Sample ID: 310-175319-1

Date Collected: 02/05/20 11:30

Matrix: Water

Date Received: 02/07/20 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			269881	02/11/20 08:11	HED	TAL CF
Total/NA	Analysis	6020A		1	270292	02/13/20 21:39	SAD	TAL CF
Total/NA	Analysis	Field Sampling		1	270523	02/05/20 11:30	EAR	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-175319-2

Date Collected: 02/05/20 11:30

Matrix: Water

Date Received: 02/07/20 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			269881	02/11/20 08:11	HED	TAL CF
Total/NA	Analysis	6020A		1	270292	02/13/20 21:42	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
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-19 *

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

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

Method Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25219070

Job ID: 310-175319-1

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





Environment Testing
TestAmerica



310-175319 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Menomonee Falls	STATE WI	Project: 31011020
Receipt Information			
Date/Time Received:	DATE 02-07-20	TIME 1050	Received By: A
Delivery Type:	<input type="checkbox"/> UPS	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> FedEx Ground
	<input type="checkbox"/> Lab Courier	<input type="checkbox"/> Lab Field Services	<input type="checkbox"/> Client Drop-off
		<input type="checkbox"/> US Mail	<input type="checkbox"/> Spee-Dee
		<input type="checkbox"/> Other:	
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler ID: AB-13
Multiple Coolers?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant:	<input type="checkbox"/> Wet ice	<input type="checkbox"/> Blue ice	<input type="checkbox"/> Dry ice
			<input type="checkbox"/> Other: _____
			<input type="checkbox"/> NONE
Thermometer ID: IR Gun M	Correction Factor (°C): +0.1		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 0.0	Corrected Temp (°C): 0.1		
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Chain of Custody Record

TestAmerica Des Moines SC

Sampler: Adam Watson Lab PM: Frederick, Sandie COC No: 310-47093-14459.1
 Phone: _____ E-Mail: sandie.frederick@testamericainc.com Page: Page 1 of 1
 Client Information: Meghan Blodgett 214 Carrier Tracking No(s): _____ Job #: _____

Company: SCS Engineers
 Address: N84 W13540 Leon Road
 City: Menomonie Falls
 State, Zip: WI, 53051
 Phone: _____
 PO #: 25219070
 W/O #: _____
 Email: mblodgett@scsengineers.com
 Project Name: Alliant Lansing 25219070
 Site: _____
 Project #: 31011020
 SSCW#: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Viewwater, Soil, Onwater, Air)	Field Filtered Sample (Yes or No)		6020A - Arsenic		Special Instructions/Note:
					Permit/MSD (Yes or No)	D	X	X	
MW-306 <u>MW-306</u>	2/5/2020 <u>2/5/2020</u>	1130 <u>1130</u>	Water <u>Water</u>	Water <u>Water</u>	X <u>X</u>	X <u>X</u>	X <u>X</u>	2 Samples <u>2 Samples</u>	
<u>MW-306 Field Blank</u>	<u>2/5/2020</u>	<u>1130</u>	<u>Water</u>	<u>Water</u>					

Analysis Requested: _____
 Due Date Requested: _____
 TAT Requested (days): _____
 PO #: 25219070
 W/O #: _____
 Email: mblodgett@scsengineers.com
 Project Name: Alliant Lansing 25219070
 Site: _____
 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
 Other: _____
 M - Hexane
 N - None
 O - AshtA02
 P - NazOAS
 Q - NazSO3
 R - NazS2O3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 X - EDTA
 Z - other (specify) _____
 Total Number of containers: _____
 Special Instructions/Note: 2 Samples
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: Adam Watson Company: _____ Date/Time: 2/6/2020 9:30
 Relinquished by: _____ Company: _____ Date/Time: _____
 Relinquished by: _____ Company: _____ Date/Time: _____
 Custody Seals Intact: Yes No Custody Seal No: _____
 Received by: Shirley Bundeit Date/Time: 2-7-20 10:50 Company: _____
 Received by: _____ Date/Time: _____ Company: _____
 Received by: _____ Date/Time: _____ Company: _____
 Cooler Temperature(s) °C and Other Remarks: _____

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	<u>Lot #</u>
			<u>pH</u>	<u>Temp</u>	<u>Added (mls)</u>	
MW-306	310-175319-A-1	Plastic 250ml - with Nitric Acid	<2	_____	_____	2541576
MW-306	310-175319-B-1	Plastic 250ml - with Nitric Acid	>2	_____	2.5	2541576
Field Blank	310-175319-A-2	Plastic 250ml - with Nitric Acid	<2	_____	_____	2541576

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-175319-1

SDG Number:

Login Number: 175319

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Bindert, Lindsay A

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	



C2 May 2020 Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-182333-1
Client Project/Site: Lansing Gen Station, 25219070
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
6/2/2020 10:44:40 AM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	10
Definitions	22
QC Sample Results	23
QC Association	26
Chronicle	29
Certification Summary	33
Method Summary	34
Chain of Custody	35
Receipt Checklists	40
Field Data Sheets	41

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Job ID: 310-182333-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-182333-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 5/22/2020. The report (revision 1) is being revised due to: REVISION: Client requested narrative updated to include elevated TDS info for sample 6..

Receipt

The samples were received on 5/22/2020 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.4° C and 1.5° C.

Receipt Exceptions

REVISION: Client requested narrative updated to include elevated TDS info for sample 6.

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-302 (310-182333-2), MW-302A (310-182333-3), MW-304 (310-182333-4), MW-305 (310-182333-5), MW-306 (310-182333-6), MW-306A (310-182333-9) and MW-6 (310-182333-11). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

Method 2450C: Less sample volume utilized for sample 6 due to higher TDS levels.

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, 25219070

Job ID: 310-182333-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-182333-1	MW-301	Water	05/19/20 19:00	05/22/20 09:50	
310-182333-2	MW-302	Water	05/20/20 12:40	05/22/20 09:50	
310-182333-3	MW-302A	Water	05/20/20 14:20	05/22/20 09:50	
310-182333-4	MW-304	Water	05/20/20 15:30	05/22/20 09:50	
310-182333-5	MW-305	Water	05/19/20 13:15	05/22/20 09:50	
310-182333-6	MW-306	Water	05/19/20 14:30	05/22/20 09:50	
310-182333-7	MW-303	Water	05/19/20 16:30	05/22/20 09:50	
310-182333-8	MW-304A	Water	05/20/20 16:50	05/22/20 09:50	
310-182333-9	MW-306A	Water	05/19/20 15:25	05/22/20 09:50	
310-182333-10	MW-20	Water	05/19/20 17:30	05/22/20 09:50	
310-182333-11	MW-6	Water	05/20/20 18:10	05/22/20 09:50	
310-182333-12	Field Blank	Water	05/19/20 13:00	05/22/20 09:50	

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-301

Lab Sample ID: 310-182333-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		5.0	2.0	mg/L	5		9056A	Total/NA
Fluoride	0.56		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	34		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	3.8		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	140		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	150		100	73	ug/L	1		6020A	Total/NA
Calcium	56		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	7.0	J	10	2.3	ug/L	1		6020A	Total/NA
Molybdenum	8.1		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	480		30	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	624.46				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-77.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.75				mg/L	1		Field Sampling	Total/NA
pH, Field	7.85				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	474				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.39				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-182333-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		5.0	2.0	mg/L	5		9056A	Total/NA
Fluoride	0.25	J	0.50	0.23	mg/L	5		9056A	Total/NA
Arsenic	33		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	610		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	480		100	73	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
Total Dissolved Solids	710		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	627.68				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-161.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.19				mg/L	1		Field Sampling	Total/NA
pH, Field	6.93				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1070				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.16				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302A

Lab Sample ID: 310-182333-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.8		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	53		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	51		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	190		100	73	ug/L	1		6020A	Total/NA
Calcium	79		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.41	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.48	J	0.50	0.27	ug/L	1		6020A	Total/NA
Selenium	1.3	J	5.0	1.0	ug/L	1		6020A	Total/NA
Total Dissolved Solids	520		30	26	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-302A (Continued)

Lab Sample ID: 310-182333-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	623.19				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	126.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	6.55				mg/L	1		Field Sampling	Total/NA
pH, Field	7.27				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	644				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	11.90				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-182333-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.2		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	17		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	42		2.0	0.90	ug/L	1		6020A	Total/NA
Calcium	70		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	8.2		5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	0.22	J	0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	470		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	621.57				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	104.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	7.78				mg/L	1		Field Sampling	Total/NA
pH, Field	7.32				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	574				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.72				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-182333-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.5		5.0	2.0	mg/L	5		9056A	Total/NA
Fluoride	0.23	J	0.50	0.23	mg/L	5		9056A	Total/NA
Arsenic	3.6		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	220		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	210		100	73	ug/L	1		6020A	Total/NA
Calcium	82		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.32	J	0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	540		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	627.24				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-138				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.48				mg/L	1		Field Sampling	Total/NA
pH, Field	6.90				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	684				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.8				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	20.44				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-182333-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	32		5.0	2.0	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-306 (Continued)

Lab Sample ID: 310-182333-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	430		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	8.5		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	260		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	720		100	73	ug/L	1		6020A	Total/NA
Calcium	340		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.53		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	25		10	2.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	3400		150	130	mg/L	1		SM 2540C	Total/NA
pH	6.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	620.43				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-137				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.3				mg/L	1		Field Sampling	Total/NA
pH, Field	6.66				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	2332				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.63				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-182333-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.0	mg/L	5		9056A	Total/NA
Fluoride	0.38	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	42		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	1.4	J	2.0	0.88	ug/L	1		6020A	Total/NA
Barium	210		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	150		100	73	ug/L	1		6020A	Total/NA
Calcium	54		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	4.2	J	10	2.3	ug/L	1		6020A	Total/NA
Molybdenum	3.1		2.0	1.1	ug/L	1		6020A	Total/NA
Selenium	1.4	J	5.0	1.0	ug/L	1		6020A	Total/NA
Total Dissolved Solids	450		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	637.98				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	28.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.29				mg/L	1		Field Sampling	Total/NA
pH, Field	7.67				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	464				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	6.3				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: 310-182333-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.0	mg/L	5		9056A	Total/NA
Fluoride	0.57		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	83		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	1.3	J	2.0	0.88	ug/L	1		6020A	Total/NA
Barium	67		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	1800		100	73	ug/L	1		6020A	Total/NA
Cadmium	0.19		0.10	0.039	ug/L	1		6020A	Total/NA
Calcium	54		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	2.2	J	5.0	1.1	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-304A (Continued)

Lab Sample ID: 310-182333-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	3.2		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	4.3		0.50	0.27	ug/L	1		6020A	Total/NA
Lithium	2.7	J	10	2.3	ug/L	1		6020A	Total/NA
Molybdenum	110		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	680		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	624.88				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	61.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.48				mg/L	1		Field Sampling	Total/NA
pH, Field	8.04				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	529				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	585.9				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A

Lab Sample ID: 310-182333-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.8		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	44		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	61		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	290		100	73	ug/L	1		6020A	Total/NA
Calcium	83		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.33	J	0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	610		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	620.40				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-21.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.18				mg/L	1		Field Sampling	Total/NA
pH, Field	6.99				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	697				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.15				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-20

Lab Sample ID: 310-182333-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.7		5.0	2.0	mg/L	5		9056A	Total/NA
Fluoride	0.61		0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	240		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	4.9		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	120		2.0	0.90	ug/L	1		6020A	Total/NA
Boron	2500		100	73	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.71		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.31	J	0.50	0.27	ug/L	1		6020A	Total/NA
Molybdenum	15		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	830		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	650.20				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-105.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.32				mg/L	1		Field Sampling	Total/NA
pH, Field	7.64				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-20 (Continued)

Lab Sample ID: 310-182333-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance, Field	964				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.8				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.41				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-6

Lab Sample ID: 310-182333-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.7		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	27		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	46		2.0	0.90	ug/L	1		6020A	Total/NA
Calcium	72		0.50	0.19	mg/L	1		6020A	Total/NA
Total Dissolved Solids	580		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	674.47				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	119.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	9.2				mg/L	1		Field Sampling	Total/NA
pH, Field	7.34				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	597				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.01				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-182333-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	280		30	26	mg/L	1		SM 2540C	Total/NA
pH	6.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-301

Lab Sample ID: 310-182333-1

Date Collected: 05/19/20 19:00

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		5.0	2.0	mg/L			05/27/20 18:05	5
Fluoride	0.56		0.50	0.23	mg/L			05/27/20 18:05	5
Sulfate	34		5.0	3.6	mg/L			05/27/20 18:05	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 18:47	1
Arsenic	3.8		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 18:47	1
Barium	140		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 18:47	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 18:47	1
Boron	150		100	73	ug/L		05/26/20 08:27	05/27/20 18:47	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 18:47	1
Calcium	56		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 18:47	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:47	1
Cobalt	0.11	J	0.50	0.091	ug/L		05/26/20 08:27	05/27/20 18:47	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 18:47	1
Lithium	7.0	J	10	2.3	ug/L		05/26/20 08:27	05/27/20 18:47	1
Molybdenum	8.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:47	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 18:47	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 18:47	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	480		30	26	mg/L			05/22/20 12:13	1
pH	8.1	HF	0.1	0.1	SU			05/22/20 15:14	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	624.46				ft			05/19/20 19:00	1
Oxidation Reduction Potential	-77.6				millivolts			05/19/20 19:00	1
Oxygen, Dissolved, Client Supplied	0.75				mg/L			05/19/20 19:00	1
pH, Field	7.85				SU			05/19/20 19:00	1
Specific Conductance, Field	474				umhos/cm			05/19/20 19:00	1
Temperature, Field	11.3				Degrees C			05/19/20 19:00	1
Turbidity, Field	1.39				NTU			05/19/20 19:00	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-302

Lab Sample ID: 310-182333-2

Date Collected: 05/20/20 12:40

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		5.0	2.0	mg/L			05/27/20 18:21	5
Fluoride	0.25	J	0.50	0.23	mg/L			05/27/20 18:21	5
Sulfate	<3.6		5.0	3.6	mg/L			05/27/20 18:21	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 18:49	1
Arsenic	33		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 18:49	1
Barium	610		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 18:49	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 18:49	1
Boron	480		100	73	ug/L		05/26/20 08:27	05/27/20 18:49	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 18:49	1
Calcium	120		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 18:49	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:49	1
Cobalt	1.0		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 18:49	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 18:49	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 18:49	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:49	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 18:49	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 18:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	710		30	26	mg/L			05/22/20 12:13	1
pH	7.0	HF	0.1	0.1	SU			05/22/20 15:15	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	627.68				ft			05/20/20 12:40	1
Oxidation Reduction Potential	-161.5				millivolts			05/20/20 12:40	1
Oxygen, Dissolved, Client Supplied	0.19				mg/L			05/20/20 12:40	1
pH, Field	6.93				SU			05/20/20 12:40	1
Specific Conductance, Field	1070				umhos/cm			05/20/20 12:40	1
Temperature, Field	8.7				Degrees C			05/20/20 12:40	1
Turbidity, Field	4.16				NTU			05/20/20 12:40	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-302A

Lab Sample ID: 310-182333-3

Date Collected: 05/20/20 14:20

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.8		5.0	2.0	mg/L			05/27/20 18:36	5
Fluoride	<0.23		0.50	0.23	mg/L			05/27/20 18:36	5
Sulfate	53		5.0	3.6	mg/L			05/27/20 18:36	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 18:52	1
Arsenic	<0.88		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 18:52	1
Barium	51		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 18:52	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 18:52	1
Boron	190		100	73	ug/L		05/26/20 08:27	05/27/20 18:52	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 18:52	1
Calcium	79		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 18:52	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:52	1
Cobalt	0.41	J	0.50	0.091	ug/L		05/26/20 08:27	05/27/20 18:52	1
Lead	0.48	J	0.50	0.27	ug/L		05/26/20 08:27	05/27/20 18:52	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 18:52	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:52	1
Selenium	1.3	J	5.0	1.0	ug/L		05/26/20 08:27	05/27/20 18:52	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 18:52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	520		30	26	mg/L			05/22/20 12:13	1
pH	7.4	HF	0.1	0.1	SU			05/22/20 15:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	623.19				ft			05/20/20 14:20	1
Oxidation Reduction Potential	126.9				millivolts			05/20/20 14:20	1
Oxygen, Dissolved, Client Supplied	6.55				mg/L			05/20/20 14:20	1
pH, Field	7.27				SU			05/20/20 14:20	1
Specific Conductance, Field	644				umhos/cm			05/20/20 14:20	1
Temperature, Field	11.7				Degrees C			05/20/20 14:20	1
Turbidity, Field	11.90				NTU			05/20/20 14:20	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-304

Lab Sample ID: 310-182333-4

Date Collected: 05/20/20 15:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.2		5.0	2.0	mg/L			05/27/20 19:39	5
Fluoride	<0.23		0.50	0.23	mg/L			05/27/20 19:39	5
Sulfate	17		5.0	3.6	mg/L			05/27/20 19:39	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 18:55	1
Arsenic	<0.88		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 18:55	1
Barium	42		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 18:55	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 18:55	1
Boron	<73		100	73	ug/L		05/26/20 08:27	05/27/20 18:55	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 18:55	1
Calcium	70		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 18:55	1
Chromium	8.2		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:55	1
Cobalt	0.22 J		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 18:55	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 18:55	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 18:55	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:55	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 18:55	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 18:55	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	470		30	26	mg/L			05/22/20 12:13	1
pH	7.3 HF		0.1	0.1	SU			05/22/20 15:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	621.57				ft			05/20/20 15:30	1
Oxidation Reduction Potential	104.9				millivolts			05/20/20 15:30	1
Oxygen, Dissolved, Client Supplied	7.78				mg/L			05/20/20 15:30	1
pH, Field	7.32				SU			05/20/20 15:30	1
Specific Conductance, Field	574				umhos/cm			05/20/20 15:30	1
Temperature, Field	9.0				Degrees C			05/20/20 15:30	1
Turbidity, Field	3.72				NTU			05/20/20 15:30	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-305

Lab Sample ID: 310-182333-5

Date Collected: 05/19/20 13:15

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.5		5.0	2.0	mg/L			05/27/20 20:10	5
Fluoride	0.23	J	0.50	0.23	mg/L			05/27/20 20:10	5
Sulfate	<3.6		5.0	3.6	mg/L			05/27/20 20:10	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 18:57	1
Arsenic	3.6		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 18:57	1
Barium	220		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 18:57	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 18:57	1
Boron	210		100	73	ug/L		05/26/20 08:27	05/27/20 18:57	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 18:57	1
Calcium	82		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 18:57	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:57	1
Cobalt	0.32	J	0.50	0.091	ug/L		05/26/20 08:27	05/27/20 18:57	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 18:57	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 18:57	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:57	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 18:57	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 18:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	540		30	26	mg/L			05/22/20 12:13	1
pH	7.2	HF	0.1	0.1	SU			05/22/20 15:13	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	627.24				ft			05/19/20 13:15	1
Oxidation Reduction Potential	-138				millivolts			05/19/20 13:15	1
Oxygen, Dissolved, Client Supplied	0.48				mg/L			05/19/20 13:15	1
pH, Field	6.90				SU			05/19/20 13:15	1
Specific Conductance, Field	684				umhos/cm			05/19/20 13:15	1
Temperature, Field	9.8				Degrees C			05/19/20 13:15	1
Turbidity, Field	20.44				NTU			05/19/20 13:15	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-306

Lab Sample ID: 310-182333-6

Date Collected: 05/19/20 14:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32		5.0	2.0	mg/L			05/27/20 20:41	5
Fluoride	<0.23		0.50	0.23	mg/L			05/27/20 20:41	5
Sulfate	430		5.0	3.6	mg/L			05/27/20 20:41	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 19:11	1
Arsenic	8.5		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 19:11	1
Barium	260		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 19:11	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 19:11	1
Boron	720		100	73	ug/L		05/26/20 08:27	05/27/20 19:11	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 19:11	1
Calcium	340		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 19:11	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:11	1
Cobalt	0.53		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 19:11	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 19:11	1
Lithium	25		10	2.3	ug/L		05/26/20 08:27	05/27/20 19:11	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:11	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 19:11	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 19:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3400		150	130	mg/L			05/26/20 12:14	1
pH	6.9	HF	0.1	0.1	SU			05/22/20 15:14	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	620.43				ft			05/19/20 14:30	1
Oxidation Reduction Potential	-137				millivolts			05/19/20 14:30	1
Oxygen, Dissolved, Client Supplied	0.3				mg/L			05/19/20 14:30	1
pH, Field	6.66				SU			05/19/20 14:30	1
Specific Conductance, Field	2332				umhos/cm			05/19/20 14:30	1
Temperature, Field	12.7				Degrees C			05/19/20 14:30	1
Turbidity, Field	2.63				NTU			05/19/20 14:30	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-303

Lab Sample ID: 310-182333-7

Date Collected: 05/19/20 16:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.0	mg/L			05/27/20 21:12	5
Fluoride	0.38	J	0.50	0.23	mg/L			05/27/20 21:12	5
Sulfate	42		5.0	3.6	mg/L			05/27/20 21:12	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 19:13	1
Arsenic	1.4	J	2.0	0.88	ug/L		05/26/20 08:27	05/27/20 19:13	1
Barium	210		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 19:13	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 19:13	1
Boron	150		100	73	ug/L		05/26/20 08:27	05/27/20 19:13	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 19:13	1
Calcium	54		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 19:13	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:13	1
Cobalt	<0.091		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 19:13	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 19:13	1
Lithium	4.2	J	10	2.3	ug/L		05/26/20 08:27	05/27/20 19:13	1
Molybdenum	3.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:13	1
Selenium	1.4	J	5.0	1.0	ug/L		05/26/20 08:27	05/27/20 19:13	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 19:13	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	450		30	26	mg/L			05/22/20 12:13	1
pH	7.9	HF	0.1	0.1	SU			05/22/20 15:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	637.98				ft			05/19/20 16:30	1
Oxidation Reduction Potential	28.9				millivolts			05/19/20 16:30	1
Oxygen, Dissolved, Client Supplied	1.29				mg/L			05/19/20 16:30	1
pH, Field	7.67				SU			05/19/20 16:30	1
Specific Conductance, Field	464				umhos/cm			05/19/20 16:30	1
Temperature, Field	6.3				Degrees C			05/19/20 16:30	1
Turbidity, Field	0.00				NTU			05/19/20 16:30	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-304A

Lab Sample ID: 310-182333-8

Date Collected: 05/20/20 16:50

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.0	mg/L			05/27/20 21:44	5
Fluoride	0.57		0.50	0.23	mg/L			05/27/20 21:44	5
Sulfate	83		5.0	3.6	mg/L			05/27/20 21:44	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 19:16	1
Arsenic	1.3	J	2.0	0.88	ug/L		05/26/20 08:27	05/27/20 19:16	1
Barium	67		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 19:16	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 19:16	1
Boron	1800		100	73	ug/L		05/26/20 08:27	05/27/20 19:16	1
Cadmium	0.19		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 19:16	1
Calcium	54		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 19:16	1
Chromium	2.2	J	5.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:16	1
Cobalt	3.2		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 19:16	1
Lead	4.3		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 19:16	1
Lithium	2.7	J	10	2.3	ug/L		05/26/20 08:27	05/27/20 19:16	1
Molybdenum	110		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:16	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 19:16	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 19:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	680		30	26	mg/L			05/22/20 12:13	1
pH	8.0	HF	0.1	0.1	SU			05/22/20 15:12	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	624.88				ft			05/20/20 16:50	1
Oxidation Reduction Potential	61.8				millivolts			05/20/20 16:50	1
Oxygen, Dissolved, Client Supplied	0.48				mg/L			05/20/20 16:50	1
pH, Field	8.04				SU			05/20/20 16:50	1
Specific Conductance, Field	529				umhos/cm			05/20/20 16:50	1
Temperature, Field	12.6				Degrees C			05/20/20 16:50	1
Turbidity, Field	585.9				NTU			05/20/20 16:50	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-306A

Lab Sample ID: 310-182333-9

Date Collected: 05/19/20 15:25

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.8		5.0	2.0	mg/L			05/27/20 21:59	5
Fluoride	<0.23		0.50	0.23	mg/L			05/27/20 21:59	5
Sulfate	44		5.0	3.6	mg/L			05/27/20 21:59	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 19:19	1
Arsenic	<0.88		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 19:19	1
Barium	61		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 19:19	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 19:19	1
Boron	290		100	73	ug/L		05/26/20 08:27	05/27/20 19:19	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 19:19	1
Calcium	83		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 19:19	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:19	1
Cobalt	0.33 J		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 19:19	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 19:19	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 19:19	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:19	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 19:19	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 19:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	610		30	26	mg/L			05/22/20 12:13	1
pH	7.4 HF		0.1	0.1	SU			05/22/20 15:11	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	620.40				ft			05/19/20 15:25	1
Oxidation Reduction Potential	-21.7				millivolts			05/19/20 15:25	1
Oxygen, Dissolved, Client Supplied	1.18				mg/L			05/19/20 15:25	1
pH, Field	6.99				SU			05/19/20 15:25	1
Specific Conductance, Field	697				umhos/cm			05/19/20 15:25	1
Temperature, Field	14.6				Degrees C			05/19/20 15:25	1
Turbidity, Field	4.15				NTU			05/19/20 15:25	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-20

Lab Sample ID: 310-182333-10

Date Collected: 05/19/20 17:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.7		5.0	2.0	mg/L			05/27/20 23:02	5
Fluoride	0.61		0.50	0.23	mg/L			05/27/20 23:02	5
Sulfate	240		5.0	3.6	mg/L			05/27/20 23:02	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 19:21	1
Arsenic	4.9		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 19:21	1
Barium	120		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 19:21	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 19:21	1
Boron	2500		100	73	ug/L		05/26/20 08:27	05/27/20 19:21	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 19:21	1
Calcium	130		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 19:21	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:21	1
Cobalt	0.71		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 19:21	1
Lead	0.31	J	0.50	0.27	ug/L		05/26/20 08:27	05/27/20 19:21	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 19:21	1
Molybdenum	15		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:21	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 19:21	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 19:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	830		30	26	mg/L			05/22/20 12:13	1
pH	7.8	HF	0.1	0.1	SU			05/22/20 15:13	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	650.20				ft			05/19/20 17:30	1
Oxidation Reduction Potential	-105.4				millivolts			05/19/20 17:30	1
Oxygen, Dissolved, Client Supplied	0.32				mg/L			05/19/20 17:30	1
pH, Field	7.64				SU			05/19/20 17:30	1
Specific Conductance, Field	964				umhos/cm			05/19/20 17:30	1
Temperature, Field	8.8				Degrees C			05/19/20 17:30	1
Turbidity, Field	1.41				NTU			05/19/20 17:30	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-6

Lab Sample ID: 310-182333-11

Date Collected: 05/20/20 18:10

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.7		5.0	2.0	mg/L			05/27/20 23:18	5
Fluoride	<0.23		0.50	0.23	mg/L			05/27/20 23:18	5
Sulfate	27		5.0	3.6	mg/L			05/27/20 23:18	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 19:24	1
Arsenic	<0.88		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 19:24	1
Barium	46		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 19:24	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 19:24	1
Boron	<73		100	73	ug/L		05/26/20 08:27	05/27/20 19:24	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 19:24	1
Calcium	72		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 19:24	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:24	1
Cobalt	<0.091		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 19:24	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 19:24	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 19:24	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:24	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 19:24	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 19:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	580		30	26	mg/L			05/22/20 12:13	1
pH	7.5	HF	0.1	0.1	SU			05/22/20 15:27	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	674.47				ft			05/20/20 18:10	1
Oxidation Reduction Potential	119.6				millivolts			05/20/20 18:10	1
Oxygen, Dissolved, Client Supplied	9.2				mg/L			05/20/20 18:10	1
pH, Field	7.34				SU			05/20/20 18:10	1
Specific Conductance, Field	597				umhos/cm			05/20/20 18:10	1
Temperature, Field	10.0				Degrees C			05/20/20 18:10	1
Turbidity, Field	0.01				NTU			05/20/20 18:10	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: Field Blank

Lab Sample ID: 310-182333-12

Date Collected: 05/19/20 13:00

Matrix: Water

Date Received: 05/22/20 09:50

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			05/27/20 23:34	1
Fluoride	<0.046		0.10	0.046	mg/L			05/27/20 23:34	1
Sulfate	<0.71		1.0	0.71	mg/L			05/27/20 23:34	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 19:27	1
Arsenic	<0.88		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 19:27	1
Barium	<0.90		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 19:27	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 19:27	1
Boron	<73		100	73	ug/L		05/26/20 08:27	05/27/20 19:27	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 19:27	1
Calcium	<0.19		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 19:27	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:27	1
Cobalt	<0.091		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 19:27	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 19:27	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 19:27	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 19:27	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 19:27	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 19:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 15:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	280		30	26	mg/L			05/22/20 12:13	1
pH	6.1	HF	0.1	0.1	SU			05/22/20 15:30	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Qualifiers

HPLC/IC

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

Metals

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

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-280325/3
Matrix: Water
Analysis Batch: 280325

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			05/27/20 15:13	1
Fluoride	<0.046		0.10	0.046	mg/L			05/27/20 15:13	1
Sulfate	<0.71		1.0	0.71	mg/L			05/27/20 15:13	1

Lab Sample ID: LCS 310-280325/4
Matrix: Water
Analysis Batch: 280325

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	10.3		mg/L		103	90 - 110
Fluoride	2.00	2.08		mg/L		104	90 - 110
Sulfate	10.0	10.6		mg/L		106	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-280006/1-A
Matrix: Water
Analysis Batch: 280280

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 280006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.58		1.0	0.58	ug/L		05/26/20 08:27	05/27/20 18:09	1
Arsenic	<0.88		2.0	0.88	ug/L		05/26/20 08:27	05/27/20 18:09	1
Barium	<0.90		2.0	0.90	ug/L		05/26/20 08:27	05/27/20 18:09	1
Beryllium	<0.27		1.0	0.27	ug/L		05/26/20 08:27	05/27/20 18:09	1
Boron	<73		100	73	ug/L		05/26/20 08:27	05/27/20 18:09	1
Cadmium	<0.039		0.10	0.039	ug/L		05/26/20 08:27	05/27/20 18:09	1
Calcium	<0.19		0.50	0.19	mg/L		05/26/20 08:27	05/27/20 18:09	1
Chromium	<1.1		5.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:09	1
Cobalt	<0.091		0.50	0.091	ug/L		05/26/20 08:27	05/27/20 18:09	1
Lead	<0.27		0.50	0.27	ug/L		05/26/20 08:27	05/27/20 18:09	1
Lithium	<2.3		10	2.3	ug/L		05/26/20 08:27	05/27/20 18:09	1
Molybdenum	<1.1		2.0	1.1	ug/L		05/26/20 08:27	05/27/20 18:09	1
Selenium	<1.0		5.0	1.0	ug/L		05/26/20 08:27	05/27/20 18:09	1
Thallium	<0.26		1.0	0.26	ug/L		05/26/20 08:27	05/27/20 18:09	1

Lab Sample ID: LCS 310-280006/2-A
Matrix: Water
Analysis Batch: 280280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 280006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	40.0	34.0		ug/L		85	80 - 120
Arsenic	80.0	69.1		ug/L		86	80 - 120
Barium	80.0	82.8		ug/L		103	80 - 120
Beryllium	40.0	41.5		ug/L		104	80 - 120
Boron	1760	1830		ug/L		104	80 - 120
Cadmium	40.0	40.9		ug/L		102	80 - 120
Calcium	4.00	4.08		mg/L		102	80 - 120
Chromium	80.0	80.7		ug/L		101	80 - 120
Cobalt	40.0	40.1		ug/L		100	80 - 120

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

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

Lab Sample ID: LCS 310-280006/2-A
Matrix: Water
Analysis Batch: 280280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 280006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	40.0	41.5		ug/L		104	80 - 120
Lithium	200	201		ug/L		100	80 - 120
Molybdenum	80.0	68.1		ug/L		85	80 - 120
Selenium	80.0	76.4		ug/L		95	80 - 120
Thallium	32.0	30.2		ug/L		94	80 - 120

Lab Sample ID: 310-182333-5 DU
Matrix: Water
Analysis Batch: 280280

Client Sample ID: MW-305
Prep Type: Total/NA
Prep Batch: 280006

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.58		<0.58		ug/L		NC	20
Arsenic	3.6		3.62		ug/L		1	20
Barium	220		223		ug/L		3	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Boron	210		221		ug/L		5	20
Cadmium	<0.039		0.0540	J	ug/L		NC	20
Calcium	82		84.9		mg/L		4	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	0.32	J	0.351	J	ug/L		11	20
Lead	<0.27		<0.27		ug/L		NC	20
Lithium	<2.3		<2.3		ug/L		NC	20
Molybdenum	<1.1		<1.1		ug/L		NC	20
Selenium	<1.0		<1.0		ug/L		NC	20
Thallium	<0.26		<0.26		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-280186/1-A
Matrix: Water
Analysis Batch: 280413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 280186

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		05/27/20 13:16	05/28/20 14:45	1

Lab Sample ID: LCS 310-280186/2-A
Matrix: Water
Analysis Batch: 280413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 280186

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

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

Lab Sample ID: MB 310-279856/1
Matrix: Water
Analysis Batch: 279856

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			05/22/20 12:13	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

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

Lab Sample ID: LCS 310-279856/2
Matrix: Water
Analysis Batch: 279856

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	952		mg/L		95	90 - 110

Lab Sample ID: 310-182333-7 DU
Matrix: Water
Analysis Batch: 279856

Client Sample ID: MW-303
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	450		508		mg/L		12	24

Lab Sample ID: MB 310-280050/1
Matrix: Water
Analysis Batch: 280050

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			05/26/20 12:14	1

Lab Sample ID: LCS 310-280050/2
Matrix: Water
Analysis Batch: 280050

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	1080		mg/L		108	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-279880/1
Matrix: Water
Analysis Batch: 279880

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: 310-182333-7 DU
Matrix: Water
Analysis Batch: 279880

Client Sample ID: MW-303
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.9	HF	7.9		SU		0.5	20

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

HPLC/IC

Analysis Batch: 280325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	9056A	
310-182333-2	MW-302	Total/NA	Water	9056A	
310-182333-3	MW-302A	Total/NA	Water	9056A	
310-182333-4	MW-304	Total/NA	Water	9056A	
310-182333-5	MW-305	Total/NA	Water	9056A	
310-182333-6	MW-306	Total/NA	Water	9056A	
310-182333-7	MW-303	Total/NA	Water	9056A	
310-182333-8	MW-304A	Total/NA	Water	9056A	
310-182333-9	MW-306A	Total/NA	Water	9056A	
310-182333-10	MW-20	Total/NA	Water	9056A	
310-182333-11	MW-6	Total/NA	Water	9056A	
310-182333-12	Field Blank	Total/NA	Water	9056A	
MB 310-280325/3	Method Blank	Total/NA	Water	9056A	
LCS 310-280325/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 280006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	3010A	
310-182333-2	MW-302	Total/NA	Water	3010A	
310-182333-3	MW-302A	Total/NA	Water	3010A	
310-182333-4	MW-304	Total/NA	Water	3010A	
310-182333-5	MW-305	Total/NA	Water	3010A	
310-182333-6	MW-306	Total/NA	Water	3010A	
310-182333-7	MW-303	Total/NA	Water	3010A	
310-182333-8	MW-304A	Total/NA	Water	3010A	
310-182333-9	MW-306A	Total/NA	Water	3010A	
310-182333-10	MW-20	Total/NA	Water	3010A	
310-182333-11	MW-6	Total/NA	Water	3010A	
310-182333-12	Field Blank	Total/NA	Water	3010A	
MB 310-280006/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-280006/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-182333-5 DU	MW-305	Total/NA	Water	3010A	

Prep Batch: 280186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	7470A	
310-182333-2	MW-302	Total/NA	Water	7470A	
310-182333-3	MW-302A	Total/NA	Water	7470A	
310-182333-4	MW-304	Total/NA	Water	7470A	
310-182333-5	MW-305	Total/NA	Water	7470A	
310-182333-6	MW-306	Total/NA	Water	7470A	
310-182333-7	MW-303	Total/NA	Water	7470A	
310-182333-8	MW-304A	Total/NA	Water	7470A	
310-182333-9	MW-306A	Total/NA	Water	7470A	
310-182333-10	MW-20	Total/NA	Water	7470A	
310-182333-11	MW-6	Total/NA	Water	7470A	
310-182333-12	Field Blank	Total/NA	Water	7470A	
MB 310-280186/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-280186/2-A	Lab Control Sample	Total/NA	Water	7470A	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Metals

Analysis Batch: 280280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	6020A	280006
310-182333-2	MW-302	Total/NA	Water	6020A	280006
310-182333-3	MW-302A	Total/NA	Water	6020A	280006
310-182333-4	MW-304	Total/NA	Water	6020A	280006
310-182333-5	MW-305	Total/NA	Water	6020A	280006
310-182333-6	MW-306	Total/NA	Water	6020A	280006
310-182333-7	MW-303	Total/NA	Water	6020A	280006
310-182333-8	MW-304A	Total/NA	Water	6020A	280006
310-182333-9	MW-306A	Total/NA	Water	6020A	280006
310-182333-10	MW-20	Total/NA	Water	6020A	280006
310-182333-11	MW-6	Total/NA	Water	6020A	280006
310-182333-12	Field Blank	Total/NA	Water	6020A	280006
MB 310-280006/1-A	Method Blank	Total/NA	Water	6020A	280006
LCS 310-280006/2-A	Lab Control Sample	Total/NA	Water	6020A	280006
310-182333-5 DU	MW-305	Total/NA	Water	6020A	280006

Analysis Batch: 280413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	7470A	280186
310-182333-2	MW-302	Total/NA	Water	7470A	280186
310-182333-3	MW-302A	Total/NA	Water	7470A	280186
310-182333-4	MW-304	Total/NA	Water	7470A	280186
310-182333-5	MW-305	Total/NA	Water	7470A	280186
310-182333-6	MW-306	Total/NA	Water	7470A	280186
310-182333-7	MW-303	Total/NA	Water	7470A	280186
310-182333-8	MW-304A	Total/NA	Water	7470A	280186
310-182333-9	MW-306A	Total/NA	Water	7470A	280186
310-182333-10	MW-20	Total/NA	Water	7470A	280186
310-182333-11	MW-6	Total/NA	Water	7470A	280186
310-182333-12	Field Blank	Total/NA	Water	7470A	280186
MB 310-280186/1-A	Method Blank	Total/NA	Water	7470A	280186
LCS 310-280186/2-A	Lab Control Sample	Total/NA	Water	7470A	280186

General Chemistry

Analysis Batch: 279856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	SM 2540C	
310-182333-2	MW-302	Total/NA	Water	SM 2540C	
310-182333-3	MW-302A	Total/NA	Water	SM 2540C	
310-182333-4	MW-304	Total/NA	Water	SM 2540C	
310-182333-5	MW-305	Total/NA	Water	SM 2540C	
310-182333-7	MW-303	Total/NA	Water	SM 2540C	
310-182333-8	MW-304A	Total/NA	Water	SM 2540C	
310-182333-9	MW-306A	Total/NA	Water	SM 2540C	
310-182333-10	MW-20	Total/NA	Water	SM 2540C	
310-182333-11	MW-6	Total/NA	Water	SM 2540C	
310-182333-12	Field Blank	Total/NA	Water	SM 2540C	
MB 310-279856/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-279856/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-182333-7 DU	MW-303	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

General Chemistry

Analysis Batch: 279880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-182333-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-182333-3	MW-302A	Total/NA	Water	SM 4500 H+ B	
310-182333-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-182333-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-182333-6	MW-306	Total/NA	Water	SM 4500 H+ B	
310-182333-7	MW-303	Total/NA	Water	SM 4500 H+ B	
310-182333-8	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-182333-9	MW-306A	Total/NA	Water	SM 4500 H+ B	
310-182333-10	MW-20	Total/NA	Water	SM 4500 H+ B	
310-182333-11	MW-6	Total/NA	Water	SM 4500 H+ B	
310-182333-12	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-279880/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-182333-7 DU	MW-303	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 280050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-6	MW-306	Total/NA	Water	SM 2540C	
MB 310-280050/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-280050/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 280091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	Field Sampling	
310-182333-2	MW-302	Total/NA	Water	Field Sampling	
310-182333-3	MW-302A	Total/NA	Water	Field Sampling	
310-182333-4	MW-304	Total/NA	Water	Field Sampling	
310-182333-5	MW-305	Total/NA	Water	Field Sampling	
310-182333-6	MW-306	Total/NA	Water	Field Sampling	
310-182333-7	MW-303	Total/NA	Water	Field Sampling	
310-182333-8	MW-304A	Total/NA	Water	Field Sampling	
310-182333-9	MW-306A	Total/NA	Water	Field Sampling	
310-182333-10	MW-20	Total/NA	Water	Field Sampling	
310-182333-11	MW-6	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-301

Lab Sample ID: 310-182333-1

Date Collected: 05/19/20 19:00

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 18:05	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 18:47	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:10	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:14	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/19/20 19:00	ANO	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-182333-2

Date Collected: 05/20/20 12:40

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 18:21	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 18:49	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:12	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:15	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/20/20 12:40	ANO	TAL CF

Client Sample ID: MW-302A

Lab Sample ID: 310-182333-3

Date Collected: 05/20/20 14:20

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 18:36	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 18:52	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:15	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:28	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/20/20 14:20	ANO	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-182333-4

Date Collected: 05/20/20 15:30

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 19:39	ACJ	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-304

Lab Sample ID: 310-182333-4

Date Collected: 05/20/20 15:30

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 18:55	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:17	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:29	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/20/20 15:30	ANO	TAL CF

Client Sample ID: MW-305

Lab Sample ID: 310-182333-5

Date Collected: 05/19/20 13:15

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 20:10	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 18:57	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:19	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:13	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/19/20 13:15	ANO	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-182333-6

Date Collected: 05/19/20 14:30

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 20:41	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 19:11	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:21	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	280050	05/26/20 12:14	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:14	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/19/20 14:30	ANO	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-182333-7

Date Collected: 05/19/20 16:30

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 21:12	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 19:13	ACJ	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-303

Lab Sample ID: 310-182333-7

Date Collected: 05/19/20 16:30

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:23	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:09	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/19/20 16:30	ANO	TAL CF

Client Sample ID: MW-304A

Lab Sample ID: 310-182333-8

Date Collected: 05/20/20 16:50

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 21:44	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 19:16	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:30	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:12	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/20/20 16:50	ANO	TAL CF

Client Sample ID: MW-306A

Lab Sample ID: 310-182333-9

Date Collected: 05/19/20 15:25

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 21:59	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 19:19	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:32	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:11	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/19/20 15:25	ANO	TAL CF

Client Sample ID: MW-20

Lab Sample ID: 310-182333-10

Date Collected: 05/19/20 17:30

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 23:02	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 19:21	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:34	HIS	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Client Sample ID: MW-20

Date Collected: 05/19/20 17:30

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:13	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/19/20 17:30	ANO	TAL CF

Client Sample ID: MW-6

Date Collected: 05/20/20 18:10

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	280325	05/27/20 23:18	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 19:24	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:36	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:27	CJG	TAL CF
Total/NA	Analysis	Field Sampling		1	280091	05/20/20 18:10	ANO	TAL CF

Client Sample ID: Field Blank

Date Collected: 05/19/20 13:00

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	280325	05/27/20 23:34	ACJ	TAL CF
Total/NA	Prep	3010A			280006	05/26/20 08:27	HED	TAL CF
Total/NA	Analysis	6020A		1	280280	05/27/20 19:27	ACJ	TAL CF
Total/NA	Prep	7470A			280186	05/27/20 13:16	HIS	TAL CF
Total/NA	Analysis	7470A		1	280413	05/28/20 15:38	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	279856	05/22/20 12:13	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	279880	05/22/20 15:30	CJG	TAL CF

Laboratory References:

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

Eurofins TestAmerica, Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-1

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

Eurofins TestAmerica, Cedar Falls

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Lansing Generating Station / SCS Engineers Project #25219070.00

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
Appendix III Parameters													
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													
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	x	x	x	x	x	x	x	x	x	x	x	x	11
Elevation	x	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	x	11
pH (field)	x	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	x	11
Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x	11
ORP	x	x	x	x	x	x	x	x	x	x	x	x	11
Temperature	x	x	x	x	x	x	x	x	x	x	x	x	11
Turbidity	x	x	x	x	x	x	x	x	x	x	x	x	11
Color	x	x	x	x	x	x	x	x	x	x	x	x	11
Odor	x	x	x	x	x	x	x	x	x	x	x	x	11

Notes: All samples are unfiltered (total analysis)

18-790-1224





310-182333 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Alive</u> <small>CITY</small>	<u>IA</u> <small>STATE</small>	Project: <u>Lansing Gen Station</u>	
Receipt Information			
Date/Time Received: <u>5/22/20</u> <small>DATE</small>	<u>0950</u> <small>TIME</small>	Received By: <u>JJ</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? <u>↓</u>	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>		Correction Factor (°C): <u>+0.1</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.3</u>		Corrected Temp (°C): <u>1.4</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>hole in top of lid in PLL nitric, doesn't appear to be leaking, some water at bottom of bag</u>			

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Alive</u>	STATE <u>IA</u>	Project: <u>Lansing Gen Station</u>
Receipt Information			
Date/Time Received:	DATE <u>5/22/20</u>	TIME <u>0950</u>	Received By: <u>JJ</u>
Delivery Type:	<input type="checkbox"/> UPS	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> FedEx Ground
	<input type="checkbox"/> Lab Courier	<input type="checkbox"/> Lab Field Services	<input type="checkbox"/> Client Drop-off
		<input type="checkbox"/> US Mail	<input type="checkbox"/> Spee-Dee
		<input type="checkbox"/> Other: _____	
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler # _____ of <u>2</u>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice	<input type="checkbox"/> Blue ice	<input type="checkbox"/> Dry ice
			<input type="checkbox"/> Other: _____
			<input type="checkbox"/> NONE
Thermometer ID:	<u>0</u>	Correction Factor (°C):	<u>+0.1</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>Plastonitic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>1.4</u>		
Corrected Temp (°C):	<u>1.5</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Client Information		Sample: <u>Paul A. Grover</u>		Lab PM: <u>Fredrick, Sandie</u>		SQC No: <u>310-49925-14653.1</u>	
Client Contact: <u>Louise Jennings</u>		Phone: <u>(608) 224-2830</u>		E-Mail: <u>sandie.fredrick@testamericainc.com</u>		Page: <u>Page 1 of 2</u>	
Company: <u>SCS Engineers</u>		Address: <u>8450 Hickman Road, Suite 20</u>		City: <u>Clive</u>		Job #: _____	
State, Zip: <u>IA, 50325</u>		Phone: <u>25219070</u>		PO #: <u>25219070</u>		Project #: <u>31011020</u>	
Email: <u>ljennings@scsengineers.com</u>		TAT Requested (days): _____		WO #: _____		SSOW#: _____	
Project Name: <u>Lansing Gen Station, 25219070</u>		Due Date Requested: _____		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>	
Site: _____		Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
Matrix (W=water, S=solid, O=soil, BT=tissue, A=air)		Preservation Code:		Sample Date		Sample Time	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
MW-301		5-19-20		19:20		G	
MW-302		5-20-20		12:40			
MW-302A		5-20-20		14:20			
MW-304		5-20-20		15:30			
MW-305		5-19-20		12:15			
MW-306		5-19-20		14:30			
MW-306A		5-19-20		16:30			
MW-20		5-20-20		16:50			
MW-6		5-19-20		15:25			
MW-6		5-19-20		17:30			
MW-6		5-20-20		18:10			
MW-303		5-19-20		16:30			
MW-304		5-20-20		16:50			
MW-306A		5-19-20		15:25			
MW-20		5-19-20		17:30			
MW-6		5-20-20		18:10			
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant	
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological	
Empty Kit Relinquished by: _____		Date: _____		Time: _____		Method of Shipment: _____	
Relinquished by: <u>Paul A. Grover</u>		Date/Time: <u>5/24/20 10:00</u>		Company: <u>SCS</u>		Date/Time: <u>5/22/20 09:50</u>	
Relinquished by: _____		Date/Time: _____		Company: _____		Date/Time: _____	
Relinquished by: _____		Date/Time: _____		Company: _____		Date/Time: _____	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: _____		Special Instructions/Note: _____	

Client Information Client Contact: Louise Jennings Company: SCS Engineers Address: 8450 Hickman Road Suite 20 City: Clive State, Zip: IA, 50325 Phone: 25219070 Email: ljennings@scsengineers.com Project Name: Lansing Gen Station, 25219070 Site:	Sampler: <u>Paul A. Grover</u> Lab PM: Fredrick, Sandie Phone: (608) 224-2830 E-Mail: sandie.fredrick@testamericainc.com Carrier Tracking No(s):	COC No: 310-49925-14653.2 Page: Page 2 of 2 Job #:	Analysis Requested Due Date Requested: TAT Requested (days): PO #: 25219070 WO #: 31011020 Project #: 31011020 SSOV#:
Sample Identification Field Blank	Sample Date: 5-19-20 Sample Time: 13:13 Sample Type (G=grab): G Preservation Code:	Matrix (W=Water, S=solid, O=soil, BT=tissue, A=Air): Water Water Water	Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> No Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> No 6020A, 7470A 2540C, Calc'd, 9056A, ORGFM, 28D, SM4500, H+ 903.0 - Radium 226 904.0 - Radium 228
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			Total Number of Containers:
Empty Kit Relinquished by: Paul A. Grover Relinquished by: Paul A. Grover Relinquished by: [Signature] Relinquished by:			Special Instructions/Note:
Custody Seals Intact: Δ Yes Δ No Custody Seal No.:			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 Other:
Relinquished by: Paul A. Grover Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by:			Special Instructions/OC Requirements: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Date/Time: 5/21/20 10:00 Date/Time: 5/21/20 09:00 Date/Time:			Method of Shipment:
Cooler Temperature(s) °C and Other Remarks:			Company: SCS Company: SCS Company:

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-182333-1

Login Number: 182333

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Johnson, Josie A

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

Groundwater Monitoring Results - Field Parameters
Lansing Generating Station / SCS Engineers Project #25220070.0
May 2020

Sample	Sample Date/Time	Groundwater Elevation (ft AMSL)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (umhos/cm)	ORP (mV)	Turbidity (NTU)
MW-301	5/20/20 19:00	624.46	11.3	7.85	0.75	474	-77.6	1.39
MW-302	5/20/20 12:40	627.68	8.7	6.93	0.19	1,070	-161.5	4.16
MW-302A	5/20/20 14:20	623.19	11.7	7.27	6.55	644	126.9	11.90
MW-303	5/20/20 16:30	637.98	6.3	7.67	1.29	464	28.9	0.00
MW-304	5/20/20 15:30	621.57	9.0	7.32	7.78	574	104.9	3.72
MW-304A	5/20/20 16:50	624.88	12.6	8.04	0.48	529	61.8	585.9
MW-305	5/19/20 13:00	627.24	9.8	6.90	0.48	684	-138	20.44
MW-306	5/19/20 14:30	620.43	12.7	6.66	0.3	2,332	-137	2.63
MW-306A	5/19/20 15:25	620.40	14.6	6.99	1.18	697	-21.7	4.15
MW-20	5/19/20 17:30	650.20	8.8	7.64	0.32	964	-105.4	1.41
MW-6	5/20/20 18:10	674.47	10.0	7.34	9.2	597	119.6	0.01
MW-6	5/20/20 18:10	674.47	10.0	7.34	9.2	597	119.6	0.01
MW-11R	5/21/20 17:10	648.17	11.7	6.95	0.29	1,704	-131	3.78
MW-12	5/21/20 19:30	654.45	11.3	7.25	0.11	1,078	-77.8	0.0
MW-12P	5/21/20 19:05	654.04	11.3	7.35	0.18	1,218	-30.9	3.10
MW-13	5/21/20 16:25	647.94	9.1	7.20	2.96	796	65.5	30.83
MW-14	5/21/20 15:15	643.23	10.0	7.38	5.56	623	83.1	3.99
MW-15	5/21/20 12:30	633.80	7.7	7.17	6.54	447	108.7	0.00
TW-18	5/21/20 14:10	648.86	8.6	7.22	5.14	691	91.9	3.48

Abbreviations:
 AMSL = above mean sea level
 umhos/cm = microSiemens per centimeter
 mg/L = milligrams per liter
 mV = millivolts

Laboratory Notes/Qualifiers:

Created by: MB
 Last revision by: NDK
 Checked by: JSN

Date: 4/19/2019
 Date: 5/21/2020
 Date: 5/26/2020

I:\25220070.00\Data and Calculations\Tables\Field Data Tables\May 2020_Lansing_CCR_Field.xlsx>Date

ORP = Oxidation Reduction (REDOX)
 NTU = Nephelometric Turbidity Units



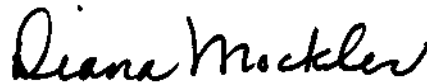
ANALYTICAL REPORT

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

Laboratory Job ID: 310-182333-2
Client Project/Site: Lansing Gen Station, 25219070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
6/29/2020 10:23:45 AM
Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com
Designee for
Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	5
Client Sample Results	6
Definitions	18
QC Sample Results	19
QC Association	20
Chronicle	21
Certification Summary	24
Method Summary	25
Chain of Custody	26
Receipt Checklists	30
Tracer Carrier Summary	32

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Job ID: 310-182333-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-182333-2

Comments

No additional comments.

Receipt

The samples were received on 5/22/2020 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.4° C and 1.5° C.

RAD

Method 903.0: Radium-226 Prep Batch 160-471407

The following sample(s) did not meet the requested limit (RL) due to the low carrier recovery due to the presence of matrix interferences (see prep NCM 160-197448). The data have been reported with this narrative.

MW-304A (310-182333-8)

Method 903.0: Radium-226 Prep Batch 160-471407

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 (310-182333-1), MW-302 (310-182333-2), MW-302A (310-182333-3), MW-304 (310-182333-4), MW-305 (310-182333-5), MW-306 (310-182333-6), MW-303 (310-182333-7), MW-304A (310-182333-8), MW-306A (310-182333-9), MW-20 (310-182333-10), MW-6 (310-182333-11), Field Blank (310-182333-12), (LCS 160-471407/1-A), (MB 160-471407/23-A), (160-38150-A-1-A) and (160-38150-B-1-A DU)

Method 904.0: Ra-228 Prep Batch 160-471408

The detection goal was not met for the following sample due to the presence of matrix interferences: MW-304A (310-182333-8). Analytical results are reported with the detection limit achieved. See Prep NCM 160-196638.

Method 904.0: Radium-228 Prep Batch 160-471408

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 (310-182333-1), MW-302 (310-182333-2), MW-302A (310-182333-3), MW-304 (310-182333-4), MW-305 (310-182333-5), MW-306 (310-182333-6), MW-303 (310-182333-7), MW-304A (310-182333-8), MW-306A (310-182333-9), MW-20 (310-182333-10), MW-6 (310-182333-11), Field Blank (310-182333-12), (LCS 160-471408/1-A), (MB 160-471408/23-A), (160-38150-A-1-B) and (160-38150-B-1-B DU)

Method 904.0: Radium-228 Prep Batch 160-471408

The Barium carrier recovery (28.2%) is outside the lower control limit (40%) for the following sample: MW-304A (310-182333-8). There was physical evidence of matrix interference apparent during the initial preparation of the sample. The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference. See Prep NCM 160-196638.

Method PrecSep_0: Radium 228 Prep Batch 160-471408:

Sample 310-182333-8 was reduced due to orange discoloration and a cloudy appearance. Samples 680-184046-3 and 5 were reduced



Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Job ID: 310-182333-2 (Continued)

Laboratory: Eurofins TestAmerica, Cedar Falls (Continued)

due to yellow discoloration: MW-304A (310-182333-8)

Method PrecSep_0:

Method PrecSep_0: Radium 226 Prep Batch 471407:

The Ba carrier recovery is outside the lower control limit (40%) for the following sample: MW-304A (310-182333-8). The sample produced a small pellet during the barium sulfate precipitation. The sample was also prepared at a reduced aliquot, potentially resulting in the low carrier recovery.

Method PrecSep-21: Radium 226 Prep Batch 160-471407:

Sample 310-182333-8 was reduced due to orange discoloration and a cloudy appearance. Samples 680-184046-3 and 5 were reduced due to yellow discoloration: MW-304A (310-182333-8)

Method PrecSep-21: Radium 226 Prep Batch 471407:

The Ba carrier recovery is outside the lower control limit (40%) for the following sample: MW-304A (310-182333-8). The sample produced a small pellet during the barium sulfate precipitation. The sample was also prepared at a reduced aliquot, potentially resulting in the low carrier recovery.

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, 25219070

Job ID: 310-182333-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-182333-1	MW-301	Water	05/19/20 19:00	05/22/20 09:50	
310-182333-2	MW-302	Water	05/20/20 12:40	05/22/20 09:50	
310-182333-3	MW-302A	Water	05/20/20 14:20	05/22/20 09:50	
310-182333-4	MW-304	Water	05/20/20 15:30	05/22/20 09:50	
310-182333-5	MW-305	Water	05/19/20 13:15	05/22/20 09:50	
310-182333-6	MW-306	Water	05/19/20 14:30	05/22/20 09:50	
310-182333-7	MW-303	Water	05/19/20 16:30	05/22/20 09:50	
310-182333-8	MW-304A	Water	05/20/20 16:50	05/22/20 09:50	
310-182333-9	MW-306A	Water	05/19/20 15:25	05/22/20 09:50	
310-182333-10	MW-20	Water	05/19/20 17:30	05/22/20 09:50	
310-182333-11	MW-6	Water	05/20/20 18:10	05/22/20 09:50	
310-182333-12	Field Blank	Water	05/19/20 13:00	05/22/20 09:50	

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-301

Lab Sample ID: 310-182333-1

Date Collected: 05/19/20 19:00

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0998	U	0.0764	0.0769	1.00	0.109	pCi/L	05/28/20 16:25	06/22/20 11:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					05/28/20 16:25	06/22/20 11:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.100	U	0.298	0.298	1.00	0.520	pCi/L	05/28/20 16:58	06/11/20 17:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					05/28/20 16:58	06/11/20 17:55	1
Y Carrier	78.9		40 - 110					05/28/20 16:58	06/11/20 17:55	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.200	U	0.308	0.308	5.00	0.520	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-302

Lab Sample ID: 310-182333-2

Date Collected: 05/20/20 12:40

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.658		0.147	0.158	1.00	0.0965	pCi/L	05/28/20 16:25	06/22/20 11:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.6		40 - 110					05/28/20 16:25	06/22/20 11:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.880		0.355	0.364	1.00	0.485	pCi/L	05/28/20 16:58	06/11/20 17:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.6		40 - 110					05/28/20 16:58	06/11/20 17:55	1
Y Carrier	78.9		40 - 110					05/28/20 16:58	06/11/20 17:55	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.54		0.384	0.397	5.00	0.485	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-302A

Lab Sample ID: 310-182333-3

Date Collected: 05/20/20 14:20

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0441	U	0.0625	0.0627	1.00	0.106	pCi/L	05/28/20 16:25	06/22/20 11:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					05/28/20 16:25	06/22/20 11:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.196	U	0.316	0.317	1.00	0.534	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	77.0		40 - 110					05/28/20 16:58	06/11/20 17:56	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.240	U	0.322	0.323	5.00	0.534	pCi/L		06/29/20 09:56	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-304

Lab Sample ID: 310-182333-4

Date Collected: 05/20/20 15:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0689	U	0.0592	0.0595	1.00	0.0855	pCi/L	05/28/20 16:25	06/22/20 11:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		40 - 110					05/28/20 16:25	06/22/20 11:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0570	U	0.276	0.276	1.00	0.509	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	77.0		40 - 110					05/28/20 16:58	06/11/20 17:56	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0689	U	0.282	0.282	5.00	0.509	pCi/L		06/29/20 09:56	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-305

Lab Sample ID: 310-182333-5

Date Collected: 05/19/20 13:15

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.304		0.110	0.113	1.00	0.111	pCi/L	05/28/20 16:25	06/22/20 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					05/28/20 16:25	06/22/20 11:52	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	0.533	U	0.366	0.370	1.00	0.567	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	73.3		40 - 110					05/28/20 16:58	06/11/20 17:56	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.837		0.382	0.387	5.00	0.567	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-306

Lab Sample ID: 310-182333-6

Date Collected: 05/19/20 14:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.479		0.135	0.141	1.00	0.128	pCi/L	05/28/20 16:25	06/22/20 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		40 - 110					05/28/20 16:25	06/22/20 11:52	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.572		0.324	0.328	1.00	0.484	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	80.4		40 - 110					05/28/20 16:58	06/11/20 17:56	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	1.05		0.351	0.357	5.00	0.484	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-303

Lab Sample ID: 310-182333-7

Date Collected: 05/19/20 16:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0369	U	0.0719	0.0720	1.00	0.127	pCi/L	05/28/20 16:25	06/22/20 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					05/28/20 16:25	06/22/20 11:52	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	0.0937	U	0.361	0.362	1.00	0.626	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	75.9		40 - 110					05/28/20 16:58	06/11/20 17:56	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.131	U	0.368	0.369	5.00	0.626	pCi/L		06/29/20 09:56	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-304A

Lab Sample ID: 310-182333-8

Date Collected: 05/20/20 16:50

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.630		0.417	0.421	1.00	0.572	pCi/L	05/28/20 16:25	06/22/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	28.2	X	40 - 110					05/28/20 16:25	06/22/20 11:53	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-2.44	U G	1.85	1.87	1.00	3.69	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	28.2	X	40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	80.4		40 - 110					05/28/20 16:58	06/11/20 17:56	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.630	U	1.90	1.92	5.00	3.69	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-306A

Lab Sample ID: 310-182333-9

Date Collected: 05/19/20 15:25

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.887		0.177	0.195	1.00	0.139	pCi/L	05/28/20 16:25	06/22/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					05/28/20 16:25	06/22/20 11:53	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	0.233	U	0.333	0.334	1.00	0.557	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	83.7		40 - 110					05/28/20 16:58	06/11/20 17:56	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	1.12		0.377	0.387	5.00	0.557	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-20

Lab Sample ID: 310-182333-10

Date Collected: 05/19/20 17:30

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.250		0.101	0.104	1.00	0.104	pCi/L	05/28/20 16:25	06/22/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110					05/28/20 16:25	06/22/20 11:53	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	0.624	U	0.565	0.568	1.00	0.906	pCi/L	05/28/20 16:58	06/11/20 17:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110					05/28/20 16:58	06/11/20 17:56	1
Y Carrier	43.0		40 - 110					05/28/20 16:58	06/11/20 17:56	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.874	U	0.574	0.577	5.00	0.906	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-6

Lab Sample ID: 310-182333-11

Date Collected: 05/20/20 18:10

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.151		0.0891	0.0901	1.00	0.120	pCi/L	05/28/20 16:25	06/22/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					05/28/20 16:25	06/22/20 11:53	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	0.354	U	0.333	0.335	1.00	0.538	pCi/L	05/28/20 16:58	06/11/20 17:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					05/28/20 16:58	06/11/20 17:57	1
Y Carrier	72.5		40 - 110					05/28/20 16:58	06/11/20 17:57	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.504	U	0.345	0.347	5.00	0.538	pCi/L		06/29/20 09:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: Field Blank

Lab Sample ID: 310-182333-12

Date Collected: 05/19/20 13:00

Matrix: Water

Date Received: 05/22/20 09:50

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0790	U	0.0789	0.0792	1.00	0.124	pCi/L	05/28/20 16:25	06/22/20 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					05/28/20 16:25	06/22/20 11:53	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	-0.211	U	0.288	0.289	1.00	0.555	pCi/L	05/28/20 16:58	06/11/20 17:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					05/28/20 16:58	06/11/20 17:57	1
Y Carrier	78.5		40 - 110					05/28/20 16:58	06/11/20 17:57	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0790	U	0.299	0.300	5.00	0.555	pCi/L		06/29/20 09:56	1



Definitions/Glossary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-471407/23-A
Matrix: Water
Analysis Batch: 474029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 471407

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03128	U	0.0629	0.0629	1.00	0.112	pCi/L	05/28/20 16:25	06/22/20 13:45	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	88.1		40 - 110					05/28/20 16:25	06/22/20 13:45	1

Lab Sample ID: LCS 160-471407/1-A
Matrix: Water
Analysis Batch: 474029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 471407

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
		Result	Qual	Uncert. (2σ+/-)					
Radium-226	11.3	9.799		1.02	1.00	0.0719	pCi/L	86	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	91.7		40 - 110					05/28/20 16:25	06/22/20 13:45

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-471408/23-A
Matrix: Water
Analysis Batch: 473096

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 471408

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.1256	U	0.275	0.275	1.00	0.474	pCi/L	05/28/20 16:58	06/11/20 18:00	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	88.1		40 - 110					05/28/20 16:58	06/11/20 18:00	1
Y Carrier	83.4		40 - 110		05/28/20 16:58	06/11/20 18:00	1			

Lab Sample ID: LCS 160-471408/1-A
Matrix: Water
Analysis Batch: 473184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 471408

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
		Result	Qual	Uncert. (2σ+/-)					
Radium-228	8.76	9.167		1.13	1.00	0.405	pCi/L	105	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	91.7		40 - 110					05/28/20 16:58	06/11/20 18:00
Y Carrier	81.1		40 - 110		05/28/20 16:58	06/11/20 18:00	1		

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Rad

Prep Batch: 471407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	PrecSep-21	
310-182333-2	MW-302	Total/NA	Water	PrecSep-21	
310-182333-3	MW-302A	Total/NA	Water	PrecSep-21	
310-182333-4	MW-304	Total/NA	Water	PrecSep-21	
310-182333-5	MW-305	Total/NA	Water	PrecSep-21	
310-182333-6	MW-306	Total/NA	Water	PrecSep-21	
310-182333-7	MW-303	Total/NA	Water	PrecSep-21	
310-182333-8	MW-304A	Total/NA	Water	PrecSep-21	
310-182333-9	MW-306A	Total/NA	Water	PrecSep-21	
310-182333-10	MW-20	Total/NA	Water	PrecSep-21	
310-182333-11	MW-6	Total/NA	Water	PrecSep-21	
310-182333-12	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-471407/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-471407/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 471408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-182333-1	MW-301	Total/NA	Water	PrecSep_0	
310-182333-2	MW-302	Total/NA	Water	PrecSep_0	
310-182333-3	MW-302A	Total/NA	Water	PrecSep_0	
310-182333-4	MW-304	Total/NA	Water	PrecSep_0	
310-182333-5	MW-305	Total/NA	Water	PrecSep_0	
310-182333-6	MW-306	Total/NA	Water	PrecSep_0	
310-182333-7	MW-303	Total/NA	Water	PrecSep_0	
310-182333-8	MW-304A	Total/NA	Water	PrecSep_0	
310-182333-9	MW-306A	Total/NA	Water	PrecSep_0	
310-182333-10	MW-20	Total/NA	Water	PrecSep_0	
310-182333-11	MW-6	Total/NA	Water	PrecSep_0	
310-182333-12	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-471408/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-471408/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-301

Date Collected: 05/19/20 19:00

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474029	06/22/20 11:40	SCB	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:55	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-302

Date Collected: 05/20/20 12:40

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474029	06/22/20 11:40	SCB	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:55	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-302A

Date Collected: 05/20/20 14:20

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474029	06/22/20 11:40	SCB	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-304

Date Collected: 05/20/20 15:30

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474029	06/22/20 11:40	SCB	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-305

Date Collected: 05/19/20 13:15

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:52	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-306

Date Collected: 05/19/20 14:30

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:52	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-303

Date Collected: 05/19/20 16:30

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:52	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-304A

Date Collected: 05/20/20 16:50

Date Received: 05/22/20 09:50

Lab Sample ID: 310-182333-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:53	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Client Sample ID: MW-306A

Lab Sample ID: 310-182333-9

Date Collected: 05/19/20 15:25

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:53	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-20

Lab Sample ID: 310-182333-10

Date Collected: 05/19/20 17:30

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:53	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:56	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: MW-6

Lab Sample ID: 310-182333-11

Date Collected: 05/20/20 18:10

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:53	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:57	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-182333-12

Date Collected: 05/19/20 13:00

Matrix: Water

Date Received: 05/22/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			471407	05/28/20 16:25	MNH	TAL SL
Total/NA	Analysis	903.0		1	474041	06/22/20 11:53	AJD	TAL SL
Total/NA	Prep	PrecSep_0			471408	05/28/20 16:58	MNH	TAL SL
Total/NA	Analysis	904.0		1	473184	06/11/20 17:57	CJQ	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	474816	06/29/20 09:56	SMP	TAL SL

Laboratory References:

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

Eurofins TestAmerica, Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

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	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25219070

Job ID: 310-182333-2

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



310-182333 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Alive</u> <small>CITY</small>	<u>IA</u> <small>STATE</small>	Project: <u>Lansing Gen Station</u>	
Receipt Information			
Date/Time Received: <u>5/22/20</u> <small>DATE</small> <u>0950</u> <small>TIME</small>	Received By: <u>JJ</u>		
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? <u>↓</u>	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>+0.1</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.3</u>	Corrected Temp (°C): <u>1.4</u>		
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>hole in top of lid in PLL nitric, doesn't appear to be leaking, some water at bottom of bag</u>			

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

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>Alive</u> <small>CITY</small>	<u>IA</u> <small>STATE</small>	Project: <u>Lansing Gen Station</u>
Receipt Information		
Date/Time Received: <u>5/22/20</u> <small>DATE</small>	<u>0950</u> <small>TIME</small>	Received By: <u>JJ</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # _____ of <u>2</u>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>+0.1</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>PL250nitric</u> <small>CONTAINER 1</small>	<small>CONTAINER 2</small>
Uncorrected Temp (°C):	<u>1.4</u>	
Corrected Temp (°C):	<u>1.5</u>	
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



Client Information		Sample: <u>Paul A. Grover</u>		Lab PM: <u>Fredrick, Sandie</u>		SQC No: <u>310-49925-14653.1</u>	
Client Contact: <u>Louise Jennings</u>		Phone: <u>(608) 224-2830</u>		E-Mail: <u>sandie.fredrick@testamericainc.com</u>		Page: <u>Page 1 of 2</u>	
Company: <u>SCS Engineers</u>		Address: <u>8450 Hickman Road, Suite 20</u>		City: <u>Clive</u>		Job #: _____	
State, Zip: <u>IA, 50325</u>		Phone: <u>25219070</u>		PO #: <u>25219070</u>		Project #: <u>31011020</u>	
Email: <u>ljennings@scsengineers.com</u>		Project Name: <u>Lansing Gen Station, 25219070</u>		SSOW#: _____		Special Instructions/Note: _____	
Site: _____		Due Date Requested: _____		TAT Requested (days): _____		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 - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - PH 4-5 Z - other (specify)	
Analysis Requested		Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		Total Number of Containers	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
Matrix (W=water, S=solid, O=organic, BT=tissue, A=air)		Preservation Code		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=organic, BT=tissue, A=air)	
MW-301		5-19-20	19:20	G	Water		
MW-302		5-20-20	12:40		Water		
MW-302A		5-20-20	14:20		Water		
MW-304		5-20-20	15:30		Water		
MW-305		5-19-20	12:15		Water		
MW-306		5-19-20	14:30		Water		
MW-306A		5-19-20	16:30		Water		
MW-20		5-20-20	16:50		Water		
MW-6		5-19-20	15:25		Water		
		5-19-20	17:30		Water		
		5-20-20	18:10		Water		
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant	
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological	
Empty Kit Relinquished by: _____		Date: _____		Time: _____		Method of Shipment: _____	
Relinquished by: <u>Paul A. Grover</u>		Date/Time: <u>5/24/20 10:00</u>		Company: <u>SCS</u>		Date/Time: <u>5/22/20 09:50</u>	
Relinquished by: _____		Date/Time: _____		Company: _____		Date/Time: _____	
Relinquished by: _____		Date/Time: _____		Company: _____		Date/Time: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: _____		Cooler Temperature(s) °C and Other Remarks: _____		Special Instructions/OC Requirements: _____	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client		<input type="checkbox"/> Disposal By Lab		<input type="checkbox"/> Archive For _____ Months	

Client Information		Sampler: <i>Paul A. Grover</i>		Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-49925-14653.2
Client Contact: Louise Jennings		Phone: (608) 224-2830		E-Mail: sandie.fredrick@testamericainc.com		Page: Page 2 of 2
Company: SCS Engineers		Address: 8450 Hickman Road Suite 20		City: Clive	Job #:	
State, Zip: IA, 50325		Phone: 25219070		PO #: 25219070	Analysis Requested:	
Email: ljennings@scsengineers.com		Project #: 31011020		WO #: 31011020	Preservation Codes:	
Project Name: Lansing Gen Station, 25219070		Site:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
Sample Identification		Sample Date: 5-19-20 13:		Sample Time: 13:	Sample Type (G-comp, G-grab): G	Matrix (W-water, S-solid, O-wast/sludg, BT-tissue, A-air)
Field Blank		Preservation Code:		Water	Water	
		Field Filtered Sample (Yes or No):		Perform MS/MSD (Yes or No):	6020A, 7470A	904.0 - Radium 226
		Field Filled Sample (Yes or No):		2540C, Calcd, 9056A, ORGFM, 28D, SM4500, H+	903.0 - Radium 226	904.0 - Radium 228
		Total Number of Containers:		Special Instructions/Note:		

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: *Paul A. Grover* Date: 5/21/20 10:00
 Relinquished by: *Paul A. Grover* Date/Time: 5/21/20 10:00
 Relinquished by: Date/Time:

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

Special Instructions/QC Requirements:

Method of Shipment:

Received by: *Paul A. Grover* Date/Time: 5/21/20 10:00
 Received by: Date/Time:
 Received by: Date/Time:

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



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-182333-2

Login Number: 182333

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Johnson, Josie A

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



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-182333-2

Login Number: 182333

List Number: 2

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 05/26/20 01:28 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, 25219070

Job ID: 310-182333-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba Carrier (40-110)	
310-182333-1	MW-301	80.4	
310-182333-2	MW-302	84.6	
310-182333-3	MW-302A	85.2	
310-182333-4	MW-304	87.8	
310-182333-5	MW-305	84.9	
310-182333-6	MW-306	87.8	
310-182333-7	MW-303	93.2	
310-182333-8	MW-304A	28.2 X	
310-182333-9	MW-306A	84.9	
310-182333-10	MW-20	87.5	
310-182333-11	MW-6	92.0	
310-182333-12	Field Blank	85.2	
LCS 160-471407/1-A	Lab Control Sample	91.7	
MB 160-471407/23-A	Method Blank	88.1	

Tracer/Carrier Legend
 Ba Carrier = 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 Carrier (40-110)	Y Carrier (40-110)
310-182333-1	MW-301	80.4	78.9
310-182333-2	MW-302	84.6	78.9
310-182333-3	MW-302A	85.2	77.0
310-182333-4	MW-304	87.8	77.0
310-182333-5	MW-305	84.9	73.3
310-182333-6	MW-306	87.8	80.4
310-182333-7	MW-303	93.2	75.9
310-182333-8	MW-304A	28.2 X	80.4
310-182333-9	MW-306A	84.9	83.7
310-182333-10	MW-20	87.5	43.0
310-182333-11	MW-6	92.0	72.5
310-182333-12	Field Blank	85.2	78.5
LCS 160-471408/1-A	Lab Control Sample	91.7	81.1
MB 160-471408/23-A	Method Blank	88.1	83.4

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

C3 July 2020 Resampling Event

ANALYTICAL REPORT

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

Laboratory Job ID: 310-185831-2
Client Project/Site: Alliant Lansing 25220070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
8/6/2020 12:52:42 PM

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

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Detection Summary	4
Client Sample Results	5
Definitions	9
QC Sample Results	10
QC Association	12
Chronicle	13
Certification Summary	14
Method Summary	15
Chain of Custody	16
Receipt Checklists	19
Tracer Carrier Summary	21

Sample Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-185831-1	MW-302A	Water	07/06/20 16:00	07/09/20 09:25	
310-185831-2	MW-304A	Water	07/06/20 18:45	07/09/20 09:25	
310-185831-3	MW-306A	Water	07/06/20 14:50	07/09/20 09:25	
310-185831-4	Field Blank	Water	07/06/20 13:55	07/09/20 09:25	

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

Detection Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Client Sample ID: MW-302A

Lab Sample ID: 310-185831-1

No Detections.

Client Sample ID: MW-304A

Lab Sample ID: 310-185831-2

No Detections.

Client Sample ID: MW-306A

Lab Sample ID: 310-185831-3

No Detections.

Client Sample ID: Field Blank

Lab Sample ID: 310-185831-4

No Detections.

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

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Client Sample ID: MW-302A

Lab Sample ID: 310-185831-1

Date Collected: 07/06/20 16:00

Matrix: Water

Date Received: 07/09/20 09:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0963	U	0.122	0.123	1.00	0.201	pCi/L	07/13/20 12:58	08/05/20 12:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.6		40 - 110					07/13/20 12:58	08/05/20 12:12	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	-0.00723	U	0.324	0.324	1.00	0.589	pCi/L	07/13/20 13:35	08/04/20 13:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.6		40 - 110					07/13/20 13:35	08/04/20 13:10	1
Y Carrier	71.0		40 - 110					07/13/20 13:35	08/04/20 13:10	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	0.0963	U	0.346	0.347	5.00	0.589	pCi/L		08/06/20 09:59	1



Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Client Sample ID: MW-304A

Lab Sample ID: 310-185831-2

Date Collected: 07/06/20 18:45

Matrix: Water

Date Received: 07/09/20 09:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.221	U	0.258	0.258	1.00	0.413	pCi/L	07/13/20 12:58	08/05/20 12:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.7		40 - 110					07/13/20 12:58	08/05/20 12:12	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	0.352	U G	0.656	0.656	1.00	1.12	pCi/L	07/13/20 13:35	08/04/20 13:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.7		40 - 110					07/13/20 13:35	08/04/20 13:10	1
Y Carrier	73.3		40 - 110					07/13/20 13:35	08/04/20 13:10	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	0.573	U	0.705	0.705	5.00	1.12	pCi/L		08/06/20 09:59	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Client Sample ID: MW-306A

Lab Sample ID: 310-185831-3

Date Collected: 07/06/20 14:50

Matrix: Water

Date Received: 07/09/20 09:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0377	U	0.118	0.118	1.00	0.227	pCi/L	07/13/20 12:58	08/05/20 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110					07/13/20 12:58	08/05/20 12:13	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	0.487		0.306	0.309	1.00	0.465	pCi/L	07/13/20 13:35	08/04/20 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110					07/13/20 13:35	08/04/20 13:11	1
Y Carrier	79.6		40 - 110					07/13/20 13:35	08/04/20 13:11	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	0.525		0.328	0.331	5.00	0.465	pCi/L		08/06/20 09:59	1

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Client Sample ID: Field Blank

Lab Sample ID: 310-185831-4

Date Collected: 07/06/20 13:55

Matrix: Water

Date Received: 07/09/20 09:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0197	U	0.107	0.107	1.00	0.240	pCi/L	07/13/20 12:58	08/05/20 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.4		40 - 110					07/13/20 12:58	08/05/20 12:13	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	0.0571	U	0.269	0.270	1.00	0.476	pCi/L	07/13/20 13:35	08/04/20 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.4		40 - 110					07/13/20 13:35	08/04/20 13:11	1
Y Carrier	82.2		40 - 110					07/13/20 13:35	08/04/20 13:11	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	0.0571	U	0.289	0.290	5.00	0.476	pCi/L		08/06/20 09:59	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-476076/18-A
Matrix: Water
Analysis Batch: 478462

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 476076

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.04224	U	0.108	0.108	1.00	0.202	pCi/L	07/13/20 12:58	08/05/20 14:40	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed					
Ba Carrier	91.4		40 - 110	07/13/20 12:58	08/05/20 14:40	1				

Lab Sample ID: LCS 160-476076/1-A
Matrix: Water
Analysis Batch: 478462

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 476076

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.10		1.23	1.00	0.214	pCi/L	89	75 - 125
Carrier	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed				
Ba Carrier	88.7		40 - 110	07/13/20 12:58	08/05/20 14:40	1			

Lab Sample ID: LCSD 160-476076/2-A
Matrix: Water
Analysis Batch: 478462

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 476076

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	10.37		1.27	1.00	0.244	pCi/L	91	75 - 125	0.11	1
Carrier	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed						
Ba Carrier	85.8		40 - 110	07/13/20 12:58	08/05/20 14:40	1					

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-476079/18-A
Matrix: Water
Analysis Batch: 478457

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 476079

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2692	U	0.275	0.276	1.00	0.448	pCi/L	07/13/20 13:35	08/04/20 13:11	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		Prepared	Analyzed					
Ba Carrier	91.4		40 - 110	07/13/20 13:35	08/04/20 13:11	1				
Y Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
Y Carrier	%Yield	Qualifier		Prepared	Analyzed					
Y Carrier	82.6		40 - 110	07/13/20 13:35	08/04/20 13:11	1				

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

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

Lab Sample ID: LCS 160-476079/1-A
Matrix: Water
Analysis Batch: 478456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 476079

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	10.2	10.03		1.21	1.00	0.494	pCi/L	98	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	88.7		40 - 110
Y Carrier	84.1		40 - 110

Lab Sample ID: LCSD 160-476079/2-A
Matrix: Water
Analysis Batch: 478456

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 476079

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	10.2	11.46		1.37	1.00	0.545	pCi/L	112	75 - 125	0.56	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	85.8		40 - 110
Y Carrier	79.3		40 - 110



QC Association Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Rad

Prep Batch: 476076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	PrecSep-21	
310-185831-2	MW-304A	Total/NA	Water	PrecSep-21	
310-185831-3	MW-306A	Total/NA	Water	PrecSep-21	
310-185831-4	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-476076/18-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-476076/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-476076/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 476079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	PrecSep_0	
310-185831-2	MW-304A	Total/NA	Water	PrecSep_0	
310-185831-3	MW-306A	Total/NA	Water	PrecSep_0	
310-185831-4	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-476079/18-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-476079/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-476079/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Client Sample ID: MW-302A

Lab Sample ID: 310-185831-1

Date Collected: 07/06/20 16:00

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			476076	07/13/20 12:58	MNH	TAL SL
Total/NA	Analysis	903.0		1	478462	08/05/20 12:12	CMM	TAL SL
Total/NA	Prep	PrecSep_0			476079	07/13/20 13:35	MNH	TAL SL
Total/NA	Analysis	904.0		1	478457	08/04/20 13:10	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	478669	08/06/20 09:59	SMP	TAL SL

Client Sample ID: MW-304A

Lab Sample ID: 310-185831-2

Date Collected: 07/06/20 18:45

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			476076	07/13/20 12:58	MNH	TAL SL
Total/NA	Analysis	903.0		1	478462	08/05/20 12:12	CMM	TAL SL
Total/NA	Prep	PrecSep_0			476079	07/13/20 13:35	MNH	TAL SL
Total/NA	Analysis	904.0		1	478457	08/04/20 13:10	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	478669	08/06/20 09:59	SMP	TAL SL

Client Sample ID: MW-306A

Lab Sample ID: 310-185831-3

Date Collected: 07/06/20 14:50

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			476076	07/13/20 12:58	MNH	TAL SL
Total/NA	Analysis	903.0		1	478462	08/05/20 12:13	CMM	TAL SL
Total/NA	Prep	PrecSep_0			476079	07/13/20 13:35	MNH	TAL SL
Total/NA	Analysis	904.0		1	478457	08/04/20 13:11	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	478669	08/06/20 09:59	SMP	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-185831-4

Date Collected: 07/06/20 13:55

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			476076	07/13/20 12:58	MNH	TAL SL
Total/NA	Analysis	903.0		1	478462	08/05/20 12:13	CMM	TAL SL
Total/NA	Prep	PrecSep_0			476079	07/13/20 13:35	MNH	TAL SL
Total/NA	Analysis	904.0		1	478457	08/04/20 13:11	CMM	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	478669	08/06/20 09:59	SMP	TAL SL

Laboratory References:

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

Eurofins TestAmerica, Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	07-01-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

Eurofins TestAmerica, Cedar Falls

Method Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-2

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Laboratory References:

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



Environment Testing
TestAmerica



310-185831 Chain of Custody

Cooler/Sample Receipt and Temperature Log form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Madison</u> <small>CITY</small>	<u>WI</u> <small>STATE</small>	Project: <u>Alliant-Lansing 25220070</u>	
Receipt Information			
Date/Time Received: <u>7/9/20</u> <small>DATE</small>	<u>0925</u> <small>TIME</small>	Received By: <u>JC</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>+0.1</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>plastic, 250ml, NT</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):	<u>0.7</u>		
Corrected Temp (°C):	<u>0.8</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

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



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Madison</u> <small>CITY</small>	<u>WI</u> <small>STATE</small>	Project: <u>Alliant-Lansing 25220070</u>	
Receipt Information			
Date/Time Received: <u>7/9/20</u> <small>DATE</small>	<u>0925</u> <small>TIME</small>	Received By: <u>JC</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input checked="" type="checkbox"/> NONE			
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>+0.1</u>		
* Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
* Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>plastic, 1L, H2SO4</u>	<u>CONTAINER 2</u> <u>plastic, 1L, H2SO4</u>	
Uncorrected Temp (°C):	<u>19.1</u>	<u>19.4</u>	
Corrected Temp (°C):	<u>19.2</u>	<u>19.5</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
a) If yes: Is there evidence that the chilling process began?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?)		<input type="checkbox"/> Yes	<input type="checkbox"/> No
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>All 1L ^{JC 7-9-20} H2SO4 HNO3 bottles in this cooler</u>			

Client Information Client Contact: Meghan Blodgett Company: SCS Engineers Address: 2830 Dairy Drive City: Madison State, Zip: WI, 53718 Phone: 25220070 Email: mblodgett@scsengineers.com Project Name: Alliant-Lansing 25220070 Site:		Lab P/N: Fredrick, Sandie E-Mail: sandie.fredrick@testamericainc.com Carrier Tracking No(s): Lab P/N: 310-51451-15665.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): PC #: 25220070 WO #: Project #: 31011020 SSO#:#		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Total Number of Containers: <input checked="" type="checkbox"/>	
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 Other:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2CO3 Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Identification MW-302A MW-304A MW-306A Field Blank		Special Instructions/Note: 903.0.904.0 6020A, 7470A 2549C, Calc'd, 9056A, ORGM, 28D, SM4500_H+	
Sample Date: 7-6-20 Sample Time: 16:00 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=waste/oli, R=Tissue, A=air): Water		Sample Date: 7-7-20 Sample Time: 18:45 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=waste/oli, R=Tissue, A=air): Water	
Sample Date: 7-7-20 Sample Time: 14:50 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=waste/oli, R=Tissue, A=air): Water		Sample Date: 7-7-20 Sample Time: 13:55 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=waste/oli, R=Tissue, A=air): Water	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by: Paul A. Sanner Relinquished by: Paul A. Sanner Relinquished by: Paul A. Sanner Relinquished by: Paul A. Sanner			
Date/Time: 7-7-20 13:30 Date/Time: 7-7-20 13:30 Date/Time: 7-7-20 13:30 Date/Time: 7-7-20 13:30		Method of Shipment: Received by: Paul A. Sanner Received by: Paul A. Sanner Received by: Paul A. Sanner Received by: Paul A. Sanner	
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-185831-2

Login Number: 185831

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.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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: 310-185831-2

Login Number: 185831

List Number: 2

Creator: Boyd, Jacob C

List Source: Eurofins TestAmerica, St. Louis

List Creation: 07/10/20 01:05 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: Alliant Lansing 25220070

Job ID: 310-185831-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
310-185831-1	MW-302A	76.6
310-185831-2	MW-304A	80.7
310-185831-3	MW-306A	88.1
310-185831-4	Field Blank	83.4
LCS 160-476076/1-A	Lab Control Sample	88.7
LCSD 160-476076/2-A	Lab Control Sample Dup	85.8
MB 160-476076/18-A	Method Blank	91.4

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-185831-1	MW-302A	76.6	71.0
310-185831-2	MW-304A	80.7	73.3
310-185831-3	MW-306A	88.1	79.6
310-185831-4	Field Blank	83.4	82.2
LCS 160-476079/1-A	Lab Control Sample	88.7	84.1
LCSD 160-476079/2-A	Lab Control Sample Dup	85.8	79.3
MB 160-476079/18-A	Method Blank	91.4	82.6

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

ANALYTICAL REPORT

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

Laboratory Job ID: 310-185831-1
Client Project/Site: Alliant Lansing 25220070

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
7/17/2020 11:09:13 AM

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

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	7
Definitions	11
QC Sample Results	12
QC Association	15
Chronicle	17
Certification Summary	19
Method Summary	20
Chain of Custody	21
Receipt Checklists	25

Case Narrative

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Job ID: 310-185831-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-185831-1

Comments

No additional comments.

Receipt

The samples were received on 7/9/2020 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt time was 0.8° C.

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-302A (310-185831-1) and MW-306A (310-185831-3). 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: Alliant Lansing 25220070

Job ID: 310-185831-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-185831-1	MW-302A	Water	07/06/20 16:00	07/09/20 09:25	
310-185831-2	MW-304A	Water	07/06/20 18:45	07/09/20 09:25	
310-185831-3	MW-306A	Water	07/06/20 14:50	07/09/20 09:25	
310-185831-4	Field Blank	Water	07/06/20 13:55	07/09/20 09:25	

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

Detection Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: MW-302A

Lab Sample ID: 310-185831-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.9		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	47		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	47		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	250		100	80	ug/L	1		6020A	Total/NA
Calcium	78		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.098	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.14	J	0.50	0.11	ug/L	1		6020A	Total/NA
Selenium	1.1	J	5.0	1.0	ug/L	1		6020A	Total/NA
Total Dissolved Solids	350		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	624.20				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	47.00				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	6.60				mg/L	1		Field Sampling	Total/NA
pH, Field	7.22				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	641				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.68				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A

Lab Sample ID: 310-185831-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		5.0	2.0	mg/L	5		9056A	Total/NA
Fluoride	0.42	J	0.50	0.23	mg/L	5		9056A	Total/NA
Sulfate	77		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	34		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	1700		100	80	ug/L	1		6020A	Total/NA
Cadmium	0.098	J	0.10	0.049	ug/L	1		6020A	Total/NA
Calcium	41		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	1.1	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	0.83		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	1.2		0.50	0.11	ug/L	1		6020A	Total/NA
Molybdenum	140		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	330		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	625.76				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-15.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.30				mg/L	1		Field Sampling	Total/NA
pH, Field	7.90				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	541				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	19.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	181.9				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A

Lab Sample ID: 310-185831-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.1		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	40		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	58		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	340		100	80	ug/L	1		6020A	Total/NA
Calcium	82		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.18	J	0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	360		30	26	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: MW-306A (Continued)

Lab Sample ID: 310-185831-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	621.66				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-55.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.24				mg/L	1		Field Sampling	Total/NA
pH, Field	7.04				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	683				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.40				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-185831-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: MW-302A

Lab Sample ID: 310-185831-1

Date Collected: 07/06/20 16:00

Matrix: Water

Date Received: 07/09/20 09:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.9		5.0	2.0	mg/L			07/15/20 11:58	5
Fluoride	<0.23		0.50	0.23	mg/L			07/15/20 11:58	5
Sulfate	47		5.0	3.6	mg/L			07/15/20 11:58	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.51		1.0	0.51	ug/L		07/10/20 08:04	07/10/20 19:01	1
Arsenic	<0.88		2.0	0.88	ug/L		07/10/20 08:04	07/10/20 19:01	1
Barium	47		2.0	0.28	ug/L		07/10/20 08:04	07/10/20 19:01	1
Beryllium	<0.27		1.0	0.27	ug/L		07/10/20 08:04	07/10/20 19:01	1
Boron	250		100	80	ug/L		07/10/20 08:04	07/10/20 19:01	1
Cadmium	<0.049		0.10	0.049	ug/L		07/10/20 08:04	07/10/20 19:01	1
Calcium	78		0.50	0.19	mg/L		07/10/20 08:04	07/10/20 19:01	1
Chromium	<1.1		5.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:01	1
Cobalt	0.098	J	0.50	0.091	ug/L		07/10/20 08:04	07/10/20 19:01	1
Lead	0.14	J	0.50	0.11	ug/L		07/10/20 08:04	07/10/20 19:01	1
Lithium	<2.5		10	2.5	ug/L		07/10/20 08:04	07/10/20 19:01	1
Molybdenum	<1.1		2.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:01	1
Selenium	1.1	J	5.0	1.0	ug/L		07/10/20 08:04	07/10/20 19:01	1
Thallium	<0.26		1.0	0.26	ug/L		07/10/20 08:04	07/10/20 19:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		07/10/20 11:21	07/13/20 13:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		30	26	mg/L			07/09/20 14:52	1
pH	7.6	HF	0.1	0.1	SU			07/09/20 17:20	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	624.20				ft			07/06/20 16:00	1
Oxidation Reduction Potential	47.00				millivolts			07/06/20 16:00	1
Oxygen, Dissolved, Client Supplied	6.60				mg/L			07/06/20 16:00	1
pH, Field	7.22				SU			07/06/20 16:00	1
Specific Conductance, Field	641				umhos/cm			07/06/20 16:00	1
Temperature, Field	11.7				Degrees C			07/06/20 16:00	1
Turbidity, Field	4.68				NTU			07/06/20 16:00	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: MW-304A

Lab Sample ID: 310-185831-2

Date Collected: 07/06/20 18:45

Matrix: Water

Date Received: 07/09/20 09:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	2.0	mg/L			07/15/20 13:16	5
Fluoride	0.42	J	0.50	0.23	mg/L			07/15/20 13:16	5
Sulfate	77		5.0	3.6	mg/L			07/15/20 13:16	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.51		1.0	0.51	ug/L		07/10/20 08:04	07/10/20 19:03	1
Arsenic	<0.88		2.0	0.88	ug/L		07/10/20 08:04	07/10/20 19:03	1
Barium	34		2.0	0.28	ug/L		07/10/20 08:04	07/10/20 19:03	1
Beryllium	<0.27		1.0	0.27	ug/L		07/10/20 08:04	07/10/20 19:03	1
Boron	1700		100	80	ug/L		07/10/20 08:04	07/10/20 19:03	1
Cadmium	0.098	J	0.10	0.049	ug/L		07/10/20 08:04	07/10/20 19:03	1
Calcium	41		0.50	0.19	mg/L		07/10/20 08:04	07/10/20 19:03	1
Chromium	1.1	J	5.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:03	1
Cobalt	0.83		0.50	0.091	ug/L		07/10/20 08:04	07/10/20 19:03	1
Lead	1.2		0.50	0.11	ug/L		07/10/20 08:04	07/10/20 19:03	1
Lithium	<2.5		10	2.5	ug/L		07/10/20 08:04	07/10/20 19:03	1
Molybdenum	140		2.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:03	1
Selenium	<1.0		5.0	1.0	ug/L		07/10/20 08:04	07/10/20 19:03	1
Thallium	<0.26		1.0	0.26	ug/L		07/10/20 08:04	07/10/20 19:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		07/10/20 11:21	07/13/20 13:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		30	26	mg/L			07/09/20 14:52	1
pH	8.0	HF	0.1	0.1	SU			07/09/20 17:22	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	625.76				ft			07/06/20 18:45	1
Oxidation Reduction Potential	-15.8				millivolts			07/06/20 18:45	1
Oxygen, Dissolved, Client Supplied	0.30				mg/L			07/06/20 18:45	1
pH, Field	7.90				SU			07/06/20 18:45	1
Specific Conductance, Field	541				umhos/cm			07/06/20 18:45	1
Temperature, Field	19.1				Degrees C			07/06/20 18:45	1
Turbidity, Field	181.9				NTU			07/06/20 18:45	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: MW-306A

Lab Sample ID: 310-185831-3

Date Collected: 07/06/20 14:50

Matrix: Water

Date Received: 07/09/20 09:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.1		5.0	2.0	mg/L			07/15/20 13:32	5
Fluoride	<0.23		0.50	0.23	mg/L			07/15/20 13:32	5
Sulfate	40		5.0	3.6	mg/L			07/15/20 13:32	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.51		1.0	0.51	ug/L		07/10/20 08:04	07/10/20 19:06	1
Arsenic	<0.88		2.0	0.88	ug/L		07/10/20 08:04	07/10/20 19:06	1
Barium	58		2.0	0.28	ug/L		07/10/20 08:04	07/10/20 19:06	1
Beryllium	<0.27		1.0	0.27	ug/L		07/10/20 08:04	07/10/20 19:06	1
Boron	340		100	80	ug/L		07/10/20 08:04	07/10/20 19:06	1
Cadmium	<0.049		0.10	0.049	ug/L		07/10/20 08:04	07/10/20 19:06	1
Calcium	82		0.50	0.19	mg/L		07/10/20 08:04	07/10/20 19:06	1
Chromium	<1.1		5.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:06	1
Cobalt	0.18 J		0.50	0.091	ug/L		07/10/20 08:04	07/10/20 19:06	1
Lead	<0.11		0.50	0.11	ug/L		07/10/20 08:04	07/10/20 19:06	1
Lithium	<2.5		10	2.5	ug/L		07/10/20 08:04	07/10/20 19:06	1
Molybdenum	<1.1		2.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:06	1
Selenium	<1.0		5.0	1.0	ug/L		07/10/20 08:04	07/10/20 19:06	1
Thallium	<0.26		1.0	0.26	ug/L		07/10/20 08:04	07/10/20 19:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		07/10/20 11:21	07/13/20 13:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	360		30	26	mg/L			07/09/20 14:52	1
pH	7.5 HF		0.1	0.1	SU			07/09/20 17:25	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	621.66				ft			07/06/20 14:50	1
Oxidation Reduction Potential	-55.8				millivolts			07/06/20 14:50	1
Oxygen, Dissolved, Client Supplied	1.24				mg/L			07/06/20 14:50	1
pH, Field	7.04				SU			07/06/20 14:50	1
Specific Conductance, Field	683				umhos/cm			07/06/20 14:50	1
Temperature, Field	15.3				Degrees C			07/06/20 14:50	1
Turbidity, Field	1.40				NTU			07/06/20 14:50	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: Field Blank

Lab Sample ID: 310-185831-4

Date Collected: 07/06/20 13:55

Matrix: Water

Date Received: 07/09/20 09:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			07/15/20 13:48	1
Fluoride	<0.046		0.10	0.046	mg/L			07/15/20 13:48	1
Sulfate	<0.71		1.0	0.71	mg/L			07/15/20 13:48	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.51		1.0	0.51	ug/L		07/10/20 08:04	07/10/20 19:08	1
Arsenic	<0.88		2.0	0.88	ug/L		07/10/20 08:04	07/10/20 19:08	1
Barium	<0.28		2.0	0.28	ug/L		07/10/20 08:04	07/10/20 19:08	1
Beryllium	<0.27		1.0	0.27	ug/L		07/10/20 08:04	07/10/20 19:08	1
Boron	<80		100	80	ug/L		07/10/20 08:04	07/10/20 19:08	1
Cadmium	<0.049		0.10	0.049	ug/L		07/10/20 08:04	07/10/20 19:08	1
Calcium	<0.19		0.50	0.19	mg/L		07/10/20 08:04	07/10/20 19:08	1
Chromium	<1.1		5.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:08	1
Cobalt	<0.091		0.50	0.091	ug/L		07/10/20 08:04	07/10/20 19:08	1
Lead	<0.11		0.50	0.11	ug/L		07/10/20 08:04	07/10/20 19:08	1
Lithium	<2.5		10	2.5	ug/L		07/10/20 08:04	07/10/20 19:08	1
Molybdenum	<1.1		2.0	1.1	ug/L		07/10/20 08:04	07/10/20 19:08	1
Selenium	<1.0		5.0	1.0	ug/L		07/10/20 08:04	07/10/20 19:08	1
Thallium	<0.26		1.0	0.26	ug/L		07/10/20 08:04	07/10/20 19:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		07/10/20 11:21	07/13/20 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			07/09/20 14:52	1
pH	5.1	HF	0.1	0.1	SU			07/09/20 17:27	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Qualifiers

HPLC/IC

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

Metals

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

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-285433/3
Matrix: Water
Analysis Batch: 285433

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			07/15/20 10:09	1
Fluoride	<0.046		0.10	0.046	mg/L			07/15/20 10:09	1
Sulfate	<0.71		1.0	0.71	mg/L			07/15/20 10:09	1

Lab Sample ID: LCS 310-285433/4
Matrix: Water
Analysis Batch: 285433

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	9.66		mg/L		97	90 - 110
Fluoride	2.00	2.08		mg/L		104	90 - 110
Sulfate	10.0	10.1		mg/L		101	90 - 110

Lab Sample ID: 310-185831-1 MS
Matrix: Water
Analysis Batch: 285433

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.9		25.0	28.9		mg/L		88	80 - 120
Fluoride	<0.23		5.00	4.92		mg/L		98	80 - 120
Sulfate	47		25.0	71.7		mg/L		100	80 - 120

Lab Sample ID: 310-185831-1 MSD
Matrix: Water
Analysis Batch: 285433

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.9		25.0	29.2		mg/L		89	80 - 120	1	15
Fluoride	<0.23		5.00	5.17		mg/L		103	80 - 120	5	15
Sulfate	47		25.0	71.7		mg/L		100	80 - 120	0	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-284709/1-A
Matrix: Water
Analysis Batch: 284952

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 284709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.51		1.0	0.51	ug/L		07/10/20 08:04	07/10/20 18:29	1
Arsenic	<0.88		2.0	0.88	ug/L		07/10/20 08:04	07/10/20 18:29	1
Barium	<0.28		2.0	0.28	ug/L		07/10/20 08:04	07/10/20 18:29	1
Beryllium	<0.27		1.0	0.27	ug/L		07/10/20 08:04	07/10/20 18:29	1
Boron	<80		100	80	ug/L		07/10/20 08:04	07/10/20 18:29	1
Cadmium	<0.049		0.10	0.049	ug/L		07/10/20 08:04	07/10/20 18:29	1
Calcium	<0.19		0.50	0.19	mg/L		07/10/20 08:04	07/10/20 18:29	1
Chromium	<1.1		5.0	1.1	ug/L		07/10/20 08:04	07/10/20 18:29	1
Cobalt	<0.091		0.50	0.091	ug/L		07/10/20 08:04	07/10/20 18:29	1
Lead	<0.11		0.50	0.11	ug/L		07/10/20 08:04	07/10/20 18:29	1
Lithium	<2.5		10	2.5	ug/L		07/10/20 08:04	07/10/20 18:29	1
Molybdenum	<1.1		2.0	1.1	ug/L		07/10/20 08:04	07/10/20 18:29	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

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

Lab Sample ID: MB 310-284709/1-A
Matrix: Water
Analysis Batch: 284952

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 284709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<1.0		5.0	1.0	ug/L		07/10/20 08:04	07/10/20 18:29	1
Thallium	<0.26		1.0	0.26	ug/L		07/10/20 08:04	07/10/20 18:29	1

Lab Sample ID: LCS 310-284709/2-A
Matrix: Water
Analysis Batch: 284952

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 284709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	80.0	68.2		ug/L		85	80 - 120
Barium	80.0	74.9		ug/L		94	80 - 120
Beryllium	40.0	40.5		ug/L		101	80 - 120
Boron	1760	1640		ug/L		93	80 - 120
Cadmium	40.0	38.4		ug/L		96	80 - 120
Calcium	4.00	3.90		mg/L		98	80 - 120
Chromium	80.0	79.9		ug/L		100	80 - 120
Cobalt	40.0	38.3		ug/L		96	80 - 120
Lead	40.0	39.5		ug/L		99	80 - 120
Lithium	200	192		ug/L		96	80 - 120
Molybdenum	80.0	66.2		ug/L		83	80 - 120
Selenium	80.0	64.3		ug/L		80	80 - 120
Thallium	32.0	30.3		ug/L		95	80 - 120

Lab Sample ID: LCS 310-284709/2-A
Matrix: Water
Analysis Batch: 284993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 284709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	40.0	36.9		ug/L		92	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-284760/1-A
Matrix: Water
Analysis Batch: 285005

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 284760

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.20	0.10	ug/L		07/10/20 11:21	07/13/20 12:22	1

Lab Sample ID: LCS 310-284760/2-A
Matrix: Water
Analysis Batch: 285005

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 284760

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.67		ug/L		100	80 - 120

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

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

Lab Sample ID: MB 310-284648/1
Matrix: Water
Analysis Batch: 284648

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			07/09/20 14:52	1

Lab Sample ID: LCS 310-284648/2
Matrix: Water
Analysis Batch: 284648

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	980		mg/L		98	90 - 110

Lab Sample ID: 310-185831-1 DU
Matrix: Water
Analysis Batch: 284648

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	350		344		mg/L		2	24

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-284669/1
Matrix: Water
Analysis Batch: 284669

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: 310-185831-1 DU
Matrix: Water
Analysis Batch: 284669

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	HF	7.5		SU		0.7	20

QC Association Summary

Client: SCS Engineers
 Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

HPLC/IC

Analysis Batch: 285433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	9056A	
310-185831-2	MW-304A	Total/NA	Water	9056A	
310-185831-3	MW-306A	Total/NA	Water	9056A	
310-185831-4	Field Blank	Total/NA	Water	9056A	
MB 310-285433/3	Method Blank	Total/NA	Water	9056A	
LCS 310-285433/4	Lab Control Sample	Total/NA	Water	9056A	
310-185831-1 MS	MW-302A	Total/NA	Water	9056A	
310-185831-1 MSD	MW-302A	Total/NA	Water	9056A	

Metals

Prep Batch: 284709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	3010A	
310-185831-2	MW-304A	Total/NA	Water	3010A	
310-185831-3	MW-306A	Total/NA	Water	3010A	
310-185831-4	Field Blank	Total/NA	Water	3010A	
MB 310-284709/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-284709/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 284760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	7470A	
310-185831-2	MW-304A	Total/NA	Water	7470A	
310-185831-3	MW-306A	Total/NA	Water	7470A	
310-185831-4	Field Blank	Total/NA	Water	7470A	
MB 310-284760/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-284760/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 284952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	6020A	284709
310-185831-2	MW-304A	Total/NA	Water	6020A	284709
310-185831-3	MW-306A	Total/NA	Water	6020A	284709
310-185831-4	Field Blank	Total/NA	Water	6020A	284709
MB 310-284709/1-A	Method Blank	Total/NA	Water	6020A	284709
LCS 310-284709/2-A	Lab Control Sample	Total/NA	Water	6020A	284709

Analysis Batch: 284993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-284709/2-A	Lab Control Sample	Total/NA	Water	6020A	284709

Analysis Batch: 285005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	7470A	284760
310-185831-2	MW-304A	Total/NA	Water	7470A	284760
310-185831-3	MW-306A	Total/NA	Water	7470A	284760
310-185831-4	Field Blank	Total/NA	Water	7470A	284760
MB 310-284760/1-A	Method Blank	Total/NA	Water	7470A	284760
LCS 310-284760/2-A	Lab Control Sample	Total/NA	Water	7470A	284760

Eurofins TestAmerica, Cedar Falls



QC Association Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

General Chemistry

Analysis Batch: 284648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	SM 2540C	
310-185831-2	MW-304A	Total/NA	Water	SM 2540C	
310-185831-3	MW-306A	Total/NA	Water	SM 2540C	
310-185831-4	Field Blank	Total/NA	Water	SM 2540C	
MB 310-284648/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-284648/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-185831-1 DU	MW-302A	Total/NA	Water	SM 2540C	

Analysis Batch: 284669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	SM 4500 H+ B	
310-185831-2	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-185831-3	MW-306A	Total/NA	Water	SM 4500 H+ B	
310-185831-4	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-284669/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-185831-1 DU	MW-302A	Total/NA	Water	SM 4500 H+ B	

Field Service / Mobile Lab

Analysis Batch: 285467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-185831-1	MW-302A	Total/NA	Water	Field Sampling	
310-185831-2	MW-304A	Total/NA	Water	Field Sampling	
310-185831-3	MW-306A	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: MW-302A

Lab Sample ID: 310-185831-1

Date Collected: 07/06/20 16:00

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	285433	07/15/20 11:58	ACJ	TAL CF
Total/NA	Prep	3010A			284709	07/10/20 08:04	HED	TAL CF
Total/NA	Analysis	6020A		1	284952	07/10/20 19:01	SAD	TAL CF
Total/NA	Prep	7470A			284760	07/10/20 11:21	HIS	TAL CF
Total/NA	Analysis	7470A		1	285005	07/13/20 13:03	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	284648	07/09/20 14:52	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	284669	07/09/20 17:20	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	285467	07/06/20 16:00	ANO	TAL CF

Client Sample ID: MW-304A

Lab Sample ID: 310-185831-2

Date Collected: 07/06/20 18:45

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	285433	07/15/20 13:16	ACJ	TAL CF
Total/NA	Prep	3010A			284709	07/10/20 08:04	HED	TAL CF
Total/NA	Analysis	6020A		1	284952	07/10/20 19:03	SAD	TAL CF
Total/NA	Prep	7470A			284760	07/10/20 11:21	HIS	TAL CF
Total/NA	Analysis	7470A		1	285005	07/13/20 13:09	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	284648	07/09/20 14:52	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	284669	07/09/20 17:22	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	285467	07/06/20 18:45	ANO	TAL CF

Client Sample ID: MW-306A

Lab Sample ID: 310-185831-3

Date Collected: 07/06/20 14:50

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	285433	07/15/20 13:32	ACJ	TAL CF
Total/NA	Prep	3010A			284709	07/10/20 08:04	HED	TAL CF
Total/NA	Analysis	6020A		1	284952	07/10/20 19:06	SAD	TAL CF
Total/NA	Prep	7470A			284760	07/10/20 11:21	HIS	TAL CF
Total/NA	Analysis	7470A		1	285005	07/13/20 13:11	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	284648	07/09/20 14:52	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	284669	07/09/20 17:25	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	285467	07/06/20 14:50	ANO	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-185831-4

Date Collected: 07/06/20 13:55

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	285433	07/15/20 13:48	ACJ	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Client Sample ID: Field Blank

Lab Sample ID: 310-185831-4

Date Collected: 07/06/20 13:55

Matrix: Water

Date Received: 07/09/20 09:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			284709	07/10/20 08:04	HED	TAL CF
Total/NA	Analysis	6020A		1	284952	07/10/20 19:08	SAD	TAL CF
Total/NA	Prep	7470A			284760	07/10/20 11:21	HIS	TAL CF
Total/NA	Analysis	7470A		1	285005	07/13/20 13:13	HIS	TAL CF
Total/NA	Analysis	SM 2540C		1	284648	07/09/20 14:52	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	284669	07/09/20 17:27	ARG	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Alliant Lansing 25220070

Job ID: 310-185831-1

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

Eurofins TestAmerica, Cedar Falls



Cooler/Sample Receipt and Temperature Log form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Madison</u> <small>CITY</small>	<u>WI</u> <small>STATE</small>	Project: <u>Alliant-Lansing 25220070</u>	
Receipt Information			
Date/Time Received: <u>7/9/20</u> <small>DATE</small>	<u>0925</u> <small>TIME</small>	Received By: <u>JC</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>		Correction Factor (°C): <u>+0.1</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>plastic, 250ml, NT</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):	<u>0.7</u>		
Corrected Temp (°C):	<u>0.8</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			





Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Madison</u> <small>CITY</small>	<u>WI</u> <small>STATE</small>	Project: <u>Alliant-Lansing 25220070</u>	
Receipt Information			
Date/Time Received: <u>7/9/20</u> <small>DATE</small>	<u>0925</u> <small>TIME</small>	Received By: <u>JC</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input checked="" type="checkbox"/> NONE			
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>+0.1</u>		
* Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
* Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>plastic, 1L, H2SO4</u>	<u>CONTAINER 2</u> <u>plastic, 1L, H2SO4</u>	
Uncorrected Temp (°C):	<u>19.1</u>	<u>19.4</u>	
Corrected Temp (°C):	<u>19.2</u>	<u>19.5</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
a) If yes: Is there evidence that the chilling process began?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?)		<input type="checkbox"/> Yes	<input type="checkbox"/> No
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>All 1L ^{JC 7-9-20} H2SO4 HNO3 bottles in this cooler</u>			

Client Information Client Contact: Meghan Blodgett Company: SCS Engineers Address: 2830 Dairy Drive City: Madison State, Zip: WI, 53718 Phone: 25220070 Email: mblodgett@scsengineers.com Project Name: Alliant-Lansing 25220070 Site:		Lab P/N: Fredrick, Sandie E-Mail: sandie.fredrick@testamericainc.com Carrier Tracking No(s): Lab P/N: 310-51451-15665.1 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): PC #: 25220070 WO #: Project #: 31011020 SSO#:		Analysis Requested Total Number of Containers:	
Sample Identification MW-302A MW-304A MW-306A Field Blank		Sample Date 7-6-20 ↓ ↓	Sample Time 16:00 18:45 14:50 13:55 ↓ ↓ ↓
Sample Type (C=Comp, G=grab) G ↓ ↓ ↓		Preservation Code N ↓ ↓ ↓	
Matrix (W=water, S=solid, O=waste/soil, R=tissue, A=air) Water Water Water Water		Field Filtered Sample (Yes or No) N ↓ ↓ ↓	
Perform MS/MSD (Yes or No) 903.0.904.0 6020A.1470A 2549C_Calcid, 9056A_ORGFM_28D, SM4500_H+		Special Instructions/Note: Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by: Paul A. Groves Date/Time: 7-7-20 13:30 Company: SCS		Method of Shipment:	
Relinquished by: Paul A. Groves Date/Time: 7-7-20 13:30 Company: SCS		Relinquished by: Paul A. Groves Date/Time: 7-7-20 13:30 Company: SCS	
Relinquished by: Paul A. Groves Date/Time: 7-7-20 13:30 Company: SCS		Relinquished by: Paul A. Groves Date/Time: 7-7-20 13:30 Company: SCS	
Custody Seals Intact Yes <input type="checkbox"/> No <input type="checkbox"/>		Custody Seal No.:	



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

Table 3. Parameters for Groundwater Monitoring to meet Federal Requirements

Appendix III	Boron
	Calcium
	Chloride
	Fluoride
	pH
	Sulfate
	TDS
Appendix IV	Antimony
	Arsenic
	Barium
	Beryllium
	Cadmium
	Chromium
	Cobalt
	Fluoride
	Lead
	Lithium
	Mercury
	Molybdenum
	Selenium
	Thallium
Radium	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-185831-1

Login Number: 185831
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.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



C4 August 2020 Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-189022-1
Client Project/Site: Alliant - Lansing 25219070.00
Revision: 2

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
10/29/2020 3:16:27 PM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	11
Definitions	23
QC Sample Results	24
QC Association	29
Chronicle	33
Certification Summary	37
Method Summary	38
Chain of Custody	39
Receipt Checklists	43
Field Data Sheets	44

Case Narrative

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Job ID: 310-189022-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-189022-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 9/3/2020. The report (revision 2) is being revised due to: Removal of Fluoride to match COC..

Report revision history

Revision 1 - 9/15/2020 - Reason - Client added additional metal analytes to the report..

Revision 2 - 10-29-2020 - Reason - Removal of Fluoride to match COC..

Receipt

The samples were received on 8/21/2020 10:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.3° C and 0.4° 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: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-189022-1	Field Blank	Water	08/18/20 16:15	08/21/20 10:15	
310-189022-2	MW6	Water	08/19/20 18:50	08/21/20 10:15	
310-189022-3	MW20	Water	08/19/20 13:15	08/21/20 10:15	
310-189022-4	MW301	Water	08/18/20 18:25	08/21/20 10:15	
310-189022-5	MW302	Water	08/19/20 14:35	08/21/20 10:15	
310-189022-6	MW302A	Water	08/19/20 15:35	08/21/20 10:15	
310-189022-7	MW303	Water	08/18/20 17:25	08/21/20 10:15	
310-189022-8	MW304	Water	08/19/20 16:40	08/21/20 10:15	
310-189022-9	MW304A	Water	08/19/20 17:45	08/21/20 10:15	
310-189022-10	MW305	Water	08/18/20 14:35	08/21/20 10:15	
310-189022-11	MW306	Water	08/18/20 15:50	08/21/20 10:15	
310-189022-12	MW306A	Water	08/18/20 16:30	08/21/20 10:15	

Detection Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: Field Blank

Lab Sample ID: 310-189022-1

No Detections.

Client Sample ID: MW6

Lab Sample ID: 310-189022-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.8		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	25		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	76		0.50	0.19	mg/L	1		6020A	Total/NA
Magnesium	38		0.50	0.10	mg/L	1		6020A	Total/NA
Potassium	1.2		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	5.0		1.0	0.81	mg/L	1		6020A	Total/NA
Arsenic	2.8		2.0	0.88	ug/L	1		6020A	Dissolved
Manganese	6.6	J	10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	4.7		2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	290		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	290		10	3.8	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	674.64				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	113.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	9.45				mg/L	1		Field Sampling	Total/NA
pH, Field	7.98				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	597				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.8				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW20

Lab Sample ID: 310-189022-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.3		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	320		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	160		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	1.3		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	41		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	2.9		0.010	0.0040	mg/L	1		6020A	Total/NA
Molybdenum	21		2.0	1.1	ug/L	1		6020A	Total/NA
Potassium	4.2		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	38		1.0	0.81	mg/L	1		6020A	Total/NA
Arsenic	4.5		2.0	0.88	ug/L	1		6020A	Dissolved
Iron	1100		100	50	ug/L	1		6020A	Dissolved
Manganese	2900		10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	22		2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	650.88				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-127.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.95				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1086				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.27				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW301

Lab Sample ID: 310-189022-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.0	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW301 (Continued)

Lab Sample ID: 310-189022-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	44		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	65		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	0.68		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	19		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	0.80		0.010	0.0040	mg/L	1		6020A	Total/NA
Molybdenum	5.8		2.0	1.1	ug/L	1		6020A	Total/NA
Potassium	3.2		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	13		1.0	0.81	mg/L	1		6020A	Total/NA
Arsenic	4.5		2.0	0.88	ug/L	1		6020A	Dissolved
Iron	330		100	50	ug/L	1		6020A	Dissolved
Manganese	810		10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	6.1		2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	200		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	200		10	3.8	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	625.02				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-115.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.16				mg/L	1		Field Sampling	Total/NA
pH, Field	8.33				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	476				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.65				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW302

Lab Sample ID: 310-189022-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.0	mg/L	5		9056A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	33		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	43		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	2.8		0.010	0.0040	mg/L	1		6020A	Total/NA
Potassium	4.7		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	17		1.0	0.81	mg/L	1		6020A	Total/NA
Arsenic	46		2.0	0.88	ug/L	1		6020A	Dissolved
Iron	32000		100	50	ug/L	1		6020A	Dissolved
Manganese	2800		10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	1.4	J	2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	530		20	7.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	530		20	7.6	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	627.53				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-173.0				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.05				mg/L	1		Field Sampling	Total/NA
pH, Field	7.18				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1039				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW302A

Lab Sample ID: 310-189022-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.1		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	49		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	81		0.50	0.19	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW302A (Continued)

Lab Sample ID: 310-189022-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.23		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	39		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	0.019		0.010	0.0040	mg/L	1		6020A	Total/NA
Potassium	1.2		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	7.5		1.0	0.81	mg/L	1		6020A	Total/NA
Iron	330		100	50	ug/L	1		6020A	Dissolved
Manganese	38		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	290		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	290		10	3.8	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	623.52				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	74.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	6.23				mg/L	1		Field Sampling	Total/NA
pH, Field	7.41				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	638				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.8				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.19				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW303

Lab Sample ID: 310-189022-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	33		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	58		0.50	0.19	mg/L	1		6020A	Total/NA
Magnesium	19		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	0.12		0.010	0.0040	mg/L	1		6020A	Total/NA
Molybdenum	23		2.0	1.1	ug/L	1		6020A	Total/NA
Potassium	5.6		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	13		1.0	0.81	mg/L	1		6020A	Total/NA
Arsenic	2.1		2.0	0.88	ug/L	1		6020A	Dissolved
Manganese	120		10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	23		2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	190		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	190		10	3.8	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	638.22				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	25.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.15				mg/L	1		Field Sampling	Total/NA
pH, Field	7.65				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	468				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	30.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.62				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW304

Lab Sample ID: 310-189022-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.7		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	15		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	77		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	0.051	J	0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	36		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	0.011		0.010	0.0040	mg/L	1		6020A	Total/NA
Molybdenum	1.2	J	2.0	1.1	ug/L	1		6020A	Total/NA
Potassium	1.5		0.50	0.15	mg/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW304 (Continued)

Lab Sample ID: 310-189022-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	5.6		1.0	0.81	mg/L	1		6020A	Total/NA
Manganese	6.9	J	10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	1.6	J	2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	621.75				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	109.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	6.76				mg/L	1		Field Sampling	Total/NA
pH, Field	7.55				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	583				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.8				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.06				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW304A

Lab Sample ID: 310-189022-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	76		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	50		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	0.94		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	21		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	0.099		0.010	0.0040	mg/L	1		6020A	Total/NA
Molybdenum	140		2.0	1.1	ug/L	1		6020A	Total/NA
Potassium	0.83		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	69		1.0	0.81	mg/L	1		6020A	Total/NA
Manganese	16		10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	160		2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	190		20	7.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	190		20	7.6	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	--				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	50.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.27				mg/L	1		Field Sampling	Total/NA
pH, Field	8.48				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	533				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	236.2				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW305

Lab Sample ID: 310-189022-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.9		5.0	2.0	mg/L	5		9056A	Total/NA
Calcium	90		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	13		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	32		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	2.0		0.010	0.0040	mg/L	1		6020A	Total/NA
Molybdenum	1.8	J	2.0	1.1	ug/L	1		6020A	Total/NA
Potassium	2.2		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	8.9		1.0	0.81	mg/L	1		6020A	Total/NA
Arsenic	6.4		2.0	0.88	ug/L	1		6020A	Dissolved
Iron	11000		100	50	ug/L	1		6020A	Dissolved
Manganese	2000		10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	2.8		2.0	1.1	ug/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW305 (Continued)

Lab Sample ID: 310-189022-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	340		20	7.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	340		20	7.6	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	626.98				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-162.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.07				mg/L	1		Field Sampling	Total/NA
pH, Field	7.23				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	654				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	19.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	27.27				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW306

Lab Sample ID: 310-189022-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	28		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	260		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	290		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	43		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	54		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	5.2		0.040	0.016	mg/L	4		6020A	Total/NA
Potassium	8.2		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	110		1.0	0.81	mg/L	1		6020A	Total/NA
Arsenic	9.4		2.0	0.88	ug/L	1		6020A	Dissolved
Iron	44000		100	50	ug/L	1		6020A	Dissolved
Manganese	5100		40	16	ug/L	4		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	850		20	7.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	850		20	7.6	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	620.37				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-139.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.12				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1911				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.16				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW306A

Lab Sample ID: 310-189022-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.4		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	41		5.0	3.6	mg/L	5		9056A	Total/NA
Calcium	86		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	2.1		0.10	0.050	mg/L	1		6020A	Total/NA
Magnesium	38		0.50	0.10	mg/L	1		6020A	Total/NA
Manganese	1.2		0.010	0.0040	mg/L	1		6020A	Total/NA
Potassium	1.4		0.50	0.15	mg/L	1		6020A	Total/NA
Sodium	12		1.0	0.81	mg/L	1		6020A	Total/NA
Iron	1900		100	50	ug/L	1		6020A	Dissolved
Manganese	1200		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	330		20	7.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	330		20	7.6	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	620.63				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	21.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.16				mg/L	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW306A (Continued)

Lab Sample ID: 310-189022-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH, Field	7.38				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	654				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.5				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.71				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: Field Blank

Lab Sample ID: 310-189022-1

Date Collected: 08/18/20 16:15

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			08/27/20 18:27	1
Sulfate	<0.71		1.0	0.71	mg/L			08/27/20 18:27	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.19		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:20	1
Iron	<0.050		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:20	1
Magnesium	<0.10		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:20	1
Manganese	<0.0040		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:20	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:20	1
Potassium	<0.15		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:20	1
Sodium	<0.81		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		08/31/20 08:34	08/31/20 22:50	1
Iron	<50		100	50	ug/L		08/31/20 08:34	08/31/20 22:50	1
Manganese	<4.0		10	4.0	ug/L		08/31/20 08:34	08/31/20 22:50	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/31/20 08:34	09/14/20 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			08/28/20 13:32	1
Carbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			08/28/20 13:32	1
Total Alkalinity as CaCO3 to pH 4.5	<1.9		5.0	1.9	mg/L			08/28/20 13:32	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW6

Lab Sample ID: 310-189022-2

Date Collected: 08/19/20 18:50

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.8		5.0	2.0	mg/L			08/27/20 19:13	5
Sulfate	25		5.0	3.6	mg/L			08/27/20 19:13	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	76		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:38	1
Iron	<0.050		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:38	1
Magnesium	38		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:38	1
Manganese	<0.0040		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:38	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:38	1
Potassium	1.2		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:38	1
Sodium	5.0		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.8		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 21:34	1
Iron	<50		100	50	ug/L		08/25/20 08:00	08/25/20 21:34	1
Manganese	6.6	J	10	4.0	ug/L		08/25/20 08:00	08/25/20 21:34	1
Molybdenum	4.7		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	290		10	3.8	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	290		10	3.8	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	674.64				ft			08/19/20 18:50	1
Oxidation Reduction Potential	113.9				millivolts			08/19/20 18:50	1
Oxygen, Dissolved, Client Supplied	9.45				mg/L			08/19/20 18:50	1
pH, Field	7.98				SU			08/19/20 18:50	1
Specific Conductance, Field	597				umhos/cm			08/19/20 18:50	1
Temperature, Field	9.8				Degrees C			08/19/20 18:50	1
Turbidity, Field	0.00				NTU			08/19/20 18:50	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW20

Lab Sample ID: 310-189022-3

Date Collected: 08/19/20 13:15

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.3		5.0	2.0	mg/L			08/27/20 19:29	5
Sulfate	320		5.0	3.6	mg/L			08/27/20 19:29	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	160		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:41	1
Iron	1.3		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:41	1
Magnesium	41		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:41	1
Manganese	2.9		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:41	1
Molybdenum	21		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:41	1
Potassium	4.2		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:41	1
Sodium	38		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.5		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 21:53	1
Iron	1100		100	50	ug/L		08/25/20 08:00	08/25/20 21:53	1
Manganese	2900		10	4.0	ug/L		08/25/20 08:00	08/25/20 21:53	1
Molybdenum	22		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	650.88				ft			08/19/20 13:15	1
Oxidation Reduction Potential	-127.2				millivolts			08/19/20 13:15	1
Oxygen, Dissolved, Client Supplied	0.10				mg/L			08/19/20 13:15	1
pH, Field	7.95				SU			08/19/20 13:15	1
Specific Conductance, Field	1086				umhos/cm			08/19/20 13:15	1
Temperature, Field	13.4				Degrees C			08/19/20 13:15	1
Turbidity, Field	1.27				NTU			08/19/20 13:15	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW301

Lab Sample ID: 310-189022-4

Date Collected: 08/18/20 18:25

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.0	mg/L			08/27/20 19:45	5
Sulfate	44		5.0	3.6	mg/L			08/27/20 19:45	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	65		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:44	1
Iron	0.68		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:44	1
Magnesium	19		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:44	1
Manganese	0.80		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:44	1
Molybdenum	5.8		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:44	1
Potassium	3.2		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:44	1
Sodium	13		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.5		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 21:56	1
Iron	330		100	50	ug/L		08/25/20 08:00	08/25/20 21:56	1
Manganese	810		10	4.0	ug/L		08/25/20 08:00	08/25/20 21:56	1
Molybdenum	6.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	200		10	3.8	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	200		10	3.8	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	625.02				ft			08/18/20 18:25	1
Oxidation Reduction Potential	-115.3				millivolts			08/18/20 18:25	1
Oxygen, Dissolved, Client Supplied	0.16				mg/L			08/18/20 18:25	1
pH, Field	8.33				SU			08/18/20 18:25	1
Specific Conductance, Field	476				umhos/cm			08/18/20 18:25	1
Temperature, Field	15.0				Degrees C			08/18/20 18:25	1
Turbidity, Field	1.65				NTU			08/18/20 18:25	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW302

Lab Sample ID: 310-189022-5

Date Collected: 08/19/20 14:35

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.0	mg/L			08/27/20 20:00	5
Sulfate	<3.6		5.0	3.6	mg/L			08/27/20 20:00	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:46	1
Iron	33		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:46	1
Magnesium	43		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:46	1
Manganese	2.8		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:46	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:46	1
Potassium	4.7		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:46	1
Sodium	17		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	46		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 21:58	1
Iron	32000		100	50	ug/L		08/25/20 08:00	08/25/20 21:58	1
Manganese	2800		10	4.0	ug/L		08/25/20 08:00	08/25/20 21:58	1
Molybdenum	1.4	J	2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	530		20	7.6	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<7.6		20	7.6	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	530		20	7.6	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	627.53				ft			08/19/20 14:35	1
Oxidation Reduction Potential	-173.0				millivolts			08/19/20 14:35	1
Oxygen, Dissolved, Client Supplied	0.05				mg/L			08/19/20 14:35	1
pH, Field	7.18				SU			08/19/20 14:35	1
Specific Conductance, Field	1039				umhos/cm			08/19/20 14:35	1
Temperature, Field	16.2				Degrees C			08/19/20 14:35	1
Turbidity, Field	4.00				NTU			08/19/20 14:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW302A

Lab Sample ID: 310-189022-6

Date Collected: 08/19/20 15:35

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.1		5.0	2.0	mg/L			08/27/20 20:16	5
Sulfate	49		5.0	3.6	mg/L			08/27/20 20:16	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:49	1
Iron	0.23		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:49	1
Magnesium	39		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:49	1
Manganese	0.019		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:49	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:49	1
Potassium	1.2		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:49	1
Sodium	7.5		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 22:01	1
Iron	330		100	50	ug/L		08/25/20 08:00	08/25/20 22:01	1
Manganese	38		10	4.0	ug/L		08/25/20 08:00	08/25/20 22:01	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 22:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	290		10	3.8	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	290		10	3.8	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	623.52				ft			08/19/20 15:35	1
Oxidation Reduction Potential	74.1				millivolts			08/19/20 15:35	1
Oxygen, Dissolved, Client Supplied	6.23				mg/L			08/19/20 15:35	1
pH, Field	7.41				SU			08/19/20 15:35	1
Specific Conductance, Field	638				umhos/cm			08/19/20 15:35	1
Temperature, Field	11.8				Degrees C			08/19/20 15:35	1
Turbidity, Field	0.19				NTU			08/19/20 15:35	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW303

Lab Sample ID: 310-189022-7

Date Collected: 08/18/20 17:25

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		5.0	2.0	mg/L			08/27/20 20:31	5
Sulfate	33		5.0	3.6	mg/L			08/27/20 20:31	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	58		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:52	1
Iron	<0.050		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:52	1
Magnesium	19		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:52	1
Manganese	0.12		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:52	1
Molybdenum	23		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:52	1
Potassium	5.6		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:52	1
Sodium	13		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.1		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 22:03	1
Iron	<50		100	50	ug/L		08/25/20 08:00	08/25/20 22:03	1
Manganese	120		10	4.0	ug/L		08/25/20 08:00	08/25/20 22:03	1
Molybdenum	23		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 22:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	190		10	3.8	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	190		10	3.8	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	638.22				ft			08/18/20 17:25	1
Oxidation Reduction Potential	25.8				millivolts			08/18/20 17:25	1
Oxygen, Dissolved, Client Supplied	0.15				mg/L			08/18/20 17:25	1
pH, Field	7.65				SU			08/18/20 17:25	1
Specific Conductance, Field	468				umhos/cm			08/18/20 17:25	1
Temperature, Field	30.4				Degrees C			08/18/20 17:25	1
Turbidity, Field	1.62				NTU			08/18/20 17:25	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW304

Lab Sample ID: 310-189022-8

Date Collected: 08/19/20 16:40

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.7		5.0	2.0	mg/L			08/27/20 21:18	5
Sulfate	15		5.0	3.6	mg/L			08/27/20 21:18	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	77		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:54	1
Iron	0.051	J	0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:54	1
Magnesium	36		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:54	1
Manganese	0.011		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:54	1
Molybdenum	1.2	J	2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:54	1
Potassium	1.5		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:54	1
Sodium	5.6		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 22:06	1
Iron	<50		100	50	ug/L		08/25/20 08:00	08/25/20 22:06	1
Manganese	6.9	J	10	4.0	ug/L		08/25/20 08:00	08/25/20 22:06	1
Molybdenum	1.6	J	2.0	1.1	ug/L		08/25/20 08:00	08/25/20 22:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	621.75				ft			08/19/20 16:40	1
Oxidation Reduction Potential	109.6				millivolts			08/19/20 16:40	1
Oxygen, Dissolved, Client Supplied	6.76				mg/L			08/19/20 16:40	1
pH, Field	7.55				SU			08/19/20 16:40	1
Specific Conductance, Field	583				umhos/cm			08/19/20 16:40	1
Temperature, Field	11.8				Degrees C			08/19/20 16:40	1
Turbidity, Field	1.06				NTU			08/19/20 16:40	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW304A

Lab Sample ID: 310-189022-9

Date Collected: 08/19/20 17:45

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	2.0	mg/L			08/27/20 21:34	5
Sulfate	76		5.0	3.6	mg/L			08/27/20 21:34	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	50		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:57	1
Iron	0.94		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:57	1
Magnesium	21		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:57	1
Manganese	0.099		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:57	1
Molybdenum	140		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:57	1
Potassium	0.83		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:57	1
Sodium	69		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 22:09	1
Iron	<50		100	50	ug/L		08/25/20 08:00	08/25/20 22:09	1
Manganese	16		10	4.0	ug/L		08/25/20 08:00	08/25/20 22:09	1
Molybdenum	160		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 22:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	190		20	7.6	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<7.6		20	7.6	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	190		20	7.6	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	--				ft			08/19/20 17:45	1
Oxidation Reduction Potential	50.5				millivolts			08/19/20 17:45	1
Oxygen, Dissolved, Client Supplied	0.27				mg/L			08/19/20 17:45	1
pH, Field	8.48				SU			08/19/20 17:45	1
Specific Conductance, Field	533				umhos/cm			08/19/20 17:45	1
Temperature, Field	14.0				Degrees C			08/19/20 17:45	1
Turbidity, Field	236.2				NTU			08/19/20 17:45	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW305

Lab Sample ID: 310-189022-10

Date Collected: 08/18/20 14:35

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.9		5.0	2.0	mg/L			08/27/20 21:49	5
Sulfate	<3.6		5.0	3.6	mg/L			08/27/20 21:49	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	90		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 21:00	1
Iron	13		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 21:00	1
Magnesium	32		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 21:00	1
Manganese	2.0		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 21:00	1
Molybdenum	1.8	J	2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:00	1
Potassium	2.2		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 21:00	1
Sodium	8.9		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 21:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.4		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 22:12	1
Iron	11000		100	50	ug/L		08/25/20 08:00	08/25/20 22:12	1
Manganese	2000		10	4.0	ug/L		08/25/20 08:00	08/25/20 22:12	1
Molybdenum	2.8		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 22:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	340		20	7.6	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<7.6		20	7.6	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	340		20	7.6	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	626.98				ft			08/18/20 14:35	1
Oxidation Reduction Potential	-162.9				millivolts			08/18/20 14:35	1
Oxygen, Dissolved, Client Supplied	0.07				mg/L			08/18/20 14:35	1
pH, Field	7.23				SU			08/18/20 14:35	1
Specific Conductance, Field	654				umhos/cm			08/18/20 14:35	1
Temperature, Field	19.0				Degrees C			08/18/20 14:35	1
Turbidity, Field	27.27				NTU			08/18/20 14:35	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW306

Lab Sample ID: 310-189022-11

Date Collected: 08/18/20 15:50

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		5.0	2.0	mg/L			08/27/20 22:05	5
Sulfate	260		5.0	3.6	mg/L			08/27/20 22:05	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	290		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 21:02	1
Iron	43		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 21:02	1
Magnesium	54		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 21:02	1
Manganese	5.2		0.040	0.016	mg/L		08/25/20 08:00	08/28/20 14:02	4
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:02	1
Potassium	8.2		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 21:02	1
Sodium	110		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 21:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.4		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 22:14	1
Iron	44000		100	50	ug/L		08/25/20 08:00	08/25/20 22:14	1
Manganese	5100		40	16	ug/L		08/25/20 08:00	08/28/20 14:10	4
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	850		20	7.6	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<7.6		20	7.6	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	850		20	7.6	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	620.37				ft			08/18/20 15:50	1
Oxidation Reduction Potential	-139.1				millivolts			08/18/20 15:50	1
Oxygen, Dissolved, Client Supplied	0.10				mg/L			08/18/20 15:50	1
pH, Field	7.12				SU			08/18/20 15:50	1
Specific Conductance, Field	1911				umhos/cm			08/18/20 15:50	1
Temperature, Field	15.0				Degrees C			08/18/20 15:50	1
Turbidity, Field	0.16				NTU			08/18/20 15:50	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW306A

Lab Sample ID: 310-189022-12

Date Collected: 08/18/20 16:30

Matrix: Water

Date Received: 08/21/20 10:15

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.4		5.0	2.0	mg/L			08/27/20 22:21	5
Sulfate	41		5.0	3.6	mg/L			08/27/20 22:21	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	86		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 21:16	1
Iron	2.1		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 21:16	1
Magnesium	38		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 21:16	1
Manganese	1.2		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 21:16	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:16	1
Potassium	1.4		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 21:16	1
Sodium	12		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 21:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 22:17	1
Iron	1900		100	50	ug/L		08/25/20 08:00	08/25/20 22:17	1
Manganese	1200		10	4.0	ug/L		08/25/20 08:00	08/25/20 22:17	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 22:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	330		20	7.6	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<7.6		20	7.6	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	330		20	7.6	mg/L			08/28/20 09:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	620.63				ft			08/18/20 16:30	1
Oxidation Reduction Potential	21.2				millivolts			08/18/20 16:30	1
Oxygen, Dissolved, Client Supplied	1.16				mg/L			08/18/20 16:30	1
pH, Field	7.38				SU			08/18/20 16:30	1
Specific Conductance, Field	654				umhos/cm			08/18/20 16:30	1
Temperature, Field	15.5				Degrees C			08/18/20 16:30	1
Turbidity, Field	2.71				NTU			08/18/20 16:30	1

Eurofins TestAmerica, Cedar Falls

Definitions/Glossary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Qualifiers

Metals

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-290334/3
Matrix: Water
Analysis Batch: 290334

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			08/27/20 17:24	1
Sulfate	<0.71		1.0	0.71	mg/L			08/27/20 17:24	1

Lab Sample ID: LCS 310-290334/6
Matrix: Water
Analysis Batch: 290334

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	9.46		mg/L		95	90 - 110
Fluoride	2.00	2.16		mg/L		108	90 - 110
Sulfate	10.0	9.45		mg/L		94	90 - 110

Lab Sample ID: 310-189022-1 MS
Matrix: Water
Analysis Batch: 290334

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
Chloride	<0.40		5.00	4.73		mg/L		95	80 - 120
Fluoride	<0.046		1.00	1.11		mg/L		111	80 - 120
Sulfate	<0.71		5.00	4.78		mg/L		96	80 - 120

Lab Sample ID: 310-189022-1 MSD
Matrix: Water
Analysis Batch: 290334

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
Chloride	<0.40		5.00	4.74		mg/L		95	80 - 120	0	15
Fluoride	<0.046		1.00	1.10		mg/L		110	80 - 120	0	15
Sulfate	<0.71		5.00	4.78		mg/L		96	80 - 120	0	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-289492/1-A
Matrix: Water
Analysis Batch: 289787

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 289492

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.19		0.50	0.19	mg/L		08/25/20 08:00	08/25/20 20:15	1
Iron	<0.050		0.10	0.050	mg/L		08/25/20 08:00	08/25/20 20:15	1
Magnesium	<0.10		0.50	0.10	mg/L		08/25/20 08:00	08/25/20 20:15	1
Manganese	<0.0040		0.010	0.0040	mg/L		08/25/20 08:00	08/25/20 20:15	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 20:15	1
Potassium	<0.15		0.50	0.15	mg/L		08/25/20 08:00	08/25/20 20:15	1
Sodium	<0.81		1.0	0.81	mg/L		08/25/20 08:00	08/25/20 20:15	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

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

Lab Sample ID: LCS 310-289492/2-A
Matrix: Water
Analysis Batch: 289787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 289492

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	2.00	2.00		mg/L		100	80 - 120
Iron	0.200	0.212		mg/L		106	80 - 120
Magnesium	2.00	2.06		mg/L		103	80 - 120
Manganese	0.100	0.105		mg/L		105	80 - 120
Molybdenum	200	215		ug/L		107	80 - 120
Potassium	2.00	2.24		mg/L		112	80 - 120
Sodium	2.00	2.14		mg/L		107	80 - 120

Lab Sample ID: 310-189022-1 MS
Matrix: Water
Analysis Batch: 289787

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 289492

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium	<0.19		2.00	1.98		mg/L		99	75 - 125
Iron	<0.050		0.200	0.209		mg/L		104	75 - 125
Magnesium	<0.10		2.00	2.07		mg/L		104	75 - 125
Manganese	<0.0040		0.100	0.105		mg/L		105	75 - 125
Molybdenum	<1.1		200	216		ug/L		108	75 - 125
Potassium	<0.15		2.00	2.28		mg/L		114	75 - 125
Sodium	<0.81		2.00	2.16		mg/L		108	75 - 125

Lab Sample ID: 310-189022-1 MSD
Matrix: Water
Analysis Batch: 289787

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 289492

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Calcium	<0.19		2.00	1.95		mg/L		97	75 - 125	1	20
Iron	<0.050		0.200	0.205		mg/L		103	75 - 125	2	20
Magnesium	<0.10		2.00	2.03		mg/L		101	75 - 125	2	20
Manganese	<0.0040		0.100	0.102		mg/L		102	75 - 125	3	20
Molybdenum	<1.1		200	211		ug/L		106	75 - 125	2	20
Potassium	<0.15		2.00	2.19		mg/L		110	75 - 125	4	20
Sodium	<0.81		2.00	2.14		mg/L		107	75 - 125	1	20

Lab Sample ID: 310-189022-11 DU
Matrix: Water
Analysis Batch: 289787

Client Sample ID: MW306
Prep Type: Total/NA
Prep Batch: 289492

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	290		287		mg/L		0.9	20
Iron	43		43.1		mg/L		0.3	20
Magnesium	54		54.3		mg/L		0.1	20
Molybdenum	<1.1		<1.1		ug/L		NC	20
Potassium	8.2		8.14		mg/L		1	20
Sodium	110		113		mg/L		0.2	20

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

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

Lab Sample ID: 310-189022-11 DU
Matrix: Water
Analysis Batch: 290292

Client Sample ID: MW306
Prep Type: Total/NA
Prep Batch: 289492

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Manganese	5.2		4.88		mg/L		6	20

Lab Sample ID: MB 310-289493/1-A
Matrix: Water
Analysis Batch: 289787

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 289493

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		08/25/20 08:00	08/25/20 21:29	1
Iron	<50		100	50	ug/L		08/25/20 08:00	08/25/20 21:29	1
Manganese	<4.0		10	4.0	ug/L		08/25/20 08:00	08/25/20 21:29	1
Molybdenum	<1.1		2.0	1.1	ug/L		08/25/20 08:00	08/25/20 21:29	1

Lab Sample ID: LCS 310-289493/2-A
Matrix: Water
Analysis Batch: 289787

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 289493

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	208		ug/L		104	80 - 120
Iron	200	209		ug/L		105	80 - 120
Manganese	100	104		ug/L		104	80 - 120
Molybdenum	200	212		ug/L		106	80 - 120

Lab Sample ID: 310-189022-2 MS
Matrix: Water
Analysis Batch: 289787

Client Sample ID: MW6
Prep Type: Dissolved
Prep Batch: 289493

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.8		200	224		ug/L		111	75 - 125
Iron	<50		200	222		ug/L		111	75 - 125
Manganese	6.6	J	100	114		ug/L		108	75 - 125
Molybdenum	4.7		200	231		ug/L		113	75 - 125

Lab Sample ID: 310-189022-2 MSD
Matrix: Water
Analysis Batch: 289787

Client Sample ID: MW6
Prep Type: Dissolved
Prep Batch: 289493

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	2.8		200	224		ug/L		111	75 - 125	0	20
Iron	<50		200	227		ug/L		114	75 - 125	2	20
Manganese	6.6	J	100	114		ug/L		107	75 - 125	1	20
Molybdenum	4.7		200	233		ug/L		114	75 - 125	1	20

Lab Sample ID: 310-189022-12 DU
Matrix: Water
Analysis Batch: 289787

Client Sample ID: MW306A
Prep Type: Dissolved
Prep Batch: 289493

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Arsenic	<0.88		0.926	J	ug/L		NC	20
Iron	1900		1550	F3	ug/L		21	20
Manganese	1200		1140		ug/L		4	20

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

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

Lab Sample ID: 310-189022-12 DU
Matrix: Water
Analysis Batch: 289787

Client Sample ID: MW306A
Prep Type: Dissolved
Prep Batch: 289493

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Molybdenum	<1.1		1.34	J	ug/L		NC	20

Lab Sample ID: MB 310-290157/1-B
Matrix: Water
Analysis Batch: 290437

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 290279

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		08/31/20 08:34	08/31/20 22:37	1
Iron	<50		100	50	ug/L		08/31/20 08:34	08/31/20 22:37	1
Manganese	<4.0		10	4.0	ug/L		08/31/20 08:34	08/31/20 22:37	1

Lab Sample ID: MB 310-290157/1-B
Matrix: Water
Analysis Batch: 291875

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 290279

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	<1.1		2.0	1.1	ug/L		08/31/20 08:34	09/14/20 12:49	1

Lab Sample ID: LCS 310-290157/2-B
Matrix: Water
Analysis Batch: 290437

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 290279

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	196		ug/L		98	80 - 120
Iron	200	195		ug/L		98	80 - 120
Manganese	100	95.9		ug/L		96	80 - 120

Lab Sample ID: LCS 310-290157/2-B
Matrix: Water
Analysis Batch: 291875

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 290279

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	200	197		ug/L		98	80 - 120

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-290190/1
Matrix: Water
Analysis Batch: 290190

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	<1.9		5.0	1.9	mg/L			08/28/20 13:32	1
Carbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			08/28/20 13:32	1
Total Alkalinity as CaCO3 to pH 4.5	<1.9		5.0	1.9	mg/L			08/28/20 13:32	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Method: 2320B - Alkalinity (Low Level) (Continued)

Lab Sample ID: LCS 310-290190/2
Matrix: Water
Analysis Batch: 290190

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

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-290136/1
Matrix: Water
Analysis Batch: 290136

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	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			08/28/20 09:01	1
Total Alkalinity as CaCO3 to pH 4.5	<3.8		10	3.8	mg/L			08/28/20 09:01	1

Lab Sample ID: LCS 310-290136/2
Matrix: Water
Analysis Batch: 290136

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	1000		mg/L		100	90 - 110

QC Association Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

HPLC/IC

Analysis Batch: 290334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Total/NA	Water	9056A	
310-189022-2	MW6	Total/NA	Water	9056A	
310-189022-3	MW20	Total/NA	Water	9056A	
310-189022-4	MW301	Total/NA	Water	9056A	
310-189022-5	MW302	Total/NA	Water	9056A	
310-189022-6	MW302A	Total/NA	Water	9056A	
310-189022-7	MW303	Total/NA	Water	9056A	
310-189022-8	MW304	Total/NA	Water	9056A	
310-189022-9	MW304A	Total/NA	Water	9056A	
310-189022-10	MW305	Total/NA	Water	9056A	
310-189022-11	MW306	Total/NA	Water	9056A	
310-189022-12	MW306A	Total/NA	Water	9056A	
MB 310-290334/3	Method Blank	Total/NA	Water	9056A	
LCS 310-290334/6	Lab Control Sample	Total/NA	Water	9056A	
310-189022-1 MS	Field Blank	Total/NA	Water	9056A	
310-189022-1 MSD	Field Blank	Total/NA	Water	9056A	

Metals

Prep Batch: 289492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Total/NA	Water	3010A	
310-189022-2	MW6	Total/NA	Water	3010A	
310-189022-3	MW20	Total/NA	Water	3010A	
310-189022-4	MW301	Total/NA	Water	3010A	
310-189022-5	MW302	Total/NA	Water	3010A	
310-189022-6	MW302A	Total/NA	Water	3010A	
310-189022-7	MW303	Total/NA	Water	3010A	
310-189022-8	MW304	Total/NA	Water	3010A	
310-189022-9	MW304A	Total/NA	Water	3010A	
310-189022-10	MW305	Total/NA	Water	3010A	
310-189022-11	MW306	Total/NA	Water	3010A	
310-189022-12	MW306A	Total/NA	Water	3010A	
MB 310-289492/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-289492/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-189022-1 MS	Field Blank	Total/NA	Water	3010A	
310-189022-1 MSD	Field Blank	Total/NA	Water	3010A	
310-189022-11 DU	MW306	Total/NA	Water	3010A	

Prep Batch: 289493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-2	MW6	Dissolved	Water	3010A	
310-189022-3	MW20	Dissolved	Water	3010A	
310-189022-4	MW301	Dissolved	Water	3010A	
310-189022-5	MW302	Dissolved	Water	3010A	
310-189022-6	MW302A	Dissolved	Water	3010A	
310-189022-7	MW303	Dissolved	Water	3010A	
310-189022-8	MW304	Dissolved	Water	3010A	
310-189022-9	MW304A	Dissolved	Water	3010A	
310-189022-10	MW305	Dissolved	Water	3010A	
310-189022-11	MW306	Dissolved	Water	3010A	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
 Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Metals (Continued)

Prep Batch: 289493 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-12	MW306A	Dissolved	Water	3010A	
MB 310-289493/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-289493/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-189022-2 MS	MW6	Dissolved	Water	3010A	
310-189022-2 MSD	MW6	Dissolved	Water	3010A	
310-189022-12 DU	MW306A	Dissolved	Water	3010A	

Analysis Batch: 289787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Total/NA	Water	6020A	289492
310-189022-2	MW6	Dissolved	Water	6020A	289493
310-189022-2	MW6	Total/NA	Water	6020A	289492
310-189022-3	MW20	Dissolved	Water	6020A	289493
310-189022-3	MW20	Total/NA	Water	6020A	289492
310-189022-4	MW301	Dissolved	Water	6020A	289493
310-189022-4	MW301	Total/NA	Water	6020A	289492
310-189022-5	MW302	Dissolved	Water	6020A	289493
310-189022-5	MW302	Total/NA	Water	6020A	289492
310-189022-6	MW302A	Dissolved	Water	6020A	289493
310-189022-6	MW302A	Total/NA	Water	6020A	289492
310-189022-7	MW303	Dissolved	Water	6020A	289493
310-189022-7	MW303	Total/NA	Water	6020A	289492
310-189022-8	MW304	Dissolved	Water	6020A	289493
310-189022-8	MW304	Total/NA	Water	6020A	289492
310-189022-9	MW304A	Dissolved	Water	6020A	289493
310-189022-9	MW304A	Total/NA	Water	6020A	289492
310-189022-10	MW305	Dissolved	Water	6020A	289493
310-189022-10	MW305	Total/NA	Water	6020A	289492
310-189022-11	MW306	Dissolved	Water	6020A	289493
310-189022-11	MW306	Total/NA	Water	6020A	289492
310-189022-12	MW306A	Dissolved	Water	6020A	289493
310-189022-12	MW306A	Total/NA	Water	6020A	289492
MB 310-289492/1-A	Method Blank	Total/NA	Water	6020A	289492
MB 310-289493/1-A	Method Blank	Total/NA	Water	6020A	289493
LCS 310-289492/2-A	Lab Control Sample	Total/NA	Water	6020A	289492
LCS 310-289493/2-A	Lab Control Sample	Total/NA	Water	6020A	289493
310-189022-1 MS	Field Blank	Total/NA	Water	6020A	289492
310-189022-1 MSD	Field Blank	Total/NA	Water	6020A	289492
310-189022-2 MS	MW6	Dissolved	Water	6020A	289493
310-189022-2 MSD	MW6	Dissolved	Water	6020A	289493
310-189022-11 DU	MW306	Total/NA	Water	6020A	289492
310-189022-12 DU	MW306A	Dissolved	Water	6020A	289493

Filtration Batch: 290157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Dissolved	Water	Filtration	
MB 310-290157/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 310-290157/2-B	Lab Control Sample	Dissolved	Water	Filtration	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Metals

Prep Batch: 290279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Dissolved	Water	3010A	290157
MB 310-290157/1-B	Method Blank	Dissolved	Water	3010A	290157
LCS 310-290157/2-B	Lab Control Sample	Dissolved	Water	3010A	290157

Analysis Batch: 290292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-11	MW306	Dissolved	Water	6020A	289493
310-189022-11	MW306	Total/NA	Water	6020A	289492
310-189022-11 DU	MW306	Total/NA	Water	6020A	289492

Analysis Batch: 290437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Dissolved	Water	6020A	290279
MB 310-290157/1-B	Method Blank	Dissolved	Water	6020A	290279
LCS 310-290157/2-B	Lab Control Sample	Dissolved	Water	6020A	290279

Analysis Batch: 291875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Dissolved	Water	6020A	290279
MB 310-290157/1-B	Method Blank	Dissolved	Water	6020A	290279
LCS 310-290157/2-B	Lab Control Sample	Dissolved	Water	6020A	290279

General Chemistry

Analysis Batch: 290136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-2	MW6	Total/NA	Water	SM 2320B	
310-189022-3	MW20	Total/NA	Water	SM 2320B	
310-189022-4	MW301	Total/NA	Water	SM 2320B	
310-189022-5	MW302	Total/NA	Water	SM 2320B	
310-189022-6	MW302A	Total/NA	Water	SM 2320B	
310-189022-7	MW303	Total/NA	Water	SM 2320B	
310-189022-8	MW304	Total/NA	Water	SM 2320B	
310-189022-9	MW304A	Total/NA	Water	SM 2320B	
310-189022-10	MW305	Total/NA	Water	SM 2320B	
310-189022-11	MW306	Total/NA	Water	SM 2320B	
310-189022-12	MW306A	Total/NA	Water	SM 2320B	
MB 310-290136/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-290136/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 290190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-1	Field Blank	Total/NA	Water	2320B	
MB 310-290190/1	Method Blank	Total/NA	Water	2320B	
LCS 310-290190/2	Lab Control Sample	Total/NA	Water	2320B	

Field Service / Mobile Lab

Analysis Batch: 290769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-2	MW6	Total/NA	Water	Field Sampling	
310-189022-3	MW20	Total/NA	Water	Field Sampling	

Eurofins TestAmerica, Cedar Falls

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

QC Association Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Field Service / Mobile Lab (Continued)

Analysis Batch: 290769 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-189022-4	MW301	Total/NA	Water	Field Sampling	
310-189022-5	MW302	Total/NA	Water	Field Sampling	
310-189022-6	MW302A	Total/NA	Water	Field Sampling	
310-189022-7	MW303	Total/NA	Water	Field Sampling	
310-189022-8	MW304	Total/NA	Water	Field Sampling	
310-189022-9	MW304A	Total/NA	Water	Field Sampling	
310-189022-10	MW305	Total/NA	Water	Field Sampling	
310-189022-11	MW306	Total/NA	Water	Field Sampling	
310-189022-12	MW306A	Total/NA	Water	Field Sampling	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: Field Blank

Lab Sample ID: 310-189022-1

Date Collected: 08/18/20 16:15

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	290334	08/27/20 18:27	ACJ	TAL CF
Dissolved	Filtration	Filtration			290157	08/28/20 09:58	HED	TAL CF
Dissolved	Prep	3010A			290279	08/31/20 08:34	HED	TAL CF
Dissolved	Analysis	6020A		1	290437	08/31/20 22:50	SAD	TAL CF
Dissolved	Filtration	Filtration			290157	08/28/20 09:58	HED	TAL CF
Dissolved	Prep	3010A			290279	08/31/20 08:34	HED	TAL CF
Dissolved	Analysis	6020A		1	291875	09/14/20 12:54	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:20	SAD	TAL CF
Total/NA	Analysis	2320B		1	290190	08/28/20 13:32	WJF	TAL CF

Client Sample ID: MW6

Lab Sample ID: 310-189022-2

Date Collected: 08/19/20 18:50

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 19:13	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 21:34	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:38	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/19/20 18:50	ANO	TAL CF

Client Sample ID: MW20

Lab Sample ID: 310-189022-3

Date Collected: 08/19/20 13:15

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 19:29	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 21:53	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:41	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/19/20 13:15	ANO	TAL CF

Client Sample ID: MW301

Lab Sample ID: 310-189022-4

Date Collected: 08/18/20 18:25

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 19:45	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 21:56	SAD	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW301

Date Collected: 08/18/20 18:25

Date Received: 08/21/20 10:15

Lab Sample ID: 310-189022-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:44	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/18/20 18:25	ANO	TAL CF

Client Sample ID: MW302

Date Collected: 08/19/20 14:35

Date Received: 08/21/20 10:15

Lab Sample ID: 310-189022-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 20:00	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 21:58	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:46	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/19/20 14:35	ANO	TAL CF

Client Sample ID: MW302A

Date Collected: 08/19/20 15:35

Date Received: 08/21/20 10:15

Lab Sample ID: 310-189022-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 20:16	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 22:01	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:49	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/19/20 15:35	ANO	TAL CF

Client Sample ID: MW303

Date Collected: 08/18/20 17:25

Date Received: 08/21/20 10:15

Lab Sample ID: 310-189022-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 20:31	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 22:03	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:52	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/18/20 17:25	ANO	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW304

Lab Sample ID: 310-189022-8

Date Collected: 08/19/20 16:40

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 21:18	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 22:06	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:54	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/19/20 16:40	ANO	TAL CF

Client Sample ID: MW304A

Lab Sample ID: 310-189022-9

Date Collected: 08/19/20 17:45

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 21:34	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 22:09	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 20:57	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/19/20 17:45	ANO	TAL CF

Client Sample ID: MW305

Lab Sample ID: 310-189022-10

Date Collected: 08/18/20 14:35

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 21:49	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 22:12	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 21:00	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/18/20 14:35	ANO	TAL CF

Client Sample ID: MW306

Lab Sample ID: 310-189022-11

Date Collected: 08/18/20 15:50

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 22:05	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 22:14	SAD	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		4	290292	08/28/20 14:10	SAD	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Client Sample ID: MW306

Lab Sample ID: 310-189022-11

Date Collected: 08/18/20 15:50

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 21:02	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		4	290292	08/28/20 14:02	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/18/20 15:50	ANO	TAL CF

Client Sample ID: MW306A

Lab Sample ID: 310-189022-12

Date Collected: 08/18/20 16:30

Matrix: Water

Date Received: 08/21/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	290334	08/27/20 22:21	ACJ	TAL CF
Dissolved	Prep	3010A			289493	08/25/20 08:00	HED	TAL CF
Dissolved	Analysis	6020A		1	289787	08/25/20 22:17	SAD	TAL CF
Total/NA	Prep	3010A			289492	08/25/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	289787	08/25/20 21:16	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	290136	08/28/20 09:01	WJF	TAL CF
Total/NA	Analysis	Field Sampling		1	290769	08/18/20 16:30	ANO	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Eurofins TestAmerica, Cedar Falls

Method Summary

Client: SCS Engineers
Project/Site: Alliant - Lansing 25219070.00

Job ID: 310-189022-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
Filtration	Sample Filtration	None	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

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

Laboratory References:

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





310-189022 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <u>Madison</u> <small>CITY</small>	<u>WI</u> <small>STATE</small>	Project: <u>Alliant-Lansing</u>	
Receipt Information			
Date/Time Received: <u>8/21/20</u> <small>DATE</small>	<u>1015</u> <small>TIME</small>	Received By: <u>JC</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>+0.1</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.3</u>	Corrected Temp (°C): <u>0.4</u>		
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>Sample 302P on coc, 302A on bottles</u>			
<u>Sample 304P on coc, 304A on bottles</u>			
<u>Sample 306P on coc, 306A on bottles</u>			

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State: <small>CITY</small> <u>Madison</u> <small>STATE</small> <u>WI</u>	Project: <u>Alliant-Lansing</u>		
Receipt Information			
Date/Time Received: <small>DATE</small> <u>8/21/20</u> <small>TIME</small> <u>1015</u>	Received By: <u>[Signature]</u>		
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>+0.1</u>		
• Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.2</u>	Corrected Temp (°C): <u>0.3</u>		
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Address:

Regulatory Program: DW NPDES RCRA Other:

Client Contact
 Company Name: **SES Engineers**
 Address: **2830 Dairy Dr.**
 City/State/Zip: **Madison, WI 53818**
 Phone: **608 216-7362**
 Fax:
 Project Name: **Alliant - Larsing**
 Site:
 P O #

Project Manager:
 Tel/Email:
 Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
 TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Site Contact: **Max Blodgett** Date: **8-20-20**
 Lab Contact: **Stacie Francis**
 Carrier:
 Filtered Sample (Y/N)
 Perform MS/MSD (Y/N)
 Aik-Carbonate
 Aik-Bicarbonate
 Chloride + SD4
 Dissolved Fe + Mn
 Dissolved As
 Total Ca, Fe, Mg
 Mn, Mg, K, Ni

COC No. of COCs
 Sampler:
 For Lab Use Only:
 Walk-in Client:
 Lab Sampling:
 Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.
Field Blank	8-18-20	16:15	Grab	Water	23
MW 6	8-19-20	18:50			
MW 20	8-19-20	13:15			
MW 301	8-18-20	18:25			
MW 302	8-19-20	14:35			
MW 302P	8-19-20	15:35			
MW 303	8-18-20	17:25			
MW 304	8-19-20	16:40			
MW 304P	8-19-20	17:45			
MW 305	8-18-20	14:35			
MW 306	8-18-20	15:50			
MW 306P	8-18-20	16:30			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
See Attached Table

Custody Seal No.:
 Company: **SCS**
 Date/Time: **8-20-20**

Relinquished by: **Paul A. Brown**
 Date/Time: **8-20-20**

Relinquished by:
 Date/Time:

Relinquished by:
 Date/Time:

Received in Laboratory by: **MM**
 Date/Time: **8/21/20**

Received by:
 Date/Time:

Received by:
 Date/Time:

Received by:
 Date/Time:



Table - Sampling Points and Parameters - August 2020 MNA CCR Sampling Event
 Groundwater Monitoring - Lansing Generating Station / SCS Engineers Project #25219070.00

	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
MNA & CCR Lab Parameters (TOTAL)	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
	Calcium	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
	Molybdenum								x				x	2
	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
	Chloride	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
MNA Lab Parameters (DISSOLVED - FIELD FILTER)	Arsenic	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
	Manganese	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
	Total Iron*	x	x	x	x	x	x	x	x	x	x	x		11
	Ferrous Iron*	x	x	x	x	x	x	x	x	x	x	x		11

only on MW-302 + Field Blank

Filtered

*Use CheMets kit for field total/ferrous iron

I:\25220070.00\Data and Calculations\Field Work Requests\Bottle Orders\[LAN_CCR_Rule_Sampling_2008.xls]Sheet1

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-189022-1

Login Number: 189022

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

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

Groundwater Monitoring Results - Field Parameters
Lansing Generating Station / SCS Engineers Project #25220070.0
August 2020

Sample	Sample Date	Groundwater Elevation (ft AMSL)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)
MW-6	8/19 @ 18:50	674.64	9.8	7.98	9.45	597	113.9	0.00
MW-20	8/19 @ 13:15	650.88	13.4	7.95	0.10	1086	-127.2	1.27
MW-301	8/18 @ 18:25	625.02	15.0	8.33	0.16	476	-115.3	1.65
MW-302	8/19 @ 14:35	627.53	16.2	7.18	0.05	1039	-173.0	4.00
MW-302A	8/19 @ 15:35	623.52	11.8	7.41	6.23	638	74.1	0.19
MW-303	8/18 @ 17:25	638.22	30.4	7.65	0.15	468	25.8	1.62
MW-304	8/19 @ 16:40	621.75	11.8	7.55	6.76	583	109.6	1.06
MW-304A	8/19 @ 17:45	--	14.0	8.48	0.27	533	50.5	236.2
MW-305	8/18 @ 14:35	626.98	19.0	7.23	0.07	654	-162.9	27.27
MW-306	8/18 @ 15:50	620.37	15.0	7.12	0.10	1911	-139.1	0.16
MW-306A	8/18 @ 16:30	620.63	15.5	7.38	1.16	654	21.2	2.71

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: MB
Last revision by: MDB
Checked by: _____
Date: 4/19/2019
Date: 9/2/2020
Date: _____

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\SYXFL3G8\August 2020_Lansing_CCR_Field.xlsx>Data



C5 October 2020 Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-193674-1

Client Project/Site: Lansing Gen Station, 25220070.0

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



*Authorized for release by:
10/30/2020 10:28:00 AM*

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

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	10
Definitions	22
QC Sample Results	23
QC Association	26
Chronicle	29
Certification Summary	32
Method Summary	33
Chain of Custody	34
Receipt Checklists	39
Field Data Sheets	40

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Job ID: 310-193674-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-193674-1

Comments

No additional comments.

Receipt

The samples were received on 10/22/2020 10:25 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0° C and 2.0° C.

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-193674-1), MW-302 (310-193674-2), MW-303 (310-193674-3), MW-304 (310-193674-4), MW-305 (310-193674-5), MW-306 (310-193674-6), MW-302A (310-193674-7), MW-304A (310-193674-8), MW-306A (310-193674-9), MW-20 (310-193674-10) and MW-6 (310-193674-11). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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



Sample Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-193674-1	MW-301	Water	10/19/20 14:10	10/22/20 10:25	
310-193674-2	MW-302	Water	10/19/20 13:55	10/22/20 10:25	
310-193674-3	MW-303	Water	10/19/20 16:15	10/22/20 10:25	
310-193674-4	MW-304	Water	10/19/20 11:00	10/22/20 10:25	
310-193674-5	MW-305	Water	10/20/20 11:20	10/22/20 10:25	
310-193674-6	MW-306	Water	10/20/20 09:20	10/22/20 10:25	
310-193674-7	MW-302A	Water	10/19/20 15:40	10/22/20 10:25	
310-193674-8	MW-304A	Water	10/19/20 11:30	10/22/20 10:25	
310-193674-9	MW-306A	Water	10/20/20 09:10	10/22/20 10:25	
310-193674-10	MW-20	Water	10/20/20 11:30	10/22/20 10:25	
310-193674-11	MW-6	Water	10/20/20 13:15	10/22/20 10:25	
310-193674-12	FIELD BLANK	Water	10/19/20 13:15	10/22/20 10:25	

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-301

Lab Sample ID: 310-193674-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	48		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	6.0		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	150		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	260		100	80	ug/L	1		6020A	Total/NA
Calcium	57		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	7.9	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	7.5		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	280		30	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	624.42				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-97.0				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.42				mg/L	1		Field Sampling	Total/NA
pH, Field	8.06				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	488.8				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.70				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.75				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-193674-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	48		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	630		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	640		100	80	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.86		0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	490		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	627.14				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-182.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.06				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1074				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.40				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.96				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-193674-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	20		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	3.2		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	190		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	370		100	80	ug/L	1		6020A	Total/NA
Calcium	34		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.098	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	9.5	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	10		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	180		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-303 (Continued)

Lab Sample ID: 310-193674-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ground Water Elevation	636.96				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	38.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.58				mg/L	1		Field Sampling	Total/NA
pH, Field	7.77				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	340.3				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	23.50				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: 310-193674-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.2		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	16		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	42		2.0	0.28	ug/L	1		6020A	Total/NA
Calcium	66		0.50	0.19	mg/L	1		6020A	Total/NA
Total Dissolved Solids	270		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	621.40				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	155.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	6.84				mg/L	1		Field Sampling	Total/NA
pH, Field	7.16				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	601.9				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.80				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.42				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-193674-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.0		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	5.6		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	200		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	220		100	80	ug/L	1		6020A	Total/NA
Calcium	76		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.12	J	0.50	0.091	ug/L	1		6020A	Total/NA
Total Dissolved Solids	320		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	626.54				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-145.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.22				mg/L	1		Field Sampling	Total/NA
pH, Field	7.24				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	634				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.60				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.65				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-193674-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	27		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	220		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	10		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	250		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	720		100	80	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-306 (Continued)

Lab Sample ID: 310-193674-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	260		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.24	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	26		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	1100		150	130	mg/L	1		SM 2540C	Total/NA
pH	6.8	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	619.92				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-142.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.26				mg/L	1		Field Sampling	Total/NA
pH, Field	6.88				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1832				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.20				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	3.08				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302A

Lab Sample ID: 310-193674-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.0		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	47		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	46		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	160		100	80	ug/L	1		6020A	Total/NA
Calcium	72		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	1.2	J	5.0	1.1	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	623.03				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	125.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	6.46				mg/L	1		Field Sampling	Total/NA
pH, Field	7.33				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	650.1				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.40				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.58				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A

Lab Sample ID: 310-193674-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	76		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	28		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	1700		100	80	ug/L	1		6020A	Total/NA
Cadmium	0.073	J	0.10	0.049	ug/L	1		6020A	Total/NA
Calcium	35		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.43	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.48	J	0.50	0.11	ug/L	1		6020A	Total/NA
Molybdenum	130		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	310		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	624.41				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	162.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.78				mg/L	1		Field Sampling	Total/NA
pH, Field	7.89				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	547.4				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.10				Degrees C	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-304A (Continued)

Lab Sample ID: 310-193674-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Turbidity, Field	90.29				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A

Lab Sample ID: 310-193674-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.2		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	41		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	58		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	280		100	80	ug/L	1		6020A	Total/NA
Calcium	76		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.22	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	620.17				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-38.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.3				mg/L	1		Field Sampling	Total/NA
pH, Field	7.18				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	681				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.40				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.56				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-20

Lab Sample ID: 310-193674-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.3		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	360		5.0	3.6	mg/L	5		9056A	Total/NA
Arsenic	4.3		2.0	0.88	ug/L	1		6020A	Total/NA
Barium	110		2.0	0.28	ug/L	1		6020A	Total/NA
Boron	3000		100	80	ug/L	1		6020A	Total/NA
Calcium	150		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.86		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	3.4	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	17		2.0	1.1	ug/L	1		6020A	Total/NA
Total Dissolved Solids	790		30	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	649.50				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-119.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.17				mg/L	1		Field Sampling	Total/NA
pH, Field	7.69				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1132				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.30				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-6

Lab Sample ID: 310-193674-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.6		5.0	2.0	mg/L	5		9056A	Total/NA
Sulfate	25		5.0	3.6	mg/L	5		9056A	Total/NA
Barium	45		2.0	0.28	ug/L	1		6020A	Total/NA
Calcium	69		0.50	0.19	mg/L	1		6020A	Total/NA
Total Dissolved Solids	300		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

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-6 (Continued)

Lab Sample ID: 310-193674-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ground Water Elevation	673.37				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	68.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	8.23				mg/L	1		Field Sampling	Total/NA
pH, Field	7.42				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	575.5				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.70				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: 310-193674-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-301

Lab Sample ID: 310-193674-1

Date Collected: 10/19/20 14:10

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.0	mg/L			10/24/20 16:52	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 16:52	5
Sulfate	48		5.0	3.6	mg/L			10/24/20 16:52	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 20:42	1
Barium	150		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 20:42	1
Boron	260		100	80	ug/L		10/23/20 08:00	10/29/20 20:42	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 20:42	1
Calcium	57		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 20:42	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:42	1
Cobalt	0.11	J	0.50	0.091	ug/L		10/23/20 08:00	10/29/20 20:42	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 20:42	1
Lithium	7.9	J	10	2.5	ug/L		10/23/20 08:00	10/29/20 20:42	1
Molybdenum	7.5		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:42	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 20:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	280		30	26	mg/L			10/23/20 15:19	1
pH	8.1	HF	0.1	0.1	SU			10/22/20 16:17	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	624.42				ft			10/19/20 14:10	1
Oxidation Reduction Potential	-97.0				millivolts			10/19/20 14:10	1
Oxygen, Dissolved, Client Supplied	0.42				mg/L			10/19/20 14:10	1
pH, Field	8.06				SU			10/19/20 14:10	1
Specific Conductance, Field	488.8				umhos/cm			10/19/20 14:10	1
Temperature, Field	14.70				Degrees C			10/19/20 14:10	1
Turbidity, Field	0.75				NTU			10/19/20 14:10	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-302

Lab Sample ID: 310-193674-2

Date Collected: 10/19/20 13:55

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		5.0	2.0	mg/L			10/24/20 17:38	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 17:38	5
Sulfate	<3.6		5.0	3.6	mg/L			10/24/20 17:38	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	48		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 20:44	1
Barium	630		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 20:44	1
Boron	640		100	80	ug/L		10/23/20 08:00	10/29/20 20:44	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 20:44	1
Calcium	110		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 20:44	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:44	1
Cobalt	0.86		0.50	0.091	ug/L		10/23/20 08:00	10/29/20 20:44	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 20:44	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 20:44	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:44	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 20:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	490		30	26	mg/L			10/23/20 15:19	1
pH	7.1	HF	0.1	0.1	SU			10/22/20 16:00	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	627.14				ft			10/19/20 13:55	1
Oxidation Reduction Potential	-182.5				millivolts			10/19/20 13:55	1
Oxygen, Dissolved, Client Supplied	0.10				mg/L			10/19/20 13:55	1
pH, Field	7.06				SU			10/19/20 13:55	1
Specific Conductance, Field	1074				umhos/cm			10/19/20 13:55	1
Temperature, Field	14.40				Degrees C			10/19/20 13:55	1
Turbidity, Field	2.96				NTU			10/19/20 13:55	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-303

Lab Sample ID: 310-193674-3

Date Collected: 10/19/20 16:15

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.0	mg/L			10/24/20 17:54	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 17:54	5
Sulfate	20		5.0	3.6	mg/L			10/24/20 17:54	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.2		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 20:47	1
Barium	190		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 20:47	1
Boron	370		100	80	ug/L		10/23/20 08:00	10/29/20 20:47	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 20:47	1
Calcium	34		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 20:47	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:47	1
Cobalt	0.098	J	0.50	0.091	ug/L		10/23/20 08:00	10/29/20 20:47	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 20:47	1
Lithium	9.5	J	10	2.5	ug/L		10/23/20 08:00	10/29/20 20:47	1
Molybdenum	10		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:47	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	180		30	26	mg/L			10/23/20 15:19	1
pH	7.9	HF	0.1	0.1	SU			10/22/20 15:58	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	636.96				ft			10/19/20 16:15	1
Oxidation Reduction Potential	38.4				millivolts			10/19/20 16:15	1
Oxygen, Dissolved, Client Supplied	0.58				mg/L			10/19/20 16:15	1
pH, Field	7.77				SU			10/19/20 16:15	1
Specific Conductance, Field	340.3				umhos/cm			10/19/20 16:15	1
Temperature, Field	23.50				Degrees C			10/19/20 16:15	1
Turbidity, Field	0.00				NTU			10/19/20 16:15	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-304

Lab Sample ID: 310-193674-4

Date Collected: 10/19/20 11:00

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.2		5.0	2.0	mg/L			10/24/20 18:10	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 18:10	5
Sulfate	16		5.0	3.6	mg/L			10/24/20 18:10	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 20:50	1
Barium	42		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 20:50	1
Boron	<80		100	80	ug/L		10/23/20 08:00	10/29/20 20:50	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 20:50	1
Calcium	66		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 20:50	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:50	1
Cobalt	<0.091		0.50	0.091	ug/L		10/23/20 08:00	10/29/20 20:50	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 20:50	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 20:50	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:50	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 20:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	270		30	26	mg/L			10/23/20 15:19	1
pH	7.3	HF	0.1	0.1	SU			10/22/20 15:56	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	621.40				ft			10/19/20 11:00	1
Oxidation Reduction Potential	155.6				millivolts			10/19/20 11:00	1
Oxygen, Dissolved, Client Supplied	6.84				mg/L			10/19/20 11:00	1
pH, Field	7.16				SU			10/19/20 11:00	1
Specific Conductance, Field	601.9				umhos/cm			10/19/20 11:00	1
Temperature, Field	11.80				Degrees C			10/19/20 11:00	1
Turbidity, Field	0.42				NTU			10/19/20 11:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-305

Lab Sample ID: 310-193674-5

Date Collected: 10/20/20 11:20

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.0		5.0	2.0	mg/L			10/24/20 18:25	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 18:25	5
Sulfate	<3.6		5.0	3.6	mg/L			10/24/20 18:25	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.6		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 20:55	1
Barium	200		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 20:55	1
Boron	220		100	80	ug/L		10/23/20 08:00	10/29/20 20:55	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 20:55	1
Calcium	76		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 20:55	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:55	1
Cobalt	0.12	J	0.50	0.091	ug/L		10/23/20 08:00	10/29/20 20:55	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 20:55	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 20:55	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 20:55	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 20:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		30	26	mg/L			10/23/20 15:31	1
pH	7.2	HF	0.1	0.1	SU			10/22/20 15:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	626.54				ft			10/20/20 11:20	1
Oxidation Reduction Potential	-145.4				millivolts			10/20/20 11:20	1
Oxygen, Dissolved, Client Supplied	0.22				mg/L			10/20/20 11:20	1
pH, Field	7.24				SU			10/20/20 11:20	1
Specific Conductance, Field	634				umhos/cm			10/20/20 11:20	1
Temperature, Field	15.60				Degrees C			10/20/20 11:20	1
Turbidity, Field	3.65				NTU			10/20/20 11:20	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-306

Lab Sample ID: 310-193674-6

Date Collected: 10/20/20 09:20

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		5.0	2.0	mg/L			10/24/20 18:41	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 18:41	5
Sulfate	220		5.0	3.6	mg/L			10/24/20 18:41	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 21:08	1
Barium	250		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 21:08	1
Boron	720		100	80	ug/L		10/23/20 08:00	10/29/20 21:08	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 21:08	1
Calcium	260		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 21:08	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:08	1
Cobalt	0.24	J	0.50	0.091	ug/L		10/23/20 08:00	10/29/20 21:08	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 21:08	1
Lithium	26		10	2.5	ug/L		10/23/20 08:00	10/29/20 21:08	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:08	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 21:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		150	130	mg/L			10/23/20 15:31	1
pH	6.8	HF	0.1	0.1	SU			10/22/20 15:39	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	619.92				ft			10/20/20 09:20	1
Oxidation Reduction Potential	-142.3				millivolts			10/20/20 09:20	1
Oxygen, Dissolved, Client Supplied	0.26				mg/L			10/20/20 09:20	1
pH, Field	6.88				SU			10/20/20 09:20	1
Specific Conductance, Field	1832				umhos/cm			10/20/20 09:20	1
Temperature, Field	16.20				Degrees C			10/20/20 09:20	1
Turbidity, Field	3.08				NTU			10/20/20 09:20	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-302A

Lab Sample ID: 310-193674-7

Date Collected: 10/19/20 15:40

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.0		5.0	2.0	mg/L			10/24/20 19:27	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 19:27	5
Sulfate	47		5.0	3.6	mg/L			10/24/20 19:27	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 21:11	1
Barium	46		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 21:11	1
Boron	160		100	80	ug/L		10/23/20 08:00	10/29/20 21:11	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 21:11	1
Calcium	72		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 21:11	1
Chromium	1.2 J		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:11	1
Cobalt	<0.091		0.50	0.091	ug/L		10/23/20 08:00	10/29/20 21:11	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 21:11	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 21:11	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:11	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 21:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		30	26	mg/L			10/23/20 15:19	1
pH	7.4	HF	0.1	0.1	SU			10/22/20 16:12	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	623.03				ft			10/19/20 15:40	1
Oxidation Reduction Potential	125.4				millivolts			10/19/20 15:40	1
Oxygen, Dissolved, Client Supplied	6.46				mg/L			10/19/20 15:40	1
pH, Field	7.33				SU			10/19/20 15:40	1
Specific Conductance, Field	650.1				umhos/cm			10/19/20 15:40	1
Temperature, Field	11.40				Degrees C			10/19/20 15:40	1
Turbidity, Field	0.58				NTU			10/19/20 15:40	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-304A

Lab Sample ID: 310-193674-8

Date Collected: 10/19/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.0	mg/L			10/24/20 19:43	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 19:43	5
Sulfate	76		5.0	3.6	mg/L			10/24/20 19:43	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 21:13	1
Barium	28		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 21:13	1
Boron	1700		100	80	ug/L		10/23/20 08:00	10/29/20 21:13	1
Cadmium	0.073	J	0.10	0.049	ug/L		10/23/20 08:00	10/29/20 21:13	1
Calcium	35		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 21:13	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:13	1
Cobalt	0.43	J	0.50	0.091	ug/L		10/23/20 08:00	10/29/20 21:13	1
Lead	0.48	J	0.50	0.11	ug/L		10/23/20 08:00	10/29/20 21:13	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 21:13	1
Molybdenum	130		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:13	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 21:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	310		30	26	mg/L			10/23/20 15:19	1
pH	8.0	HF	0.1	0.1	SU			10/22/20 15:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	624.41				ft			10/19/20 11:30	1
Oxidation Reduction Potential	162.7				millivolts			10/19/20 11:30	1
Oxygen, Dissolved, Client Supplied	0.78				mg/L			10/19/20 11:30	1
pH, Field	7.89				SU			10/19/20 11:30	1
Specific Conductance, Field	547.4				umhos/cm			10/19/20 11:30	1
Temperature, Field	10.10				Degrees C			10/19/20 11:30	1
Turbidity, Field	90.29				NTU			10/19/20 11:30	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-306A

Lab Sample ID: 310-193674-9

Date Collected: 10/20/20 09:10

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.2		5.0	2.0	mg/L			10/24/20 19:58	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 19:58	5
Sulfate	41		5.0	3.6	mg/L			10/24/20 19:58	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 21:16	1
Barium	58		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 21:16	1
Boron	280		100	80	ug/L		10/23/20 08:00	10/29/20 21:16	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 21:16	1
Calcium	76		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 21:16	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:16	1
Cobalt	0.22	J	0.50	0.091	ug/L		10/23/20 08:00	10/29/20 21:16	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 21:16	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 21:16	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:16	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 21:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	350		30	26	mg/L			10/23/20 15:31	1
pH	7.4	HF	0.1	0.1	SU			10/22/20 15:48	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	620.17				ft			10/20/20 09:10	1
Oxidation Reduction Potential	-38.5				millivolts			10/20/20 09:10	1
Oxygen, Dissolved, Client Supplied	1.3				mg/L			10/20/20 09:10	1
pH, Field	7.18				SU			10/20/20 09:10	1
Specific Conductance, Field	681				umhos/cm			10/20/20 09:10	1
Temperature, Field	14.40				Degrees C			10/20/20 09:10	1
Turbidity, Field	1.56				NTU			10/20/20 09:10	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-20

Lab Sample ID: 310-193674-10

Date Collected: 10/20/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.3		5.0	2.0	mg/L			10/24/20 20:14	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 20:14	5
Sulfate	360		5.0	3.6	mg/L			10/24/20 20:14	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.3		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 21:19	1
Barium	110		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 21:19	1
Boron	3000		100	80	ug/L		10/23/20 08:00	10/29/20 21:19	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 21:19	1
Calcium	150		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 21:19	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:19	1
Cobalt	0.86		0.50	0.091	ug/L		10/23/20 08:00	10/29/20 21:19	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 21:19	1
Lithium	3.4	J	10	2.5	ug/L		10/23/20 08:00	10/29/20 21:19	1
Molybdenum	17		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:19	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 21:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	790		30	26	mg/L			10/23/20 15:31	1
pH	7.7	HF	0.1	0.1	SU			10/22/20 15:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	649.50				ft			10/20/20 11:30	1
Oxidation Reduction Potential	-119.4				millivolts			10/20/20 11:30	1
Oxygen, Dissolved, Client Supplied	0.17				mg/L			10/20/20 11:30	1
pH, Field	7.69				SU			10/20/20 11:30	1
Specific Conductance, Field	1132				umhos/cm			10/20/20 11:30	1
Temperature, Field	12.30				Degrees C			10/20/20 11:30	1
Turbidity, Field	0.02				NTU			10/20/20 11:30	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-6

Lab Sample ID: 310-193674-11

Date Collected: 10/20/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.6		5.0	2.0	mg/L			10/24/20 20:31	5
Fluoride	<0.23		0.50	0.23	mg/L			10/24/20 20:31	5
Sulfate	25		5.0	3.6	mg/L			10/24/20 20:31	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 21:21	1
Barium	45		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 21:21	1
Boron	<80		100	80	ug/L		10/23/20 08:00	10/29/20 21:21	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 21:21	1
Calcium	69		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 21:21	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:21	1
Cobalt	<0.091		0.50	0.091	ug/L		10/23/20 08:00	10/29/20 21:21	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 21:21	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 21:21	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:21	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 21:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		30	26	mg/L			10/23/20 15:31	1
pH	7.4	HF	0.1	0.1	SU			10/22/20 15:43	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	673.37				ft			10/20/20 13:15	1
Oxidation Reduction Potential	68.5				millivolts			10/20/20 13:15	1
Oxygen, Dissolved, Client Supplied	8.23				mg/L			10/20/20 13:15	1
pH, Field	7.42				SU			10/20/20 13:15	1
Specific Conductance, Field	575.5				umhos/cm			10/20/20 13:15	1
Temperature, Field	9.70				Degrees C			10/20/20 13:15	1
Turbidity, Field	0.00				NTU			10/20/20 13:15	1

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: FIELD BLANK

Lab Sample ID: 310-193674-12

Date Collected: 10/19/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			10/24/20 20:47	1
Fluoride	<0.046		0.10	0.046	mg/L			10/24/20 20:47	1
Sulfate	<0.71		1.0	0.71	mg/L			10/24/20 20:47	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 21:24	1
Barium	<0.28		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 21:24	1
Boron	<80		100	80	ug/L		10/23/20 08:00	10/29/20 21:24	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 21:24	1
Calcium	<0.19		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 21:24	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:24	1
Cobalt	<0.091		0.50	0.091	ug/L		10/23/20 08:00	10/29/20 21:24	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 21:24	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 21:24	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 21:24	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 21:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			10/23/20 15:19	1
pH	6.0	HF	0.1	0.1	SU			10/22/20 16:15	1



Definitions/Glossary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Qualifiers

Metals

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

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-297008/3
Matrix: Water
Analysis Batch: 297008

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.40		1.0	0.40	mg/L			10/24/20 16:21	1
Fluoride	<0.046		0.10	0.046	mg/L			10/24/20 16:21	1
Sulfate	<0.71		1.0	0.71	mg/L			10/24/20 16:21	1

Lab Sample ID: LCS 310-297008/4
Matrix: Water
Analysis Batch: 297008

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	9.83		mg/L		98	90 - 110
Fluoride	2.00	2.10		mg/L		105	90 - 110
Sulfate	10.0	10.0		mg/L		100	90 - 110

Lab Sample ID: 310-193674-1 MS
Matrix: Water
Analysis Batch: 297008

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	15		25.0	40.1		mg/L		102	80 - 120
Fluoride	<0.23		5.00	5.62		mg/L		112	80 - 120
Sulfate	48		25.0	73.0		mg/L		100	80 - 120

Lab Sample ID: 310-193674-1 MSD
Matrix: Water
Analysis Batch: 297008

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	15		25.0	39.2		mg/L		98	80 - 120	2	15
Fluoride	<0.23		5.00	5.43		mg/L		109	80 - 120	3	15
Sulfate	48		25.0	72.8		mg/L		99	80 - 120	0	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-296668/1-A
Matrix: Water
Analysis Batch: 297620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 296668

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/23/20 08:00	10/29/20 19:57	1
Barium	<0.28		2.0	0.28	ug/L		10/23/20 08:00	10/29/20 19:57	1
Boron	<80		100	80	ug/L		10/23/20 08:00	10/29/20 19:57	1
Cadmium	<0.049		0.10	0.049	ug/L		10/23/20 08:00	10/29/20 19:57	1
Calcium	<0.19		0.50	0.19	mg/L		10/23/20 08:00	10/29/20 19:57	1
Chromium	<1.1		5.0	1.1	ug/L		10/23/20 08:00	10/29/20 19:57	1
Cobalt	<0.091		0.50	0.091	ug/L		10/23/20 08:00	10/29/20 19:57	1
Lead	<0.11		0.50	0.11	ug/L		10/23/20 08:00	10/29/20 19:57	1
Lithium	<2.5		10	2.5	ug/L		10/23/20 08:00	10/29/20 19:57	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/23/20 08:00	10/29/20 19:57	1
Selenium	<1.0		5.0	1.0	ug/L		10/23/20 08:00	10/29/20 19:57	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

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

Lab Sample ID: LCS 310-296668/2-A
Matrix: Water
Analysis Batch: 297620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 296668

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	200	215		ug/L		108	80 - 120
Barium	100	103		ug/L		103	80 - 120
Boron	200	181		ug/L		90	80 - 120
Cadmium	100	102		ug/L		102	80 - 120
Calcium	2.00	1.77		mg/L		88	80 - 120
Chromium	100	101		ug/L		101	80 - 120
Cobalt	100	103		ug/L		103	80 - 120
Lead	200	210		ug/L		105	80 - 120
Lithium	200	207		ug/L		104	80 - 120
Molybdenum	200	196		ug/L		98	80 - 120
Selenium	400	408		ug/L		102	80 - 120

Lab Sample ID: 310-193674-4 DU
Matrix: Water
Analysis Batch: 297620

Client Sample ID: MW-304
Prep Type: Total/NA
Prep Batch: 296668

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Arsenic	<0.88		<0.88		ug/L		NC	20
Barium	42		41.6		ug/L		0.9	20
Boron	<80		<80		ug/L		NC	20
Cadmium	<0.049		<0.049		ug/L		NC	20
Calcium	66		66.1		mg/L		0.08	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	<0.091		<0.091		ug/L		NC	20
Lead	<0.11		<0.11		ug/L		NC	20
Lithium	<2.5		<2.5		ug/L		NC	20
Molybdenum	<1.1		<1.1		ug/L		NC	20
Selenium	<1.0		<1.0		ug/L		NC	20

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

Lab Sample ID: MB 310-296824/1
Matrix: Water
Analysis Batch: 296824

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			10/23/20 15:19	1

Lab Sample ID: LCS 310-296824/2
Matrix: Water
Analysis Batch: 296824

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	1000	974		mg/L		97	90 - 110

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

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

Lab Sample ID: 310-193674-12 DU
Matrix: Water
Analysis Batch: 296824

Client Sample ID: FIELD BLANK
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	<26		<26		mg/L		NC	24

Lab Sample ID: MB 310-296825/1
Matrix: Water
Analysis Batch: 296825

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			10/23/20 15:31	1

Lab Sample ID: LCS 310-296825/2
Matrix: Water
Analysis Batch: 296825

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	966		mg/L		97	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-296607/19
Matrix: Water
Analysis Batch: 296607

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		99	98 - 102

Lab Sample ID: 310-193674-6 DU
Matrix: Water
Analysis Batch: 296607

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.8	HF	6.9		SU		0.1	20

QC Association Summary

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

HPLC/IC

Analysis Batch: 297008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	9056A	
310-193674-2	MW-302	Total/NA	Water	9056A	
310-193674-3	MW-303	Total/NA	Water	9056A	
310-193674-4	MW-304	Total/NA	Water	9056A	
310-193674-5	MW-305	Total/NA	Water	9056A	
310-193674-6	MW-306	Total/NA	Water	9056A	
310-193674-7	MW-302A	Total/NA	Water	9056A	
310-193674-8	MW-304A	Total/NA	Water	9056A	
310-193674-9	MW-306A	Total/NA	Water	9056A	
310-193674-10	MW-20	Total/NA	Water	9056A	
310-193674-11	MW-6	Total/NA	Water	9056A	
310-193674-12	FIELD BLANK	Total/NA	Water	9056A	
MB 310-297008/3	Method Blank	Total/NA	Water	9056A	
LCS 310-297008/4	Lab Control Sample	Total/NA	Water	9056A	
310-193674-1 MS	MW-301	Total/NA	Water	9056A	
310-193674-1 MSD	MW-301	Total/NA	Water	9056A	

Metals

Prep Batch: 296668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	3010A	
310-193674-2	MW-302	Total/NA	Water	3010A	
310-193674-3	MW-303	Total/NA	Water	3010A	
310-193674-4	MW-304	Total/NA	Water	3010A	
310-193674-5	MW-305	Total/NA	Water	3010A	
310-193674-6	MW-306	Total/NA	Water	3010A	
310-193674-7	MW-302A	Total/NA	Water	3010A	
310-193674-8	MW-304A	Total/NA	Water	3010A	
310-193674-9	MW-306A	Total/NA	Water	3010A	
310-193674-10	MW-20	Total/NA	Water	3010A	
310-193674-11	MW-6	Total/NA	Water	3010A	
310-193674-12	FIELD BLANK	Total/NA	Water	3010A	
MB 310-296668/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-296668/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-193674-4 DU	MW-304	Total/NA	Water	3010A	

Analysis Batch: 297620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	6020A	296668
310-193674-2	MW-302	Total/NA	Water	6020A	296668
310-193674-3	MW-303	Total/NA	Water	6020A	296668
310-193674-4	MW-304	Total/NA	Water	6020A	296668
310-193674-5	MW-305	Total/NA	Water	6020A	296668
310-193674-6	MW-306	Total/NA	Water	6020A	296668
310-193674-7	MW-302A	Total/NA	Water	6020A	296668
310-193674-8	MW-304A	Total/NA	Water	6020A	296668
310-193674-9	MW-306A	Total/NA	Water	6020A	296668
310-193674-10	MW-20	Total/NA	Water	6020A	296668
310-193674-11	MW-6	Total/NA	Water	6020A	296668
310-193674-12	FIELD BLANK	Total/NA	Water	6020A	296668

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Metals (Continued)

Analysis Batch: 297620 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-296668/1-A	Method Blank	Total/NA	Water	6020A	296668
LCS 310-296668/2-A	Lab Control Sample	Total/NA	Water	6020A	296668
310-193674-4 DU	MW-304	Total/NA	Water	6020A	296668

General Chemistry

Analysis Batch: 296607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-193674-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-193674-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-193674-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-193674-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-193674-6	MW-306	Total/NA	Water	SM 4500 H+ B	
310-193674-7	MW-302A	Total/NA	Water	SM 4500 H+ B	
310-193674-8	MW-304A	Total/NA	Water	SM 4500 H+ B	
310-193674-9	MW-306A	Total/NA	Water	SM 4500 H+ B	
310-193674-10	MW-20	Total/NA	Water	SM 4500 H+ B	
310-193674-11	MW-6	Total/NA	Water	SM 4500 H+ B	
310-193674-12	FIELD BLANK	Total/NA	Water	SM 4500 H+ B	
LCS 310-296607/19	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-193674-6 DU	MW-306	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 296824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	SM 2540C	
310-193674-2	MW-302	Total/NA	Water	SM 2540C	
310-193674-3	MW-303	Total/NA	Water	SM 2540C	
310-193674-4	MW-304	Total/NA	Water	SM 2540C	
310-193674-7	MW-302A	Total/NA	Water	SM 2540C	
310-193674-8	MW-304A	Total/NA	Water	SM 2540C	
310-193674-12	FIELD BLANK	Total/NA	Water	SM 2540C	
MB 310-296824/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-296824/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-193674-12 DU	FIELD BLANK	Total/NA	Water	SM 2540C	

Analysis Batch: 296825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-5	MW-305	Total/NA	Water	SM 2540C	
310-193674-6	MW-306	Total/NA	Water	SM 2540C	
310-193674-9	MW-306A	Total/NA	Water	SM 2540C	
310-193674-10	MW-20	Total/NA	Water	SM 2540C	
310-193674-11	MW-6	Total/NA	Water	SM 2540C	
MB 310-296825/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-296825/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 297220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	Field Sampling	
310-193674-2	MW-302	Total/NA	Water	Field Sampling	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Field Service / Mobile Lab (Continued)

Analysis Batch: 297220 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-3	MW-303	Total/NA	Water	Field Sampling	
310-193674-4	MW-304	Total/NA	Water	Field Sampling	
310-193674-5	MW-305	Total/NA	Water	Field Sampling	
310-193674-6	MW-306	Total/NA	Water	Field Sampling	
310-193674-7	MW-302A	Total/NA	Water	Field Sampling	
310-193674-8	MW-304A	Total/NA	Water	Field Sampling	
310-193674-9	MW-306A	Total/NA	Water	Field Sampling	
310-193674-10	MW-20	Total/NA	Water	Field Sampling	
310-193674-11	MW-6	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-301

Lab Sample ID: 310-193674-1

Date Collected: 10/19/20 14:10

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 16:52	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 20:42	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296824	10/23/20 15:19	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 16:17	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/19/20 14:10	SLD	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-193674-2

Date Collected: 10/19/20 13:55

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 17:38	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 20:44	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296824	10/23/20 15:19	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 16:00	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/19/20 13:55	SLD	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-193674-3

Date Collected: 10/19/20 16:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 17:54	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 20:47	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296824	10/23/20 15:19	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:58	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/19/20 16:15	SLD	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-193674-4

Date Collected: 10/19/20 11:00

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 18:10	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 20:50	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296824	10/23/20 15:19	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:56	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/19/20 11:00	SLD	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-305

Lab Sample ID: 310-193674-5

Date Collected: 10/20/20 11:20

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 18:25	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 20:55	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296825	10/23/20 15:31	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:53	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/20/20 11:20	SLD	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-193674-6

Date Collected: 10/20/20 09:20

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 18:41	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 21:08	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296825	10/23/20 15:31	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:39	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/20/20 09:20	SLD	TAL CF

Client Sample ID: MW-302A

Lab Sample ID: 310-193674-7

Date Collected: 10/19/20 15:40

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 19:27	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 21:11	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296824	10/23/20 15:19	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 16:12	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/19/20 15:40	SLD	TAL CF

Client Sample ID: MW-304A

Lab Sample ID: 310-193674-8

Date Collected: 10/19/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 19:43	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 21:13	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296824	10/23/20 15:19	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:51	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/19/20 11:30	SLD	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Client Sample ID: MW-306A

Lab Sample ID: 310-193674-9

Date Collected: 10/20/20 09:10

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 19:58	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 21:16	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296825	10/23/20 15:31	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:48	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/20/20 09:10	SLD	TAL CF

Client Sample ID: MW-20

Lab Sample ID: 310-193674-10

Date Collected: 10/20/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 20:14	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 21:19	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296825	10/23/20 15:31	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:46	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/20/20 11:30	SLD	TAL CF

Client Sample ID: MW-6

Lab Sample ID: 310-193674-11

Date Collected: 10/20/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	297008	10/24/20 20:31	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 21:21	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296825	10/23/20 15:31	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 15:43	ARG	TAL CF
Total/NA	Analysis	Field Sampling		1	297220	10/20/20 13:15	SLD	TAL CF

Client Sample ID: FIELD BLANK

Lab Sample ID: 310-193674-12

Date Collected: 10/19/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	297008	10/24/20 20:47	CJT	TAL CF
Total/NA	Prep	3010A			296668	10/23/20 08:00	HED	TAL CF
Total/NA	Analysis	6020A		1	297620	10/29/20 21:24	SAD	TAL CF
Total/NA	Analysis	SM 2540C		1	296824	10/23/20 15:19	SAS	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	296607	10/22/20 16:15	ARG	TAL CF

Laboratory References:

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

Eurofins TestAmerica, Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	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

Protocol References:

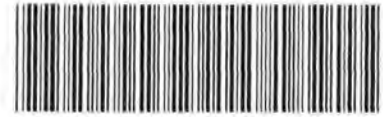
EPA = US Environmental Protection Agency

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



Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS</u>		
City/State: <u>Clive</u> <small>CITY</small> <u>IA</u> <small>STATE</small>	Project: <u>Lansing Gen Station</u>	
Receipt Information		
Date/Time Received: <u>10-22-20</u> <small>DATE</small> <u>1025</u> <small>TIME</small>	Received By: <u>MRH</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>P</u>	Correction Factor (°C): <u>+0.1</u>	
* Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C): <u>0.9</u>	Corrected Temp (°C): <u>0.9</u> <u>1.0</u>	
Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):		
Corrected Temp (°C):		
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		





214

Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS</u>		
City/State: <u>Clive IA</u>	STATE: <u>IA</u>	Project: <u>Lansing Gen Station</u>
Receipt Information		
Date/Time Received: DATE <u>10-22-20</u> TIME <u>1025</u>	Received By: <u>MRH</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>P</u>	Correction Factor (°C): <u>+0.1</u>	
• Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C): <u>1.9</u>	Corrected Temp (°C): <u>1.9</u> 1.9 <u>2.0</u>	
• Sample Container Temperature		
Container(s) used:	CONTAINER 1	CONTAINER 2
Uncorrected Temp (°C):		
Corrected Temp (°C):		
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		

Client Information		Lab # Fredrick, Samaja		COC No 310-54742-16388.1	
Company SCS Engineers		E-Mail fredrick.samaja@eurofins.com		Page Page 1 of 2	
Address 4670 Highman Road, Suite 20		City Cedar Falls		Job #	
State, Zip IA, 50625		Phone		Preservation Codes	
Project Name Lansing Gen Station, 25220070.0		Project # 31011020		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - HNO3 F - H2SO4 G - Ascorbic Acid H - TSP Dodecahydrate I - Ice J - DI Water K - EDTA L - EDA Other:	
Site		SSOW#		M - Hexane N - Nono O - AsNaO2 P - Na2O15 Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 X - other (specify)	
Due Date Requested		Field Filtered Sample (Yes or No)		Total Number of Containers	
TAT Requested (days)		Field Form MS/SD (Yes or No)		Analysis Requested	
PO # 25220070.00		6020A - Metals (11)		904.0 - Radium 228	
WO #		2540C, Caicd, 9056A, ORGM, 28D, S.MAS, 44		903.0 - Radium 226	
Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
10/19/2020		1410		Water	
10/19/2020		1355		Water	
10/19/2020		1615		Water	
10/19/2020		1100		Water	
10/20/2020		1120		Water	
10/20/2020		920		Water	
10/19/2020		1540		Water	
10/19/2020		1130		Water	
10/20/2020		910		Water	
10/20/2020		1130		Water	
10/20/2020		1315		Water	
Sample ID		Matrix (W=water, S=solid, O=wastel, I=liquid, A=air)		Special Instructions/Note:	
MW-301		Water		Special Instructions/Note:	
MW-302		Water		Special Instructions/Note:	
MW-303		Water		Special Instructions/Note:	
MW-304		Water		Special Instructions/Note:	
MW-305		Water		Special Instructions/Note:	
MW-306		Water		Special Instructions/Note:	
MW-302A		Water		Special Instructions/Note:	
MW-304A		Water		Special Instructions/Note:	
MW-306A		Water		Special Instructions/Note:	
MW-20		Water		Special Instructions/Note:	
MW-6		Water		Special Instructions/Note:	
Possible Hazard Identification		Disposal By Lab		Archive For	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Return To Client <input type="checkbox"/>		Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/OC Requirements:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by:		Time:		Method of Shipment:	
Relinquished by: Adam Watson		Date: 10/21/2020 1200		Day/Time	
Relinquished by:		Date/Time		Company	
Relinquished by:		Date/Time		Company	
Custody Seal Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks	



Chain of Custody Record

Client Information Client Contact: Tami Buzska Company: SCS Engineers Address: 8450 Hickman Road, Suite 20 City: Clive State: IA, 50325 Phone: Email: tbuzska@scsengineers.com Project Name: Lansing Gen Station, 25220070.0 Site:		Sampler: Adam Watson Lab PM: Fredrick Sandke Phone: 608-250-9985 E-Mail: sandk.fredrick@eurofins.com		COC No: 31D-54742-16398.2 Page: Page 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: 25220070.00 WO #:		Carrier Tracking No(s): Analysis Requested		Preservation Codes: A - HCL B - NaOH C - 2M Acetate D - Nitric Acid E - HNO3/SON F - MerOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification Field Blank		Sample Date: 10/19/2020 1315 Sample Time:		Perform MS/MSD (Yes or No): Field Filtered Sample (Yes or No): 6020A - Metals (11) X 2540C - Calcd, 9056A, ORGM, 28D, SM4500, H+ X 903.0 - Radium 226 X 904.0 - Radium 228 X	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Matrix (W=water, S=solid, O=wasteoil, BT=tissue, A=air) Water Water		Special Instructions/Note: Total Number of containers:	
Empty Kit Relinquished by: Relinquished by: Adam Watson Relinquished by: Relinquished by:		Date: 10/21/2020 1200 Date/Time:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Custody Seals Intact: Δ Yes Δ No		Date/Time: 10-22-20 1025 Date/Time:		Method of Shipment:	
Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Company:	



Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25220070.00

	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
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													0
	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													0
	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													0
	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													0
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
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
	Calcium	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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-193674-1

Login Number: 193674

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

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

Groundwater Monitoring Results - Field Parameters
Lansing Generating Station / SCS Engineers Project #25220070.0
October 2020

Sample	Sample Date	Groundwater Elevation (ft AMSL)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)
MW-6	10/20 @ 13:15	673.37	9.70	7.42	8.23	575.5	68.5	0.00
MW-20	10/20 @ 11:30	649.50	12.30	7.69	0.17	1132	-119.4	0.02
MW-301	10/19 @ 14:10	624.42	14.70	8.06	0.42	488.8	-97.0	0.75
MW-302	10/19 @ 13:55	627.14	14.40	7.06	0.10	1074	-182.5	2.96
MW-302A	10/19 @ 15:40	623.03	11.40	7.33	6.46	650.1	125.4	0.58
MW-303	10/19 @ 16:15	636.96	23.50	7.77	0.58	340.3	38.4	0.00
MW-304	10/19 @ 11:05	621.40	11.80	7.16	6.84	601.9	155.6	0.42
MW-304A	10/19 @ 11:30	624.41	10.10	7.89	0.78	547.4	162.7	90.29
MW-305	10/20 @ 11:20	626.54	15.60	7.24	0.22	634	-145.4	3.65
MW-306	10/20 @ 9:20	619.92	16.20	6.88	0.26	1832	-142.3	3.08
MW-306A	10/20 @ 9:10	620.17	14.40	7.18	1.3	681	-38.5	1.56

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: MB
 Last revision by: ACW
 Checked by: RM

Date: 4/19/2019
 Date: 10/22/2020
 Date: 10/22/2020

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\NetCache\Content.Outlook\D3RFD1NW\October 2020_Lansing_CCR_Field (002).xlsx>Data

ANALYTICAL REPORT

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

Laboratory Job ID: 310-193674-2

Client Project/Site: Lansing Gen Station, 25220070.0

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
12/28/2020 11:30:13 AM

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

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	5
Detection Summary	6
Client Sample Results	7
Definitions	19
QC Sample Results	20
QC Association	22
Chronicle	23
Certification Summary	26
Method Summary	27
Chain of Custody	28
Receipt Checklists	32
Tracer Carrier Summary	34

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Job ID: 310-193674-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-193674-2

Comments

No additional comments.

Receipt

The samples were received on 10/22/2020 10:25 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0° C and 2.0° C.

RAD

Method 903.0: 903 Prep batch 160-487318 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 (310-193674-1), MW-302 (310-193674-2), MW-303 (310-193674-3), MW-304 (310-193674-4), MW-305 (310-193674-5), MW-306 (310-193674-6), MW-302A (310-193674-7), MW-304A (310-193674-8), MW-306A (310-193674-9), MW-20 (310-193674-10), MW-6 (310-193674-11), FIELD BLANK (310-193674-12), (LCS 160-487318/1-A), (LCSD 160-487318/2-A) and (MB 160-487318/23-A)

Method 904.0: 904 Prep batch 160-487322 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 (310-193674-1), MW-302 (310-193674-2), MW-303 (310-193674-3), MW-304 (310-193674-4), MW-305 (310-193674-5), MW-306 (310-193674-6), MW-302A (310-193674-7), MW-304A (310-193674-8), MW-306A (310-193674-9), MW-20 (310-193674-10), MW-6 (310-193674-11) and FIELD BLANK (310-193674-12)

Method PrecSep_0: Radium 228 Prep Batch 160-487322: Samples 310-193626-10 and 310-193674-2 were prepared at a reduced aliquot due to yellow discoloration: Sample 310-193674-8 was prepared at a reduced aliquot due to a cloudy appearance:

Method PrecSep_0: Radium 228 Prep Batch 160-487322: The following samples were prepared at a reduced aliquot to insure sufficient volume remains if needed for analysis: FIELD BLANK (310-193674-12).

Method PrecSep_0: Radium 228 Prep Batch 160-487322: Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-193674-1), MW-302 (310-193674-2), MW-303 (310-193674-3), MW-304 (310-193674-4), MW-305 (310-193674-5), MW-306 (310-193674-6), MW-302A (310-193674-7), MW-304A (310-193674-8), MW-306A (310-193674-9), MW-20 (310-193674-10), MW-6 (310-193674-11) and FIELD BLANK (310-193674-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium 228 Prep Batch 160-487322: The following sample was double spiked with Ba Carrier_00080: MW-6 (310-193674-11).

Method PrecSep_0: Radium 228 prep batch 160-487322 The Barium carrier recovery is outside the upper control limit (110%) for the following sample: MW-6 (310-193674-11). This sample was spiked twice with barium carrier and that is why the recovery is so high.

Method PrecSep-21: Radium 226 Prep Batch 160-487318: Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-193674-1), MW-302 (310-193674-2), MW-303 (310-193674-3), MW-304 (310-193674-4), MW-305 (310-193674-5), MW-306 (310-193674-6), MW-302A (310-193674-7), MW-304A (310-193674-8), MW-306A (310-193674-9), MW-20 (310-193674-10), MW-6 (310-193674-11) and FIELD BLANK (310-193674-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-487318: The following samples were prepared at a reduced aliquot to insure sufficient volume remains if needed for analysis: FIELD BLANK (310-193674-12).

Method PrecSep-21: Radium 226 Prep Batch 160-487318: Samples 310-193626-10 and 310-193674-2 were prepared at a reduced aliquot due to yellow discoloration: Sample 310-193674-8 was prepared at a reduced aliquot due to a cloudy appearance:

Method PrecSep-21: Radium 226 Prep Batch 160-487318: The following sample was double spiked with Ba Carrier_00080: MW-6

Case Narrative

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Job ID: 310-193674-2 (Continued)

Laboratory: Eurofins TestAmerica, Cedar Falls (Continued)

(310-193674-11).

Method PrecSep-21: Radium 226 prep batch 160-487318 The Barium carrier recovery is outside the upper control limit (110%) for the following sample: MW-6 (310-193674-11). This sample was spiked twice with barium carrier and that is why the recovery is so high.

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

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Sample Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-193674-1	MW-301	Water	10/19/20 14:10	10/22/20 10:25	
310-193674-2	MW-302	Water	10/19/20 13:55	10/22/20 10:25	
310-193674-3	MW-303	Water	10/19/20 16:15	10/22/20 10:25	
310-193674-4	MW-304	Water	10/19/20 11:00	10/22/20 10:25	
310-193674-5	MW-305	Water	10/20/20 11:20	10/22/20 10:25	
310-193674-6	MW-306	Water	10/20/20 09:20	10/22/20 10:25	
310-193674-7	MW-302A	Water	10/19/20 15:40	10/22/20 10:25	
310-193674-8	MW-304A	Water	10/19/20 11:30	10/22/20 10:25	
310-193674-9	MW-306A	Water	10/20/20 09:10	10/22/20 10:25	
310-193674-10	MW-20	Water	10/20/20 11:30	10/22/20 10:25	
310-193674-11	MW-6	Water	10/20/20 13:15	10/22/20 10:25	
310-193674-12	FIELD BLANK	Water	10/19/20 13:15	10/22/20 10:25	

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-301	Lab Sample ID: 310-193674-1
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-302	Lab Sample ID: 310-193674-2
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-303	Lab Sample ID: 310-193674-3
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-304	Lab Sample ID: 310-193674-4
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-305	Lab Sample ID: 310-193674-5
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-306	Lab Sample ID: 310-193674-6
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-302A	Lab Sample ID: 310-193674-7
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-304A	Lab Sample ID: 310-193674-8
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-306A	Lab Sample ID: 310-193674-9
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-20	Lab Sample ID: 310-193674-10
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-6	Lab Sample ID: 310-193674-11
<input type="checkbox"/> No Detections.	
Client Sample ID: FIELD BLANK	Lab Sample ID: 310-193674-12
<input type="checkbox"/> No Detections.	

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-301

Lab Sample ID: 310-193674-1

Date Collected: 10/19/20 14:10

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.339	U	0.306	0.308	1.00	0.477	pCi/L	10/30/20 09:53	12/21/20 20:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.6		40 - 110					10/30/20 09:53	12/21/20 20:26	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	0.550		0.307	0.311	1.00	0.459	pCi/L	10/30/20 10:37	12/21/20 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.6		40 - 110					10/30/20 10:37	12/21/20 12:13	1
Y Carrier	81.5		40 - 110					10/30/20 10:37	12/21/20 12:13	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.889		0.433	0.438	5.00	0.477	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-302
Date Collected: 10/19/20 13:55
Date Received: 10/22/20 10:25

Lab Sample ID: 310-193674-2
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	0.531	U	0.391	0.394	1.00	0.579	pCi/L	10/30/20 09:53	12/21/20 20:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.6		40 - 110					10/30/20 09:53	12/21/20 20:27	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	0.880		0.440	0.447	1.00	0.648	pCi/L	10/30/20 10:37	12/21/20 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.6		40 - 110					10/30/20 10:37	12/21/20 12:13	1
Y Carrier	82.2		40 - 110					10/30/20 10:37	12/21/20 12:13	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.41		0.589	0.596	5.00	0.648	pCi/L		12/28/20 11:07	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-303

Lab Sample ID: 310-193674-3

Date Collected: 10/19/20 16:15

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.217	U	0.243	0.244	1.00	0.392	pCi/L	10/30/20 09:53	12/21/20 20:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	66.3		40 - 110					10/30/20 09:53	12/21/20 20:27	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	0.0528	U	0.320	0.320	1.00	0.567	pCi/L	10/30/20 10:37	12/21/20 12:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	66.3		40 - 110					10/30/20 10:37	12/21/20 12:16	1
Y Carrier	79.6		40 - 110					10/30/20 10:37	12/21/20 12:16	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	0.270	U	0.402	0.402	5.00	0.567	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-304

Lab Sample ID: 310-193674-4

Date Collected: 10/19/20 11:00

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0496	U	0.164	0.164	1.00	0.351	pCi/L	10/30/20 09:53	12/22/20 07:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.1		40 - 110					10/30/20 09:53	12/22/20 07:18	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	0.139	U	0.303	0.303	1.00	0.519	pCi/L	10/30/20 10:37	12/21/20 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.1		40 - 110					10/30/20 10:37	12/21/20 12:13	1
Y Carrier	80.7		40 - 110					10/30/20 10:37	12/21/20 12:13	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.139	U	0.345	0.345	5.00	0.519	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-305

Lab Sample ID: 310-193674-5

Date Collected: 10/20/20 11:20

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.296	U	0.240	0.241	1.00	0.358	pCi/L	10/30/20 09:53	12/22/20 07:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.0		40 - 110					10/30/20 09:53	12/22/20 07:18	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	0.0809	U	0.305	0.305	1.00	0.535	pCi/L	10/30/20 10:37	12/21/20 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.0		40 - 110					10/30/20 10:37	12/21/20 12:13	1
Y Carrier	81.9		40 - 110					10/30/20 10:37	12/21/20 12:13	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.377	U	0.388	0.389	5.00	0.535	pCi/L		12/28/20 11:07	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-306

Lab Sample ID: 310-193674-6

Date Collected: 10/20/20 09:20

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.459		0.230	0.234	1.00	0.293	pCi/L	10/30/20 09:53	12/23/20 08:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.4		40 - 110					10/30/20 09:53	12/23/20 08:43	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.696		0.353	0.359	1.00	0.517	pCi/L	10/30/20 10:37	12/21/20 12:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.4		40 - 110					10/30/20 10:37	12/21/20 12:14	1
Y Carrier	84.1		40 - 110					10/30/20 10:37	12/21/20 12:14	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	1.16		0.421	0.429	5.00	0.517	pCi/L		12/28/20 11:07	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-302A

Lab Sample ID: 310-193674-7

Date Collected: 10/19/20 15:40

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.229	U	0.227	0.228	1.00	0.359	pCi/L	10/30/20 09:53	12/22/20 07:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					10/30/20 09:53	12/22/20 07:19	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	0.503		0.319	0.323	1.00	0.493	pCi/L	10/30/20 10:37	12/21/20 12:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					10/30/20 10:37	12/21/20 12:14	1
Y Carrier	85.2		40 - 110					10/30/20 10:37	12/21/20 12:14	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	0.732		0.392	0.395	5.00	0.493	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-304A

Lab Sample ID: 310-193674-8

Date Collected: 10/19/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.117	U	0.220	0.221	1.00	0.392	pCi/L	10/30/20 09:53	12/22/20 07:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					10/30/20 09:53	12/22/20 07:19	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	0.0402	U	0.357	0.357	1.00	0.630	pCi/L	10/30/20 10:37	12/21/20 12:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					10/30/20 10:37	12/21/20 12:14	1
Y Carrier	84.9		40 - 110					10/30/20 10:37	12/21/20 12:14	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	0.157	U	0.419	0.420	5.00	0.630	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-306A

Lab Sample ID: 310-193674-9

Date Collected: 10/20/20 09:10

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.201	U	0.182	0.183	1.00	0.445	pCi/L	10/30/20 09:53	12/22/20 07:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.0		40 - 110					10/30/20 09:53	12/22/20 07:19	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	0.243	0.243	1.00	0.417	pCi/L	10/30/20 10:37	12/21/20 12:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.0		40 - 110					10/30/20 10:37	12/21/20 12:14	1
Y Carrier	85.6		40 - 110					10/30/20 10:37	12/21/20 12:14	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	0.124	U	0.304	0.304	5.00	0.445	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-20
Date Collected: 10/20/20 11:30
Date Received: 10/22/20 10:25

Lab Sample ID: 310-193674-10
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	0.271	U	0.249	0.250	1.00	0.383	pCi/L	10/30/20 09:53	12/22/20 07:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.4		40 - 110					10/30/20 09:53	12/22/20 07:19	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	-0.141	U	0.279	0.280	1.00	0.541	pCi/L	10/30/20 10:37	12/21/20 12:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.4		40 - 110					10/30/20 10:37	12/21/20 12:14	1
Y Carrier	81.1		40 - 110					10/30/20 10:37	12/21/20 12:14	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	0.271	U	0.374	0.375	5.00	0.541	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-6

Lab Sample ID: 310-193674-11

Date Collected: 10/20/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0266	U	0.109	0.109	1.00	0.203	pCi/L	10/30/20 09:53	12/22/20 07:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.8		40 - 110					10/30/20 09:53	12/22/20 07:20	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	0.618		0.274	0.280	1.00	0.394	pCi/L	10/30/20 10:37	12/21/20 12:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.8		40 - 110					10/30/20 10:37	12/21/20 12:15	1
Y Carrier	85.2		40 - 110					10/30/20 10:37	12/21/20 12:15	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	0.644		0.295	0.300	5.00	0.394	pCi/L		12/28/20 11:07	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: FIELD BLANK

Lab Sample ID: 310-193674-12

Date Collected: 10/19/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0751	U	0.278	0.278	1.00	0.516	pCi/L	10/30/20 09:53	12/22/20 07:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.2		40 - 110					10/30/20 09:53	12/22/20 07:20	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	0.0395	U	0.351	0.351	1.00	0.625	pCi/L	10/30/20 10:37	12/21/20 12:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.2		40 - 110					10/30/20 10:37	12/21/20 12:15	1
Y Carrier	82.2		40 - 110					10/30/20 10:37	12/21/20 12:15	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	0.115	U	0.448	0.448	5.00	0.625	pCi/L		12/28/20 11:07	1



Definitions/Glossary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Qualifiers

Rad

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-487318/23-A
Matrix: Water
Analysis Batch: 492806

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487318

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.1509	U	0.201	0.201	1.00	0.337	pCi/L	10/30/20 09:53	12/22/20 09:10	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	76.5		40 - 110			10/30/20 09:53	12/22/20 09:10	1		

Lab Sample ID: LCS 160-487318/1-A
Matrix: Water
Analysis Batch: 492601

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487318

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.08		1.44	1.00	0.401	pCi/L	98	75 - 125
Carrier	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	78.3		40 - 110						

Lab Sample ID: LCSD 160-487318/2-A
Matrix: Water
Analysis Batch: 492601

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 487318

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	9.983		1.33	1.00	0.381	pCi/L	88	75 - 125	0.39	1
Carrier	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Ba Carrier	80.4		40 - 110								

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-487322/23-A
Matrix: Water
Analysis Batch: 492601

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487322

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.1984	U	0.272	0.273	1.00	0.454	pCi/L	10/30/20 10:37	12/21/20 12:16	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	76.5		40 - 110			10/30/20 10:37	12/21/20 12:16	1		
Y Carrier	86.4		40 - 110			10/30/20 10:37	12/21/20 12:16	1		

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

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

Lab Sample ID: LCS 160-487322/1-A
Matrix: Water
Analysis Batch: 492638

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487322

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits													
									75	125												
Radium-228	7.56	6.900		0.918	1.00	0.495	pCi/L	91	75	125												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCS %Yield</th> <th>LCS Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba Carrier</td> <td>78.3</td> <td></td> <td>40 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>83.0</td> <td></td> <td>40 - 110</td> </tr> </tbody> </table>											Carrier	LCS %Yield	LCS Qualifier	Limits	Ba Carrier	78.3		40 - 110	Y Carrier	83.0		40 - 110
Carrier	LCS %Yield	LCS Qualifier	Limits																			
Ba Carrier	78.3		40 - 110																			
Y Carrier	83.0		40 - 110																			

Lab Sample ID: LCSD 160-487322/2-A
Matrix: Water
Analysis Batch: 492638

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 487322

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		RER	Limit												
									75	125	0.21	1												
Radium-228	7.56	7.301		0.966	1.00	0.546	pCi/L	97	75	125	0.21	1												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCSD %Yield</th> <th>LCSD Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba Carrier</td> <td>80.4</td> <td></td> <td>40 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>79.3</td> <td></td> <td>40 - 110</td> </tr> </tbody> </table>													Carrier	LCSD %Yield	LCSD Qualifier	Limits	Ba Carrier	80.4		40 - 110	Y Carrier	79.3		40 - 110
Carrier	LCSD %Yield	LCSD Qualifier	Limits																					
Ba Carrier	80.4		40 - 110																					
Y Carrier	79.3		40 - 110																					

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Rad

Prep Batch: 487318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	PrecSep-21	
310-193674-2	MW-302	Total/NA	Water	PrecSep-21	
310-193674-3	MW-303	Total/NA	Water	PrecSep-21	
310-193674-4	MW-304	Total/NA	Water	PrecSep-21	
310-193674-5	MW-305	Total/NA	Water	PrecSep-21	
310-193674-6	MW-306	Total/NA	Water	PrecSep-21	
310-193674-7	MW-302A	Total/NA	Water	PrecSep-21	
310-193674-8	MW-304A	Total/NA	Water	PrecSep-21	
310-193674-9	MW-306A	Total/NA	Water	PrecSep-21	
310-193674-10	MW-20	Total/NA	Water	PrecSep-21	
310-193674-11	MW-6	Total/NA	Water	PrecSep-21	
310-193674-12	FIELD BLANK	Total/NA	Water	PrecSep-21	
MB 160-487318/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-487318/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-487318/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 487322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193674-1	MW-301	Total/NA	Water	PrecSep_0	
310-193674-2	MW-302	Total/NA	Water	PrecSep_0	
310-193674-3	MW-303	Total/NA	Water	PrecSep_0	
310-193674-4	MW-304	Total/NA	Water	PrecSep_0	
310-193674-5	MW-305	Total/NA	Water	PrecSep_0	
310-193674-6	MW-306	Total/NA	Water	PrecSep_0	
310-193674-7	MW-302A	Total/NA	Water	PrecSep_0	
310-193674-8	MW-304A	Total/NA	Water	PrecSep_0	
310-193674-9	MW-306A	Total/NA	Water	PrecSep_0	
310-193674-10	MW-20	Total/NA	Water	PrecSep_0	
310-193674-11	MW-6	Total/NA	Water	PrecSep_0	
310-193674-12	FIELD BLANK	Total/NA	Water	PrecSep_0	
MB 160-487322/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-487322/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-487322/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-301

Lab Sample ID: 310-193674-1

Date Collected: 10/19/20 14:10

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492601	12/21/20 20:26	FLC	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-302

Lab Sample ID: 310-193674-2

Date Collected: 10/19/20 13:55

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492638	12/21/20 20:27	FLC	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-303

Lab Sample ID: 310-193674-3

Date Collected: 10/19/20 16:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492638	12/21/20 20:27	FLC	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492601	12/21/20 12:16	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-304

Lab Sample ID: 310-193674-4

Date Collected: 10/19/20 11:00

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:18	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-305

Lab Sample ID: 310-193674-5

Date Collected: 10/20/20 11:20

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:18	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-306

Lab Sample ID: 310-193674-6

Date Collected: 10/20/20 09:20

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492893	12/23/20 08:43	FLC	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-302A

Lab Sample ID: 310-193674-7

Date Collected: 10/19/20 15:40

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:19	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-304A

Lab Sample ID: 310-193674-8

Date Collected: 10/19/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:19	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Client Sample ID: MW-306A

Lab Sample ID: 310-193674-9

Date Collected: 10/20/20 09:10

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:19	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-20

Lab Sample ID: 310-193674-10

Date Collected: 10/20/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:19	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492638	12/21/20 12:14	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: MW-6

Lab Sample ID: 310-193674-11

Date Collected: 10/20/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:20	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492601	12/21/20 12:15	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Client Sample ID: FIELD BLANK

Lab Sample ID: 310-193674-12

Date Collected: 10/19/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			487318	10/30/20 09:53	AVB	TAL SL
Total/NA	Analysis	903.0		1	492806	12/22/20 07:20	TMS	TAL SL
Total/NA	Prep	PrecSep_0			487322	10/30/20 10:37	AVB	TAL SL
Total/NA	Analysis	904.0		1	492601	12/21/20 12:15	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	493163	12/28/20 11:07	SCB	TAL SL

Laboratory References:

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

Eurofins TestAmerica, Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Method Summary

Client: SCS Engineers
Project/Site: Lansing Gen Station, 25220070.0

Job ID: 310-193674-2

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



Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS</u>		
City/State: <u>Clive</u> <small>CITY</small>	<u>IA</u> <small>STATE</small>	Project: <u>Lansing Gen Station</u>
Receipt Information		
Date/Time Received: <u>10-22-20</u> <small>DATE</small>	<u>1025</u> <small>TIME</small>	Received By: <u>MRH</u>
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>2</u>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>P</u>	Correction Factor (°C): <u>+0.1</u>	
* Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C): <u>0.9</u>	Corrected Temp (°C): <u>0.9</u> <u>1.0</u>	
Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):		
Corrected Temp (°C):		
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		





214

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State: <u>Clive</u> <small>CITY</small>	<u>IA</u> <small>STATE</small>	Project: <u>Lansing Gen Station</u>	
Receipt Information			
Date/Time Received: <u>10-22-20</u> <small>DATE</small>	<u>1025</u> <small>TIME</small>	Received By: <u>MRH</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>2</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>	Correction Factor (°C): <u>+0.1</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.9</u>	Corrected Temp (°C): <u>1.9</u> <small>ADD</small> <u>0.1</u> <u>2.0</u>		
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information Client Contact: Tami Buzska Company: SCS Engineers Address: 8450 Hickman Road Suite 20 City: Clive State: IA 50325 Phone: Email: tbuzska@scsengineers.com Project Name: Lansing Gen Station, 25220070 0 Site:		Lab PM: Fredrick Sandke E-Mail: sandk.fre@eurofins.com Camer Tracking No(s): Lab No: 310-54742-16398.2 Page: Page 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): PO #: 25220070.00 WO #:		Sampler: Adam Watson Phone: 608-250-9985	
Sample Identification Field Blank		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 6020A - Metals (11) <input checked="" type="checkbox"/> 2540C - Calcd, 9056A, ORGM, 28D, SM4500, H+ <input checked="" type="checkbox"/> 903.0 - Radium 226 <input checked="" type="checkbox"/> 904.0 - Radium 228 <input checked="" type="checkbox"/>	
Sample Date: 10/19/2020 Sample Time: 1315 Sample Type (C=Comp, G=grab): Matrix (W=water, S=solid, O=wasteoil, BT=tissue, A=air): Preservation Code:		Special Instructions/Note: Total Number of containers:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by: Relinquished by: Adam Watson Relinquished by: Relinquished by:		Method of Shipment: Date/Time: 10/21/2020 1200 Date/Time: Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-193674-2

Login Number: 193674

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Ramos, Eric F

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



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-193674-2

Login Number: 193674

List Number: 2

Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis

List Creation: 10/23/20 03:13 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, 25220070.0

Job ID: 310-193674-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
310-193674-1	MW-301	78.6
310-193674-2	MW-302	78.6
310-193674-3	MW-303	66.3
310-193674-4	MW-304	75.1
310-193674-5	MW-305	71.0
310-193674-6	MW-306	67.4
310-193674-7	MW-302A	80.4
310-193674-8	MW-304A	79.8
310-193674-9	MW-306A	71.0
310-193674-10	MW-20	60.4
310-193674-11	MW-6	92.8
310-193674-12	FIELD BLANK	79.2
LCS 160-487318/1-A	Lab Control Sample	78.3
LCSD 160-487318/2-A	Lab Control Sample Dup	80.4
MB 160-487318/23-A	Method Blank	76.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-193674-1	MW-301	78.6	81.5
310-193674-2	MW-302	78.6	82.2
310-193674-3	MW-303	66.3	79.6
310-193674-4	MW-304	75.1	80.7
310-193674-5	MW-305	71.0	81.9
310-193674-6	MW-306	67.4	84.1
310-193674-7	MW-302A	80.4	85.2
310-193674-8	MW-304A	79.8	84.9
310-193674-9	MW-306A	71.0	85.6
310-193674-10	MW-20	60.4	81.1
310-193674-11	MW-6	92.8	85.2
310-193674-12	FIELD BLANK	79.2	82.2
LCS 160-487322/1-A	Lab Control Sample	78.3	83.0
LCSD 160-487322/2-A	Lab Control Sample Dup	80.4	79.3
MB 160-487322/23-A	Method Blank	76.5	86.4

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

ANALYTICAL REPORT

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

Laboratory Job ID: 310-193718-1

Client Project/Site: Lasning Gen Station, 25220070.0

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



*Authorized for release by:
11/3/2020 8:08:36 AM*

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

LINKS

Review your project
results through
Total Access

Have a Question?

 **Ask
The
Expert**

Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Detection Summary	5
Client Sample Results	8
Definitions	20
QC Sample Results	21
QC Association	25
Chronicle	28
Certification Summary	31
Method Summary	32
Chain of Custody	33
Receipt Checklists	37

Case Narrative

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Job ID: 310-193718-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-193718-1

Comments

No additional comments.

Receipt

The samples were received on 10/22/2020 10:25 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3° 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 (310-193718-6). 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.

General Chemistry

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

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

Sample Summary

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-193718-1	MW-301	Water	10/19/20 14:10	10/22/20 10:25	
310-193718-2	MW-302	Water	10/19/20 13:55	10/22/20 10:25	
310-193718-3	MW-303	Water	10/19/20 16:15	10/22/20 10:25	
310-193718-4	MW-304	Water	10/19/20 11:05	10/22/20 10:25	
310-193718-5	MW-305	Water	10/20/20 11:20	10/22/20 10:25	
310-193718-6	MW-306	Water	10/20/20 09:20	10/22/20 10:25	
310-193718-7	MW-302A	Water	10/19/20 15:40	10/22/20 10:25	
310-193718-8	MW-304A	Water	10/19/20 11:30	10/22/20 10:25	
310-193718-9	MW-306A	Water	10/20/20 09:10	10/22/20 10:25	
310-193718-10	MW-20	Water	10/20/20 11:30	10/22/20 10:25	
310-193718-11	MW-6	Water	10/20/20 13:15	10/22/20 10:25	
310-193718-12	Field Blank	Water	10/19/20 13:55	10/22/20 10:25	

Detection Summary

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-301

Lab Sample ID: 310-193718-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	62000		500	190	ug/L	1		6020A	Total/NA
Iron	500		100	50	ug/L	1		6020A	Total/NA
Magnesium	18000		500	100	ug/L	1		6020A	Total/NA
Manganese	560		10	4.0	ug/L	1		6020A	Total/NA
Potassium	3600		500	150	ug/L	1		6020A	Total/NA
Sodium	11000		1000	810	ug/L	1		6020A	Total/NA
Iron	110		100	50	ug/L	1		6020A	Dissolved
Manganese	530		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	160		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	160		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-193718-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	130000		500	190	ug/L	1		6020A	Total/NA
Iron	33000		100	50	ug/L	1		6020A	Total/NA
Magnesium	42000		500	100	ug/L	1		6020A	Total/NA
Manganese	2700		10	4.0	ug/L	1		6020A	Total/NA
Potassium	4300		500	150	ug/L	1		6020A	Total/NA
Sodium	17000		1000	810	ug/L	1		6020A	Total/NA
Arsenic	44		2.0	0.88	ug/L	1		6020A	Dissolved
Iron	30000		100	50	ug/L	1		6020A	Dissolved
Manganese	2500		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	540		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	540		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-193718-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	35000		500	190	ug/L	1		6020A	Total/NA
Magnesium	13000		500	100	ug/L	1		6020A	Total/NA
Manganese	180		10	4.0	ug/L	1		6020A	Total/NA
Potassium	2200		500	150	ug/L	1		6020A	Total/NA
Sodium	12000		1000	810	ug/L	1		6020A	Total/NA
Manganese	160		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	120		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	120		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-193718-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	75000		500	190	ug/L	1		6020A	Total/NA
Magnesium	35000		500	100	ug/L	1		6020A	Total/NA
Manganese	6.0	J	10	4.0	ug/L	1		6020A	Total/NA
Potassium	1300		500	150	ug/L	1		6020A	Total/NA
Sodium	6100		1000	810	ug/L	1		6020A	Total/NA
Manganese	4.1	J	10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	310		10	3.8	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-305

Lab Sample ID: 310-193718-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	87000		500	190	ug/L	1		6020A	Total/NA
Iron	12000		100	50	ug/L	1		6020A	Total/NA
Magnesium	32000		500	100	ug/L	1		6020A	Total/NA
Manganese	1800		10	4.0	ug/L	1		6020A	Total/NA
Potassium	1800		500	150	ug/L	1		6020A	Total/NA
Sodium	7700		1000	810	ug/L	1		6020A	Total/NA
Iron	10000		100	50	ug/L	1		6020A	Dissolved
Manganese	1800		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	340		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	340		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-193718-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	280000		500	190	ug/L	1		6020A	Total/NA
Iron	40000		100	50	ug/L	1		6020A	Total/NA
Magnesium	46000		500	100	ug/L	1		6020A	Total/NA
Manganese	4800		40	16	ug/L	4		6020A	Total/NA
Potassium	7100		500	150	ug/L	1		6020A	Total/NA
Sodium	110000		1000	810	ug/L	1		6020A	Total/NA
Iron	39000		100	50	ug/L	1		6020A	Dissolved
Manganese	4800		40	16	ug/L	4		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	800		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	800		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302A

Lab Sample ID: 310-193718-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81000		500	190	ug/L	1		6020A	Total/NA
Magnesium	38000		500	100	ug/L	1		6020A	Total/NA
Potassium	1000		500	150	ug/L	1		6020A	Total/NA
Sodium	6700		1000	810	ug/L	1		6020A	Total/NA
Iron	56	J	100	50	ug/L	1		6020A	Dissolved
Manganese	10		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304A

Lab Sample ID: 310-193718-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	35000		500	190	ug/L	1		6020A	Total/NA
Iron	270		100	50	ug/L	1		6020A	Total/NA
Magnesium	16000		500	100	ug/L	1		6020A	Total/NA
Manganese	26		10	4.0	ug/L	1		6020A	Total/NA
Potassium	680		500	150	ug/L	1		6020A	Total/NA
Sodium	63000		1000	810	ug/L	1		6020A	Total/NA
Iron	55	J	100	50	ug/L	1		6020A	Dissolved
Manganese	7.3	J	10	4.0	ug/L	1		6020A	Dissolved
Molybdenum	140		2.0	1.1	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	190		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	190		10	3.8	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-306A

Lab Sample ID: 310-193718-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	85000		500	190	ug/L	1		6020A	Total/NA
Iron	1900		100	50	ug/L	1		6020A	Total/NA
Magnesium	37000		500	100	ug/L	1		6020A	Total/NA
Manganese	1100		10	4.0	ug/L	1		6020A	Total/NA
Potassium	1200		500	150	ug/L	1		6020A	Total/NA
Sodium	11000		1000	810	ug/L	1		6020A	Total/NA
Iron	1600		100	50	ug/L	1		6020A	Dissolved
Manganese	1100		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	320		5.0	1.9	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	320		5.0	1.9	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-20

Lab Sample ID: 310-193718-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	160000		500	190	ug/L	1		6020A	Total/NA
Iron	950		100	50	ug/L	1		6020A	Total/NA
Magnesium	43000		500	100	ug/L	1		6020A	Total/NA
Manganese	3100		10	4.0	ug/L	1		6020A	Total/NA
Potassium	3900		500	150	ug/L	1		6020A	Total/NA
Sodium	44000		1000	810	ug/L	1		6020A	Total/NA
Iron	830		100	50	ug/L	1		6020A	Dissolved
Manganese	3000		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	280		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	280		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-6

Lab Sample ID: 310-193718-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	74000		500	190	ug/L	1		6020A	Total/NA
Magnesium	37000		500	100	ug/L	1		6020A	Total/NA
Potassium	1100		500	150	ug/L	1		6020A	Total/NA
Sodium	4500		1000	810	ug/L	1		6020A	Total/NA
Manganese	25		10	4.0	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-193718-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-301

Lab Sample ID: 310-193718-1

Date Collected: 10/19/20 14:10

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	62000		500	190	ug/L		10/26/20 07:56	10/27/20 20:54	1
Iron	500		100	50	ug/L		10/26/20 07:56	10/27/20 20:54	1
Magnesium	18000		500	100	ug/L		10/26/20 07:56	10/27/20 20:54	1
Manganese	560		10	4.0	ug/L		10/26/20 07:56	10/27/20 20:54	1
Potassium	3600		500	150	ug/L		10/26/20 07:56	10/27/20 20:54	1
Sodium	11000		1000	810	ug/L		10/26/20 07:56	10/27/20 20:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	110		100	50	ug/L		10/26/20 07:44	10/27/20 19:43	1
Manganese	530		10	4.0	ug/L		10/26/20 07:44	10/27/20 19:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	160		10	3.8	mg/L			10/29/20 11:29	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			10/29/20 11:29	1
Total Alkalinity as CaCO3 to pH 4.5	160		10	3.8	mg/L			10/29/20 11:29	1

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

Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-302

Lab Sample ID: 310-193718-2

Date Collected: 10/19/20 13:55

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		500	190	ug/L		10/26/20 07:56	10/27/20 21:20	1
Iron	33000		100	50	ug/L		10/26/20 07:56	10/27/20 21:20	1
Magnesium	42000		500	100	ug/L		10/26/20 07:56	10/27/20 21:20	1
Manganese	2700		10	4.0	ug/L		10/26/20 07:56	10/27/20 21:20	1
Potassium	4300		500	150	ug/L		10/26/20 07:56	10/27/20 21:20	1
Sodium	17000		1000	810	ug/L		10/26/20 07:56	10/27/20 21:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	44		2.0	0.88	ug/L		10/26/20 07:44	10/27/20 20:06	1
Iron	30000		100	50	ug/L		10/26/20 07:44	10/27/20 20:06	1
Manganese	2500		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	540		10	3.8	mg/L			10/29/20 11:29	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			10/29/20 11:29	1
Total Alkalinity as CaCO3 to pH 4.5	540		10	3.8	mg/L			10/29/20 11:29	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-303
 Date Collected: 10/19/20 16:15
 Date Received: 10/22/20 10:25

Lab Sample ID: 310-193718-3
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	35000		500	190	ug/L		10/26/20 07:56	10/27/20 21:24	1
Iron	<50		100	50	ug/L		10/26/20 07:56	10/27/20 21:24	1
Magnesium	13000		500	100	ug/L		10/26/20 07:56	10/27/20 21:24	1
Manganese	180		10	4.0	ug/L		10/26/20 07:56	10/27/20 21:24	1
Potassium	2200		500	150	ug/L		10/26/20 07:56	10/27/20 21:24	1
Sodium	12000		1000	810	ug/L		10/26/20 07:56	10/27/20 21:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<50		100	50	ug/L		10/26/20 07:44	10/27/20 20:09	1
Manganese	160		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	120		10	3.8	mg/L			10/29/20 11:29	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			10/29/20 11:29	1
Total Alkalinity as CaCO3 to pH 4.5	120		10	3.8	mg/L			10/29/20 11:29	1

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

Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-304

Lab Sample ID: 310-193718-4

Date Collected: 10/19/20 11:05

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	75000		500	190	ug/L		10/26/20 07:56	10/27/20 21:27	1
Iron	<50		100	50	ug/L		10/26/20 07:56	10/27/20 21:27	1
Magnesium	35000		500	100	ug/L		10/26/20 07:56	10/27/20 21:27	1
Manganese	6.0	J	10	4.0	ug/L		10/26/20 07:56	10/27/20 21:27	1
Potassium	1300		500	150	ug/L		10/26/20 07:56	10/27/20 21:27	1
Sodium	6100		1000	810	ug/L		10/26/20 07:56	10/27/20 21:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<50		100	50	ug/L		10/26/20 07:44	10/27/20 20:11	1
Manganese	4.1	J	10	4.0	ug/L		10/26/20 07:44	10/27/20 20:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	310		10	3.8	mg/L			10/29/20 11:29	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			10/29/20 11:29	1
Total Alkalinity as CaCO3 to pH 4.5	310		10	3.8	mg/L			10/29/20 11:29	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-305

Lab Sample ID: 310-193718-5

Date Collected: 10/20/20 11:20

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87000		500	190	ug/L		10/26/20 07:56	10/27/20 21:31	1
Iron	12000		100	50	ug/L		10/26/20 07:56	10/27/20 21:31	1
Magnesium	32000		500	100	ug/L		10/26/20 07:56	10/27/20 21:31	1
Manganese	1800		10	4.0	ug/L		10/26/20 07:56	10/27/20 21:31	1
Potassium	1800		500	150	ug/L		10/26/20 07:56	10/27/20 21:31	1
Sodium	7700		1000	810	ug/L		10/26/20 07:56	10/27/20 21:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	10000		100	50	ug/L		10/26/20 07:44	10/27/20 20:14	1
Manganese	1800		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	340		10	3.8	mg/L			11/02/20 11:43	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			11/02/20 11:43	1
Total Alkalinity as CaCO3 to pH 4.5	340		10	3.8	mg/L			11/02/20 11:43	1

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

Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-306

Lab Sample ID: 310-193718-6

Date Collected: 10/20/20 09:20

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	280000		500	190	ug/L		10/26/20 07:56	10/27/20 21:34	1
Iron	40000		100	50	ug/L		10/26/20 07:56	10/27/20 21:34	1
Magnesium	46000		500	100	ug/L		10/26/20 07:56	10/27/20 21:34	1
Manganese	4800		40	16	ug/L		10/26/20 07:56	10/28/20 14:19	4
Potassium	7100		500	150	ug/L		10/26/20 07:56	10/27/20 21:34	1
Sodium	110000		1000	810	ug/L		10/26/20 07:56	10/27/20 21:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	39000		100	50	ug/L		10/26/20 07:44	10/27/20 20:16	1
Manganese	4800		40	16	ug/L		10/26/20 07:44	10/28/20 15:54	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	800		10	3.8	mg/L			11/02/20 11:43	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			11/02/20 11:43	1
Total Alkalinity as CaCO3 to pH 4.5	800		10	3.8	mg/L			11/02/20 11:43	1

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

Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-302A

Lab Sample ID: 310-193718-7

Date Collected: 10/19/20 15:40

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81000		500	190	ug/L		10/26/20 07:56	10/27/20 21:37	1
Iron	<50		100	50	ug/L		10/26/20 07:56	10/27/20 21:37	1
Magnesium	38000		500	100	ug/L		10/26/20 07:56	10/27/20 21:37	1
Manganese	<4.0		10	4.0	ug/L		10/26/20 07:56	10/27/20 21:37	1
Potassium	1000		500	150	ug/L		10/26/20 07:56	10/27/20 21:37	1
Sodium	6700		1000	810	ug/L		10/26/20 07:56	10/27/20 21:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	56	J	100	50	ug/L		10/26/20 07:44	10/27/20 20:19	1
Manganese	10		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L			10/29/20 11:29	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			10/29/20 11:29	1
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L			10/29/20 11:29	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-304A

Lab Sample ID: 310-193718-8

Date Collected: 10/19/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	35000		500	190	ug/L		10/26/20 07:56	10/27/20 21:41	1
Iron	270		100	50	ug/L		10/26/20 07:56	10/27/20 21:41	1
Magnesium	16000		500	100	ug/L		10/26/20 07:56	10/27/20 21:41	1
Manganese	26		10	4.0	ug/L		10/26/20 07:56	10/27/20 21:41	1
Potassium	680		500	150	ug/L		10/26/20 07:56	10/27/20 21:41	1
Sodium	63000		1000	810	ug/L		10/26/20 07:56	10/27/20 21:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	55	J	100	50	ug/L		10/26/20 07:44	10/27/20 20:22	1
Manganese	7.3	J	10	4.0	ug/L		10/26/20 07:44	10/27/20 20:22	1
Molybdenum	140		2.0	1.1	ug/L		10/26/20 07:44	10/27/20 20:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	190		10	3.8	mg/L			10/29/20 11:29	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			10/29/20 11:29	1
Total Alkalinity as CaCO3 to pH 4.5	190		10	3.8	mg/L			10/29/20 11:29	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-306A

Lab Sample ID: 310-193718-9

Date Collected: 10/20/20 09:10

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85000		500	190	ug/L		10/26/20 07:56	10/27/20 21:44	1
Iron	1900		100	50	ug/L		10/26/20 07:56	10/27/20 21:44	1
Magnesium	37000		500	100	ug/L		10/26/20 07:56	10/27/20 21:44	1
Manganese	1100		10	4.0	ug/L		10/26/20 07:56	10/27/20 21:44	1
Potassium	1200		500	150	ug/L		10/26/20 07:56	10/27/20 21:44	1
Sodium	11000		1000	810	ug/L		10/26/20 07:56	10/27/20 21:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1600		100	50	ug/L		10/26/20 07:44	10/27/20 20:24	1
Manganese	1100		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	320		5.0	1.9	mg/L			11/02/20 11:43	1
Carbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			11/02/20 11:43	1
Total Alkalinity as CaCO3 to pH 4.5	320		5.0	1.9	mg/L			11/02/20 11:43	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-20

Lab Sample ID: 310-193718-10

Date Collected: 10/20/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	160000		500	190	ug/L		10/26/20 07:56	10/27/20 22:01	1
Iron	950		100	50	ug/L		10/26/20 07:56	10/27/20 22:01	1
Magnesium	43000		500	100	ug/L		10/26/20 07:56	10/27/20 22:01	1
Manganese	3100		10	4.0	ug/L		10/26/20 07:56	10/27/20 22:01	1
Potassium	3900		500	150	ug/L		10/26/20 07:56	10/27/20 22:01	1
Sodium	44000		1000	810	ug/L		10/26/20 07:56	10/27/20 22:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	830		100	50	ug/L		10/26/20 07:44	10/27/20 20:27	1
Manganese	3000		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	280		10	3.8	mg/L			11/02/20 11:43	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			11/02/20 11:43	1
Total Alkalinity as CaCO3 to pH 4.5	280		10	3.8	mg/L			11/02/20 11:43	1

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

Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-6

Lab Sample ID: 310-193718-11

Date Collected: 10/20/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	74000		500	190	ug/L		10/26/20 07:56	10/27/20 22:05	1
Iron	<50		100	50	ug/L		10/26/20 07:56	10/27/20 22:05	1
Magnesium	37000		500	100	ug/L		10/26/20 07:56	10/27/20 22:05	1
Manganese	<4.0		10	4.0	ug/L		10/26/20 07:56	10/27/20 22:05	1
Potassium	1100		500	150	ug/L		10/26/20 07:56	10/27/20 22:05	1
Sodium	4500		1000	810	ug/L		10/26/20 07:56	10/27/20 22:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<50		100	50	ug/L		10/26/20 07:44	10/27/20 20:43	1
Manganese	25		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		10	3.8	mg/L			11/02/20 11:43	1
Carbonate Alkalinity as CaCO3	<3.8		10	3.8	mg/L			11/02/20 11:43	1
Total Alkalinity as CaCO3 to pH 4.5	300		10	3.8	mg/L			11/02/20 11:43	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: Field Blank

Lab Sample ID: 310-193718-12

Date Collected: 10/19/20 13:55

Matrix: Water

Date Received: 10/22/20 10:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<190		500	190	ug/L		10/26/20 07:56	10/27/20 22:12	1
Iron	<50		100	50	ug/L		10/26/20 07:56	10/27/20 22:12	1
Magnesium	<100		500	100	ug/L		10/26/20 07:56	10/27/20 22:12	1
Manganese	<4.0		10	4.0	ug/L		10/26/20 07:56	10/27/20 22:12	1
Potassium	<150		500	150	ug/L		10/26/20 07:56	10/27/20 22:12	1
Sodium	<810		1000	810	ug/L		10/26/20 07:56	10/27/20 22:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<50		100	50	ug/L		10/26/20 07:44	10/27/20 20:45	1
Manganese	<4.0		10	4.0	ug/L		10/26/20 07:44	10/27/20 20:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 14:18	1
Carbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 14:18	1
Total Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 14:18	1

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

Definitions/Glossary

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Sample Results

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-296960/1-A
Matrix: Water
Analysis Batch: 297286

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 296960

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.88		2.0	0.88	ug/L		10/26/20 07:44	10/27/20 19:35	1
Iron	<50		100	50	ug/L		10/26/20 07:44	10/27/20 19:35	1
Manganese	<4.0		10	4.0	ug/L		10/26/20 07:44	10/27/20 19:35	1
Molybdenum	<1.1		2.0	1.1	ug/L		10/26/20 07:44	10/27/20 19:35	1

Lab Sample ID: LCS 310-296960/2-A
Matrix: Water
Analysis Batch: 297286

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 296960

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	191		ug/L		96	80 - 120
Iron	200	188		ug/L		94	80 - 120
Manganese	100	92.5		ug/L		93	80 - 120
Molybdenum	200	180		ug/L		90	80 - 120

Lab Sample ID: MB 310-296965/1-A
Matrix: Water
Analysis Batch: 297289

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 296965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<190		500	190	ug/L		10/26/20 07:56	10/27/20 20:47	1
Iron	<50		100	50	ug/L		10/26/20 07:56	10/27/20 20:47	1
Magnesium	<100		500	100	ug/L		10/26/20 07:56	10/27/20 20:47	1
Manganese	<4.0		10	4.0	ug/L		10/26/20 07:56	10/27/20 20:47	1
Potassium	<150		500	150	ug/L		10/26/20 07:56	10/27/20 20:47	1
Sodium	<810		1000	810	ug/L		10/26/20 07:56	10/27/20 20:47	1

Lab Sample ID: LCS 310-296965/2-A
Matrix: Water
Analysis Batch: 297289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 296965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	2000	1880		ug/L		94	80 - 120
Iron	200	218		ug/L		109	80 - 120
Magnesium	2000	2080		ug/L		104	80 - 120
Manganese	100	102		ug/L		102	80 - 120
Potassium	2000	2020		ug/L		101	80 - 120
Sodium	2000	2260		ug/L		113	80 - 120

Lab Sample ID: 310-193718-1 MS
Matrix: Water
Analysis Batch: 297289

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 296965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	62000		2000	63500	4	ug/L		58	75 - 125
Iron	500		200	726		ug/L		112	75 - 125
Magnesium	18000		2000	20500	4	ug/L		121	75 - 125
Manganese	560		100	678	4	ug/L		116	75 - 125
Potassium	3600		2000	5650		ug/L		103	75 - 125

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

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

Lab Sample ID: 310-193718-1 MS
Matrix: Water
Analysis Batch: 297289

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 296965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	11000		2000	13400	4	ug/L		98	75 - 125

Lab Sample ID: 310-193718-1 MSD
Matrix: Water
Analysis Batch: 297289

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 296965

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium	62000		2000	65000	4	ug/L		129	75 - 125	2	20
Iron	500		200	727		ug/L		112	75 - 125	0	20
Magnesium	18000		2000	20000	4	ug/L		94	75 - 125	3	20
Manganese	560		100	722	4	ug/L		160	75 - 125	6	20
Potassium	3600		2000	5730		ug/L		107	75 - 125	1	20
Sodium	11000		2000	13500	4	ug/L		100	75 - 125	0	20

Lab Sample ID: 310-193718-11 DU
Matrix: Water
Analysis Batch: 297289

Client Sample ID: MW-6
Prep Type: Total/NA
Prep Batch: 296965

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Calcium	74000		73200		ug/L		0.5	20
Iron	<50		<50		ug/L		NC	20
Magnesium	37000		36900		ug/L		0.1	20
Manganese	<4.0		<4.0		ug/L		NC	20
Potassium	1100		1050		ug/L		0.3	20
Sodium	4500		4530		ug/L		0.1	20

Lab Sample ID: 310-193718-1 MS
Matrix: Water
Analysis Batch: 297286

Client Sample ID: MW-301
Prep Type: Dissolved
Prep Batch: 296960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.2		200	212		ug/L		104	75 - 125
Iron	110		200	327		ug/L		107	75 - 125
Manganese	530		100	625	4	ug/L		94	75 - 125
Molybdenum	7.5		200	206		ug/L		99	75 - 125

Lab Sample ID: 310-193718-1 MSD
Matrix: Water
Analysis Batch: 297286

Client Sample ID: MW-301
Prep Type: Dissolved
Prep Batch: 296960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	5.2		200	216		ug/L		105	75 - 125	2	20
Iron	110		200	331		ug/L		110	75 - 125	1	20
Manganese	530		100	634	4	ug/L		103	75 - 125	1	20
Molybdenum	7.5		200	210		ug/L		101	75 - 125	2	20

QC Sample Results

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

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

Lab Sample ID: 310-193718-10 DU
 Matrix: Water
 Analysis Batch: 297286

Client Sample ID: MW-20
 Prep Type: Dissolved
 Prep Batch: 296960

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	3.9		3.87		ug/L		0.08	20
Iron	830		827		ug/L		0.2	20
Manganese	3000		2970		ug/L		1	20
Molybdenum	17		17.1		ug/L		0.2	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-297552/1
 Matrix: Water
 Analysis Batch: 297552

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 14:15	1
Carbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 14:15	1
Total Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 14:15	1

Lab Sample ID: LCS 310-297552/2
 Matrix: Water
 Analysis Batch: 297552

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-297531/1
 Matrix: Water
 Analysis Batch: 297531

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 11:29	1
Carbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			10/29/20 11:29	1
Total Alkalinity as CaCO3 to pH 4.5	<1.9		5.0	1.9	mg/L			10/29/20 11:29	1

Lab Sample ID: LCS 310-297531/2
 Matrix: Water
 Analysis Batch: 297531

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

Lab Sample ID: MB 310-297844/1
 Matrix: Water
 Analysis Batch: 297844

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			11/02/20 11:43	1
Carbonate Alkalinity as CaCO3	<1.9		5.0	1.9	mg/L			11/02/20 11:43	1
Total Alkalinity as CaCO3 to pH 4.5	<1.9		5.0	1.9	mg/L			11/02/20 11:43	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 310-297844/2
Matrix: Water
Analysis Batch: 297844

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	990		mg/L		99	90 - 110

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

QC Association Summary

Client: SCS Engineers
 Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Metals

Prep Batch: 296960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-1	MW-301	Dissolved	Water	3010A	
310-193718-2	MW-302	Dissolved	Water	3010A	
310-193718-3	MW-303	Dissolved	Water	3010A	
310-193718-4	MW-304	Dissolved	Water	3010A	
310-193718-5	MW-305	Dissolved	Water	3010A	
310-193718-6	MW-306	Dissolved	Water	3010A	
310-193718-7	MW-302A	Dissolved	Water	3010A	
310-193718-8	MW-304A	Dissolved	Water	3010A	
310-193718-9	MW-306A	Dissolved	Water	3010A	
310-193718-10	MW-20	Dissolved	Water	3010A	
310-193718-11	MW-6	Dissolved	Water	3010A	
310-193718-12	Field Blank	Dissolved	Water	3010A	
MB 310-296960/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-296960/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-193718-1 MS	MW-301	Dissolved	Water	3010A	
310-193718-1 MSD	MW-301	Dissolved	Water	3010A	
310-193718-10 DU	MW-20	Dissolved	Water	3010A	

Prep Batch: 296965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-1	MW-301	Total/NA	Water	3010A	
310-193718-2	MW-302	Total/NA	Water	3010A	
310-193718-3	MW-303	Total/NA	Water	3010A	
310-193718-4	MW-304	Total/NA	Water	3010A	
310-193718-5	MW-305	Total/NA	Water	3010A	
310-193718-6	MW-306	Total/NA	Water	3010A	
310-193718-7	MW-302A	Total/NA	Water	3010A	
310-193718-8	MW-304A	Total/NA	Water	3010A	
310-193718-9	MW-306A	Total/NA	Water	3010A	
310-193718-10	MW-20	Total/NA	Water	3010A	
310-193718-11	MW-6	Total/NA	Water	3010A	
310-193718-12	Field Blank	Total/NA	Water	3010A	
MB 310-296965/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-296965/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-193718-1 MS	MW-301	Total/NA	Water	3010A	
310-193718-1 MSD	MW-301	Total/NA	Water	3010A	
310-193718-11 DU	MW-6	Total/NA	Water	3010A	

Analysis Batch: 297286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-1	MW-301	Dissolved	Water	6020A	296960
310-193718-2	MW-302	Dissolved	Water	6020A	296960
310-193718-3	MW-303	Dissolved	Water	6020A	296960
310-193718-4	MW-304	Dissolved	Water	6020A	296960
310-193718-5	MW-305	Dissolved	Water	6020A	296960
310-193718-6	MW-306	Dissolved	Water	6020A	296960
310-193718-7	MW-302A	Dissolved	Water	6020A	296960
310-193718-8	MW-304A	Dissolved	Water	6020A	296960
310-193718-9	MW-306A	Dissolved	Water	6020A	296960
310-193718-10	MW-20	Dissolved	Water	6020A	296960
310-193718-11	MW-6	Dissolved	Water	6020A	296960

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Metals (Continued)

Analysis Batch: 297286 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-12	Field Blank	Dissolved	Water	6020A	296960
MB 310-296960/1-A	Method Blank	Total/NA	Water	6020A	296960
LCS 310-296960/2-A	Lab Control Sample	Total/NA	Water	6020A	296960
310-193718-1 MS	MW-301	Dissolved	Water	6020A	296960
310-193718-1 MSD	MW-301	Dissolved	Water	6020A	296960
310-193718-10 DU	MW-20	Dissolved	Water	6020A	296960

Analysis Batch: 297289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-1	MW-301	Total/NA	Water	6020A	296965
310-193718-2	MW-302	Total/NA	Water	6020A	296965
310-193718-3	MW-303	Total/NA	Water	6020A	296965
310-193718-4	MW-304	Total/NA	Water	6020A	296965
310-193718-5	MW-305	Total/NA	Water	6020A	296965
310-193718-6	MW-306	Total/NA	Water	6020A	296965
310-193718-7	MW-302A	Total/NA	Water	6020A	296965
310-193718-8	MW-304A	Total/NA	Water	6020A	296965
310-193718-9	MW-306A	Total/NA	Water	6020A	296965
310-193718-10	MW-20	Total/NA	Water	6020A	296965
310-193718-11	MW-6	Total/NA	Water	6020A	296965
310-193718-12	Field Blank	Total/NA	Water	6020A	296965
MB 310-296965/1-A	Method Blank	Total/NA	Water	6020A	296965
LCS 310-296965/2-A	Lab Control Sample	Total/NA	Water	6020A	296965
310-193718-1 MS	MW-301	Total/NA	Water	6020A	296965
310-193718-1 MSD	MW-301	Total/NA	Water	6020A	296965
310-193718-11 DU	MW-6	Total/NA	Water	6020A	296965

Analysis Batch: 297407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-6	MW-306	Total/NA	Water	6020A	296965

Analysis Batch: 297469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-6	MW-306	Dissolved	Water	6020A	296960

General Chemistry

Analysis Batch: 297531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-1	MW-301	Total/NA	Water	SM 2320B	
310-193718-2	MW-302	Total/NA	Water	SM 2320B	
310-193718-3	MW-303	Total/NA	Water	SM 2320B	
310-193718-4	MW-304	Total/NA	Water	SM 2320B	
310-193718-7	MW-302A	Total/NA	Water	SM 2320B	
310-193718-8	MW-304A	Total/NA	Water	SM 2320B	
MB 310-297531/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-297531/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 297552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-12	Field Blank	Total/NA	Water	2320B	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

General Chemistry (Continued)

Analysis Batch: 297552 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-297552/1	Method Blank	Total/NA	Water	2320B	
LCS 310-297552/2	Lab Control Sample	Total/NA	Water	2320B	

Analysis Batch: 297844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-193718-5	MW-305	Total/NA	Water	SM 2320B	
310-193718-6	MW-306	Total/NA	Water	SM 2320B	
310-193718-9	MW-306A	Total/NA	Water	SM 2320B	
310-193718-10	MW-20	Total/NA	Water	SM 2320B	
310-193718-11	MW-6	Total/NA	Water	SM 2320B	
MB 310-297844/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-297844/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-301

Lab Sample ID: 310-193718-1

Date Collected: 10/19/20 14:10

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 19:43	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 20:54	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297531	10/29/20 11:29	LBB	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-193718-2

Date Collected: 10/19/20 13:55

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:06	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:20	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297531	10/29/20 11:29	LBB	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-193718-3

Date Collected: 10/19/20 16:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:09	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:24	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297531	10/29/20 11:29	LBB	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-193718-4

Date Collected: 10/19/20 11:05

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:11	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:27	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297531	10/29/20 11:29	LBB	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-305

Lab Sample ID: 310-193718-5

Date Collected: 10/20/20 11:20

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:14	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:31	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297844	11/02/20 11:43	WJF	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-193718-6

Date Collected: 10/20/20 09:20

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:16	SAD	TAL CF
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		4	297469	10/28/20 15:54	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:34	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		4	297407	10/28/20 14:19	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297844	11/02/20 11:43	WJF	TAL CF

Client Sample ID: MW-302A

Lab Sample ID: 310-193718-7

Date Collected: 10/19/20 15:40

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:19	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:37	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297531	10/29/20 11:29	LBB	TAL CF

Client Sample ID: MW-304A

Lab Sample ID: 310-193718-8

Date Collected: 10/19/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:22	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:41	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297531	10/29/20 11:29	LBB	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Client Sample ID: MW-306A

Lab Sample ID: 310-193718-9

Date Collected: 10/20/20 09:10

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:24	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 21:44	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297844	11/02/20 11:43	WJF	TAL CF

Client Sample ID: MW-20

Lab Sample ID: 310-193718-10

Date Collected: 10/20/20 11:30

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:27	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 22:01	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297844	11/02/20 11:43	WJF	TAL CF

Client Sample ID: MW-6

Lab Sample ID: 310-193718-11

Date Collected: 10/20/20 13:15

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:43	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 22:05	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	297844	11/02/20 11:43	WJF	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-193718-12

Date Collected: 10/19/20 13:55

Matrix: Water

Date Received: 10/22/20 10:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			296960	10/26/20 07:44	HED	TAL CF
Dissolved	Analysis	6020A		1	297286	10/27/20 20:45	SAD	TAL CF
Total/NA	Prep	3010A			296965	10/26/20 07:56	HED	TAL CF
Total/NA	Analysis	6020A		1	297289	10/27/20 22:12	SAD	TAL CF
Total/NA	Analysis	2320B		1	297552	10/29/20 14:18	LBB	TAL CF

Laboratory References:

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

Eurofins TestAmerica, Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Lasning Gen Station, 25220070.0

Job ID: 310-193718-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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

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



Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State: <u>olive</u> ^{CITY} <u>IA</u> ^{STATE}	Project:		
Receipt Information			
Date/Time Received: <u>10/22/20</u> ^{DATE} <u>1025</u> ^{TIME}	Received By: <u>[Signature]</u>		
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <u>std</u> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>M</u>	Correction Factor (°C): <u>+0.1</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.2</u>	Corrected Temp (°C): <u>1.3</u>		
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

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

Sample ID: Ryan Matzka
 Phone: 608 224 2830
 Job #: 25220070.00
 Project #: 31011020
 SOW #:

Client Information

Client Contact: Ryan Matzka
 Tardien Busch
 Company: SCS Engineers
 Address: 8401 Hickman Road, Suite 20
 City: Clive
 State: IA, 50325
 Email: rmatzka@scsengineers.com
 Project Name: Lansing Gen Station, 25220070.0
 Site:

Due Date (if requested):

TAT Requested (min):

PO #: 25220070.00

WO #:

Project #:

31011020

SOW #:

Analysis Requested

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefl, or-wastefl)	Field Filtered Sample (Yes or No)	Form MS/SD (Yes or No)	3308 - Alkalinity - Carb/Calc	6020A - Total Metals (6)	6020A - Dissolved Metals (24)	Preservation Codes	Special Instructions/Note
MW-301	10/19/20	1400	Water	Water	X	X	X	X	X	M - Hexane N - None C - All NaOH F - Acetic Acid G - Nitro Acid I - Ni/2503 L - Ni/2503 S - H2SO4 T - TSP Doublescalydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
MW-302	10/19/20	1355	Water	Water	X	X	X	X	X		
MW-303	10/19/20	1615	Water	Water	X	X	X	X	X		
MW-304	10/19/20	1105	Water	Water	X	X	X	X	X		
MW-305	10/20/20	1120	Water	Water	X	X	X	X	X		
MW-306	10/20/20	920	Water	Water	X	X	X	X	X		
MW-302A	10/19/20	1540	Water	Water	X	X	X	X	X		
MW-304A	10/19/20	1130	Water	Water	X	X	X	X	X		
MW-306A	10/20/20	910	Water	Water	X	X	X	X	X		
MW-20	10/20/20	1130	Water	Water	X	X	X	X	X		
MW-6	10/20/20	1315	Water	Water	X	X	X	X	X		

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:

Empty Kit Relinquished by: Ryan Matzka
 Relinquished by: Ryan Matzka
 Relinquished by: Ryan Matzka
 Relinquished by: Ryan Matzka
 Date/Time: 10/21/20 1200
 Date/Time: 10/21/20 1200
 Date/Time: 10/21/20 1200
 Date/Time: 10/21/20 1200
 Company: Eurofins
 Company: Eurofins
 Company: Eurofins
 Company: Eurofins

Custody Seals Intact: Yes No
 Custody Seal No:

Sampler: Ryan Matzok
 Phone: 608 224 2830
 Lab PIV: Erick, Sandler
 Email: erick@eurofins.com

Client Information
 Client Contact: Tamlen Busch
 Company: SCS Engineers
 Address: 8450 Hickman Road Suite 20
 City: Clive
 State: IA 50325
 Phone: (319) 252-2007
 Email: lbuszka@scsengineers.com
 Project Name: Lansing Gen Station, 25220070.0
 Site: 31011020
 SOW#: 25220070.0

Due Date Requested: 25220070.00
 TAT Requested (days):
 PO #: 25220070.00
 WO #:
 Project #: 31011020
 SOW#: 25220070.0

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefl)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B - Alkalinity - Carbonate	6020A - Total Metals (6)	6020A - Dissolved Metals (2-4)	Analysis Requested	Preservation Codes	Special Instructions/Note:
Field Blank	10/19/20	1355	Water	Water	X	X	X	X			M - Hexamine N - None C - AsNaO2 P - Na2OAS F - Na2SO3 R - NaHSO4 G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDTA Other:	

Total Number of Containers: X

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

Special Instructions/QC Requirements:

Received by: Ryan Matzok
 Date/Time: 10/21/20 1200
 Company: SCS Engineers

Received by:
 Date/Time:
 Company:

Received by:
 Date/Time:
 Company:

Cooler Temperature(s) °C and Other Remarks:

Table 2. Sampling Points and Parameters - CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25220070.00

	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
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													0
	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													0
	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													0
	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													0
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
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
	Calcium	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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-193718-1

Login Number: 193718

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Bovy, Lorraine L

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





Lab #: 774181 Job #: 46106 IS-61891 Co. Job#:
Sample Name: MW-302 Co. Lab#:
Company: SCS Engineers
API/Well:
Container: Plastic Bottle
Field/Site Name: 25220054.00: Lansing Generating Station
Location: Lansing, Iowa
Formation/Depth:
Sampling Point:
Date Sampled: 10/19/2020 13:55 Date Received: 10/22/2020 Date Reported: 12/07/2020

δD of water	-----	na
δ ¹⁸ O of water	-----	na
Tritium content of water	-----	5.38 ± 0.20 TU
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water



Lab #: 774182 Job #: 46106 IS-61891 Co. Job#:
Sample Name: MW-302A Co. Lab#:
Company: SCS Engineers
API/Well:
Container: Plastic Bottle
Field/Site Name: 25220054.00: Lansing Generating Station
Location: Lansing, Iowa
Formation/Depth:
Sampling Point:
Date Sampled: 10/19/2020 15:40 Date Received: 10/22/2020 Date Reported: 12/07/2020

δD of water	-----	na
δ ¹⁸ O of water	-----	na
Tritium content of water	-----	3.43 ± 0.13 TU
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water



Lab #: 774183 Job #: 46106 IS-61891 Co. Job#:
Sample Name: MW-304 Co. Lab#:
Company: SCS Engineers
API/Well:
Container: Plastic Bottle
Field/Site Name: 25220054.00: Lansing Generating Station
Location: Lansing, Iowa
Formation/Depth:
Sampling Point:
Date Sampled: 10/19/2020 11:25 Date Received: 10/22/2020 Date Reported: 12/07/2020

δD of water	-----	na
δ ¹⁸ O of water	-----	na
Tritium content of water	-----	4.45 ± 0.23 TU
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water




Lab #: 774184 Job #: 46106 IS-61891 Co. Job#:
Sample Name: MW-304A Co. Lab#:
Company: SCS Engineers
API/Well:
Container: Plastic Bottle
Field/Site Name: 25220054.00: Lansing Generating Station
Location: Lansing, Iowa
Formation/Depth:
Sampling Point:
Date Sampled: 10/19/2020 11:30 Date Received: 10/22/2020 Date Reported: 12/07/2020

δD of water	-----	na
δ ¹⁸ O of water	-----	na
Tritium content of water	-----	5.45 ± 0.20 TU
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water



Appendix D
Historical Monitoring Results

Single Location

Name: IPL - Lansing

Location ID: MW-6																			
Number of Sampling Dates: 18																			
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
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
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
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
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
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
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
Total Dissolved Solids	mg/L	382	328	352	337	324	350	337	333	318	--	343	351	319	340	280	580	--	300
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	--	--
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
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
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	--	--
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
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
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
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
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
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	--	--
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
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
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	--	--
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
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
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
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
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	--	68.5
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
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
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
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
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
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.6	25
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	74000
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05	<50
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	37000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.004	<4
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1100
Sodium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4500
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	300
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	300
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.7	--
Molybdenum, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.1	--
Oxidation Reduction Potential	millivolts	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	113.9	--

Single Location

Name: IPL - Lansing

Location ID: MW-20		Number of Sampling Dates: 13													
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	10/2/2019	5/19/2020	8/19/2020	10/20/2020	
Boron	ug/L	3550/3440	3400	3820	4140	3560	3470	3150	3470	3620	3100	2500	--	3000	
Calcium	mg/L	174/167	145	190	146	125	154	117	119	154	150	130	--	150	
Chloride	mg/L	5.2/5.4	2.9	3.3	1.8	1.9	2.2	2.5	3.3	2.6	2	5.7	5.3	6.3	
Fluoride	mg/L	0.47/0.48	0.51	0.43	0.45	0.43	0.41	0.42	0.48	0.44	0.37	0.61	--	<0.23	
Field pH	Std. Units	7.61	7.9	8.05	7.77	7.89	7.83	7.68	7.67	7.35	7.79	7.64	7.95	7.69	
Sulfate	mg/L	578/600	346	532	545	197	385	205	150	426	240	240	320	360	
Total Dissolved Solids	mg/L	1130/1260	811	1130	783	631	851	644	603	884	690	830	--	790	
Antimony	ug/L	0.2/0.15	<0.058	0.089	0.067	0.083	<0.026	0.065	0.069	--	--	<0.58	--	--	
Arsenic	ug/L	<4.5/<4.5	5.4	1.6	1.4	2.8	2.7	1.8	2.3	--	3.4	4.9	--	4.3	
Barium	ug/L	113/103	68.9	133	106	122	117	116	122	--	160	120	--	110	
Beryllium	ug/L	<0.17/<0.17	<0.08	<0.08	<0.08	<0.08	<0.012	<0.012	<0.012	--	--	<0.27	--	--	
Cadmium	ug/L	<0.56/<0.56	<0.029	0.034	<0.029	<0.029	0.027	<0.018	<0.018	--	--	<0.039	--	<0.049	
Chromium	ug/L	<0.96/<0.96	<0.34	<0.34	<0.34	0.62	0.36	0.23	0.57	--	<0.98	<1.1	--	<1.1	
Cobalt	ug/L	1.3/1.3	1	1.3	1.1	1	1.1	0.85	0.87	--	0.9	0.71	--	0.86	
Lead	ug/L	<1.9/<1.9	<0.19	0.28	<0.19	<0.19	0.13	<0.033	0.041	--	<0.27	0.31	--	<0.11	
Lithium	ug/L	5/6.5	<4.9	6.4	<4.9	<4.9	<2.9	<2.9	<2.9	--	2.8	<2.3	--	3.4	
Mercury	ug/L	<0.012/<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	--	<0.1	--	--	
Molybdenum	ug/L	52.2/50	65.5	90.5	70.2	44.9	46.9	32	31.2	--	41	15	--	17	
Selenium	ug/L	30.6/32.5	15	44.7	17	3.2	22.2	3.3	0.72	--	--	<1	--	<1	
Thallium	ug/L	<0.052/0.14	<0.5	<0.5	<0.5	<0.5	0.055	0.069	<0.036	--	--	<0.26	--	--	
Total Radium	pCi/L	0.796/1.68	0.781	1.03	0.972	0.576	0.339	1.28	0.626	--	1.05	--	--	0.271	
Radium-226	pCi/L	0.311/0.458	0.312	0.324	0.263	0.0739	0.0673	0.209	0.34	--	0.521	--	--	0.271	
Radium-228	pCi/L	0.485/1.22	0.469	0.708	0.709	0.502	0.272	1.07	0.286	--	0.53	--	--	-0.141	
pH at 25 Degrees C	Std. Units	7.7/7.6	7.8	7.6	7.7	8	7.9	7.6	7.7	7.7	7.7	7.8	--	7.7	
Field Oxidation Potential	mV	-49.3	-59.5	-68.8	-97	-49	-111	-114	-129	-70	-49.1	-105.4	--	-119.4	
Field Specific Conductance	umhos/cm	1519	1238	1481	1118	939	1169	918	907	1213	1026	964	1086	1132	
Field Temperature	deg C	12.1	8.8	12.8	13.7	9.2	8.1	11.1	12.9	14.3	13.2	8.8	13.4	12.3	
Groundwater Elevation	feet	648.27	647.25	649.86	651.32	650.18	651.71	650.22	649.58	650.81	639.14	650.2	650.88	649.5	
Oxygen, Dissolved	mg/L	2.63	1.45	0.05	0	0.8	0	0	0	0	0.27	0.32	0.1	0.17	
Turbidity	NTU	--	1.35	0.62	42.15	5.1	1.1	8.95	0	0	0.99	1.41	1.27	0.02	
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	1100	830	
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	2900	3000	
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	160000	
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	950	
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	43000	
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	3100	
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	3900	
Sodium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	44000	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	300	280	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	--	--	--	--	--	--	--	--	300	280	
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	4.5	--	
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	22	--	
Molybdenum, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	21	--	
Oxidation Reduction Potential	millivolts	--	--	--	--	--	--	--	--	--	--	--	-127.2	--	

02/04/2021 - Classification: Internal - ECRM7850460

Single Location

Name: IPL - Lansing

Location ID: MW-301		Number of Sampling Dates: 18																		
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	
Boron	ug/L	739	436	417	554	471	405	333	365	436	198	--	279	357	250	360	150	--	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	
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	
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	
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	
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	
Total Dissolved Solids	mg/L	280	176	218	246	271	289	278	285	289	--	300	326	320	350	310	480	--	280	
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	--	--	
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	
Barium	ug/L	146	139	182	220	227	182	175	196	--	163	--	156	155	160	180	140	--	150	
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	--	--	
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	
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	
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	
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	
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	
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	--	--	
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	--	7.5	
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	
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	--	--	
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	
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	
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	
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	
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	--	-97	
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	
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	
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	
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	
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	
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	110	
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	810	530	
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62000	
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	500	
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18000	
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	560	
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3600	
Sodium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11000	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	160	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	160	
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.5	--	
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1	--	
Molybdenum, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.8	--	
Oxidation Reduction Potential	millivolts	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-115.3	--	

Single Location

Name: IPL - Lansing

Location ID: MW-302																				
Number of Sampling Dates: 18																				
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	
Boron	ug/L	564	468	579	673	576	527	558	645	708	489	--	648	694	690	690	480	--	640	
Calcium	mg/L	95.1	96.5	97.8	110	116	112	110	118	116	120	--	116	122	130	130	120	--	110	
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	
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	
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	
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	
Total Dissolved Solids	mg/L	503	422	438	499	497	503	512	517	507	--	535	562	518	450	480	710	--	490	
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	--	--	
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	
Barium	ug/L	483	479	540	648	706	559	597	660	--	789	--	661	603	690	740	610	--	630	
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	--	--	
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	
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	
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	
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	
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	
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	--	--	
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	
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	
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	--	--	
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	
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	
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	
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	
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	--	-182.5	
Field Specific Conductance	umhos/cm	918	875	891	1004	1036	971	1017	1053	1045	1098	1068	1095	1039	1089	1049	1070	1039	1074	
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	
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	
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	
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	
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32000	30000	
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2800	2500	
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130000	
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33000	
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	42000	
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2700	
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4300	
Sodium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17000	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	530	540	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<7.6	<3.8	
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	530	540	
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46	44	
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	
Molybdenum, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.1	--	
Oxidation Reduction Potential	millivolts	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-173	--	

Single Location

Name: IPL - Lansing

Location ID: MW-302A					
Number of Sampling Dates: 4					
Parameter Name	Units	5/20/2020	7/6/2020	8/19/2020	10/19/2020
Boron	ug/L	190	250	--	160
Calcium	mg/L	79	78	--	72
Chloride	mg/L	7.8	6.9	7.1	6
Fluoride	mg/L	<0.23	<0.23	--	<0.23
Field pH	Std. Units	7.27	7.22	7.41	7.33
Sulfate	mg/L	53	47	49	47
Total Dissolved Solids	mg/L	520	350	--	350
Antimony	ug/L	<0.58	<0.51	--	--
Arsenic	ug/L	<0.88	<0.88	--	<0.88
Barium	ug/L	51	47	--	46
Beryllium	ug/L	<0.27	<0.27	--	--
Cadmium	ug/L	<0.039	<0.049	--	<0.049
Chromium	ug/L	<1.1	<1.1	--	1.2
Cobalt	ug/L	0.41	0.098	--	<0.091
Lead	ug/L	0.48	0.14	--	<0.11
Lithium	ug/L	<2.3	<2.5	--	<2.5
Mercury	ug/L	<0.1	<0.1	--	--
Molybdenum	ug/L	<1.1	<1.1	--	<1.1
Selenium	ug/L	1.3	1.1	--	<1
Thallium	ug/L	<0.26	<0.26	--	--
Total Radium	pCi/L	--	0.0963	--	0.732
Radium-226	pCi/L	--	0.0963	--	0.229
Radium-228	pCi/L	--	-0.00723	--	0.503
pH at 25 Degrees C	Std. Units	7.4	7.6	--	7.4
Field Oxidation Potential	mV	126.9	47	--	125.4
Field Specific Conductance	umhos/cm	644	641	638	650.1
Field Temperature	deg C	11.7	11.7	11.8	11.4
Groundwater Elevation	feet	623.19	624.2	623.52	623.03
Oxygen, Dissolved	mg/L	6.55	6.6	6.23	6.46
Turbidity	NTU	11.9	4.68	0.19	0.58
Iron, dissolved	ug/L	--	--	330	56
Manganese, dissolved	ug/L	--	--	38	10
Calcium, total	ug/L	--	--	--	81000
Iron, total	ug/L	--	--	--	<50
Magnesium, total	ug/L	--	--	--	38000
Manganese, total	ug/L	--	--	--	<4
Potassium, total	ug/L	--	--	--	1000
Sodium	ug/L	--	--	--	6700
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	290	300
Carbonate Alkalinity as CaCO3	mg/L	--	--	<3.8	<3.8
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	290	300
Arsenic, dissolved	ug/L	--	--	<0.88	--
Molybdenum, dissolved	ug/L	--	--	<1.1	--
Molybdenum, total	ug/L	--	--	<1.1	--
Oxidation Reduction Potential	millivolts	--	--	74.1	--

02/04/2021 - Classification: Internal - ECRM7850460

Single Location

Name: IPL - Lansing

Location ID: MW-303		Number of Sampling Dates: 18																		
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	
Boron	ug/L	178	178	405	235	133	177	390	386	592	144	--	675	474	150	520	150	--	370	
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	
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	
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	
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	
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	
Total Dissolved Solids	mg/L	240	200	317	340	350	317	346	219	379	--	256	262	181	280	210	450	--	180	
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	--	--	
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	
Barium	ug/L	102	122	178	169	174	159	214	147	--	173	--	194	121	160	220	210	--	190	
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	--	--	
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	
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	
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	
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	
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	
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	--	--	
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	--	10	
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	
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	--	--	
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	
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	
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	
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	
Field Oxidation Potential	mV	84.2	133.2	-27.2	10	221	81	9	-75	49	53	68	-71	139	-76	156	28.9	--	38.4	
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	
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	
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	
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	
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	
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	160	
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35000	
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05	<50	
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13000	
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180	
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2200	
Sodium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12000	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190	120	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190	120	
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23	--	
Molybdenum, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23	--	
Oxidation Reduction Potential	millivolts	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25.8	--	

Single Location

Name: IPL - Lansing

Location ID: MW-304						
Number of Sampling Dates: 5						
Parameter Name	Units	6/20/2019	10/2/2019	5/20/2020	8/19/2020	10/19/2020
Boron	ug/L	<110	<110	<73	--	<80
Calcium	mg/L	82	72	70	--	66
Chloride	mg/L	5.9	7	6.2	7.7	6.2
Fluoride	mg/L	<0.23	<0.23	<0.23	--	<0.23
Field pH	Std. Units	7.01	7.16	7.32	7.55	7.16
Sulfate	mg/L	20	17	17	15	16
Total Dissolved Solids	mg/L	350	300	470	--	270
Antimony	ug/L	<0.53	--	<0.58	--	--
Arsenic	ug/L	<0.75	<0.75	<0.88	--	<0.88
Barium	ug/L	54	47	42	--	42
Beryllium	ug/L	<0.27	--	<0.27	--	--
Cadmium	ug/L	<0.077	--	<0.039	--	<0.049
Chromium	ug/L	1.6	1	8.2	--	<1.1
Cobalt	ug/L	1.1	0.19	0.22	--	<0.091
Lead	ug/L	1.2	0.35	<0.27	--	<0.11
Lithium	ug/L	<2.7	<2.7	<2.3	--	<2.5
Mercury	ug/L	<0.1	--	<0.1	--	--
Molybdenum	ug/L	<1.1	<1.1	<1.1	--	<1.1
Selenium	ug/L	<1	--	<1	--	<1
Thallium	ug/L	<0.27	--	<0.26	--	--
Total Radium	pCi/L	0.356	0.9	--	--	0.139
Radium-226	pCi/L	0.217	0.246	--	--	-0.0496
Radium-228	pCi/L	0.139	0.653	--	--	0.139
pH at 25 Degrees C	Std. Units	7.4	7	7.3	--	7.3
Field Oxidation Potential	mV	41	107.3	104.9	--	155.6
Field Specific Conductance	umhos/cm	593	578.4	574	583	601.9
Field Temperature	deg C	10.6	12.4	9	11.8	11.8
Groundwater Elevation	feet	0	623.79	621.57	621.75	621.4
Oxygen, Dissolved	mg/L	6.2	7.51	7.78	6.76	6.84
Turbidity	NTU	104	3.51	3.72	1.06	0.42
Total Alkalinity as CaCO3	mg/L	280	--	--	--	--
Iron, dissolved	ug/L	--	--	--	<50	<50
Manganese, dissolved	ug/L	--	--	--	6.9	4.1
Calcium, total	ug/L	--	--	--	--	75000
Iron, total	ug/L	--	--	--	51	<50
Magnesium, total	ug/L	--	--	--	--	35000
Manganese, total	ug/L	--	--	--	--	6
Potassium, total	ug/L	--	--	--	--	1300
Sodium	ug/L	--	--	--	--	6100
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	300	310
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<3.8	<3.8
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	300	310
Arsenic, dissolved	ug/L	--	--	--	<0.88	--
Molybdenum, dissolved	ug/L	--	--	--	1.6	--
Molybdenum, total	ug/L	--	--	--	1.2	--
Oxidation Reduction Potential	millivolts	--	--	--	109.6	--

Single Location

Name: IPL - Lansing

Location ID: MW-304A					
Number of Sampling Dates: 4					
Parameter Name	Units	5/20/2020	7/6/2020	8/19/2020	10/19/2020
Boron	ug/L	1800	1700	--	1700
Calcium	mg/L	54	41	--	35
Chloride	mg/L	15	13	13	12
Fluoride	mg/L	0.57	0.42	--	<0.23
Field pH	Std. Units	8.04	7.9	8.48	7.89
Sulfate	mg/L	83	77	76	76
Total Dissolved Solids	mg/L	680	330	--	310
Antimony	ug/L	<0.58	<0.51	--	--
Arsenic	ug/L	1.3	<0.88	--	<0.88
Barium	ug/L	67	34	--	28
Beryllium	ug/L	<0.27	<0.27	--	--
Cadmium	ug/L	0.19	0.098	--	0.073
Chromium	ug/L	2.2	1.1	--	<1.1
Cobalt	ug/L	3.2	0.83	--	0.43
Lead	ug/L	4.3	1.2	--	0.48
Lithium	ug/L	2.7	<2.5	--	<2.5
Mercury	ug/L	<0.1	<0.1	--	--
Molybdenum	ug/L	110	140	--	130
Selenium	ug/L	<1	<1	--	<1
Thallium	ug/L	<0.26	<0.26	--	--
Total Radium	pCi/L	--	0.573	--	0.157
Radium-226	pCi/L	--	0.221	--	0.117
Radium-228	pCi/L	--	0.352	--	0.0402
pH at 25 Degrees C	Std. Units	8	8	--	8
Field Oxidation Potential	mV	61.8	-15.8	--	162.7
Field Specific Conductance	umhos/cm	529	541	533	547.4
Field Temperature	deg C	12.6	19.1	14	10.1
Groundwater Elevation	feet	624.88	625.76	0	624.41
Oxygen, Dissolved	mg/L	0.48	0.3	0.27	0.78
Turbidity	NTU	585.9	181.9	236.2	90.29
Iron, dissolved	ug/L	--	--	<50	55
Manganese, dissolved	ug/L	--	--	16	7.3
Calcium, total	ug/L	--	--	--	35000
Iron, total	ug/L	--	--	--	270
Magnesium, total	ug/L	--	--	--	16000
Manganese, total	ug/L	--	--	--	26
Potassium, total	ug/L	--	--	--	680
Sodium	ug/L	--	--	--	63000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	190	190
Carbonate Alkalinity as CaCO3	mg/L	--	--	<7.6	<3.8
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	190	190
Arsenic, dissolved	ug/L	--	--	<0.88	--
Molybdenum, dissolved	ug/L	--	--	160	140
Molybdenum, total	ug/L	--	--	140	--
Oxidation Reduction Potential	millivolts	--	--	50.5	--

Single Location

Name: IPL - Lansing

Location ID: MW-305						
Number of Sampling Dates: 5						
Parameter Name	Units	6/20/2019	10/2/2019	5/19/2020	8/18/2020	10/20/2020
Boron	ug/L	180	190	210	--	220
Calcium	mg/L	92	97	82	--	76
Chloride	mg/L	6.8	3.2	7.5	6.9	6
Fluoride	mg/L	<0.23	<0.23	0.23	--	<0.23
Field pH	Std. Units	7.19	7.03	6.9	7.23	7.24
Sulfate	mg/L	24	26	<3.6	<3.6	<3.6
Total Dissolved Solids	mg/L	440	380	540	--	320
Antimony	ug/L	<0.53	--	<0.58	--	--
Arsenic	ug/L	2.2	3.4	3.6	--	5.6
Barium	ug/L	170	190	220	--	200
Beryllium	ug/L	<0.27	--	<0.27	--	--
Cadmium	ug/L	<0.077	--	<0.039	--	<0.049
Chromium	ug/L	<0.98	<0.98	<1.1	--	<1.1
Cobalt	ug/L	0.52	0.27	0.32	--	0.12
Lead	ug/L	<0.27	<0.27	<0.27	--	<0.11
Lithium	ug/L	3.4	4.6	<2.3	--	<2.5
Mercury	ug/L	<0.1	--	<0.1	--	--
Molybdenum	ug/L	1.7	1.6	<1.1	--	<1.1
Selenium	ug/L	<1	--	<1	--	<1
Thallium	ug/L	<0.27	--	<0.26	--	--
Total Radium	pCi/L	0.553	0.557	--	--	0.377
Radium-226	pCi/L	0.181	0.38	--	--	0.296
Radium-228	pCi/L	0.372	0.178	--	--	0.0809
pH at 25 Degrees C	Std. Units	7.2	7.2	7.2	--	7.2
Field Oxidation Potential	mV	27	-105.6	-138	--	-145.4
Field Specific Conductance	umhos/cm	638	635	684	654	634
Field Temperature	deg C	15.5	19	9.8	19	15.6
Groundwater Elevation	feet	0	629.77	627.24	626.98	626.54
Oxygen, Dissolved	mg/L	0.2	0.21	0.48	0.07	0.22
Turbidity	NTU	9.6	8.87	20.44	27.27	3.65
Total Alkalinity as CaCO3	mg/L	290	--	--	--	--
Iron, dissolved	ug/L	--	--	--	11000	10000
Manganese, dissolved	ug/L	--	--	--	2000	1800
Calcium, total	ug/L	--	--	--	--	87000
Iron, total	ug/L	--	--	--	--	12000
Magnesium, total	ug/L	--	--	--	--	32000
Manganese, total	ug/L	--	--	--	--	1800
Potassium, total	ug/L	--	--	--	--	1800
Sodium	ug/L	--	--	--	--	7700
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	340	340
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<7.6	<3.8
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	340	340
Arsenic, dissolved	ug/L	--	--	--	6.4	--
Molybdenum, dissolved	ug/L	--	--	--	2.8	--
Molybdenum, total	ug/L	--	--	--	1.8	--
Oxidation Reduction Potential	millivolts	--	--	--	-162.9	--

Single Location

Name: IPL - Lansing

Location ID: MW-306								
Number of Sampling Dates: 7								
Parameter Name	Units	6/20/2019	10/2/2019	12/5/2019	2/5/2020	5/19/2020	8/18/2020	10/20/2020
Boron	ug/L	860	660	--	--	720	--	720
Calcium	mg/L	240	260	--	--	340	--	260
Chloride	mg/L	24	40	--	--	32	28	27
Fluoride	mg/L	<0.23	<0.23	--	--	<0.23	--	<0.23
Field pH	Std. Units	6.87	9	6.76	6.95	6.66	7.12	6.88
Sulfate	mg/L	280	140	--	--	430	260	220
Total Dissolved Solids	mg/L	1200	1300	--	--	3400	--	1100
Antimony	ug/L	<0.53	--	--	--	<0.58	--	--
Arsenic	ug/L	8.6	12	9.3	9.4	8.5	--	10
Barium	ug/L	280	540	--	--	260	--	250
Beryllium	ug/L	<0.27	--	--	--	<0.27	--	--
Cadmium	ug/L	<0.077	--	--	--	<0.039	--	<0.049
Chromium	ug/L	<0.98	<0.98	--	--	<1.1	--	<1.1
Cobalt	ug/L	1	0.98	--	--	0.53	--	0.24
Lead	ug/L	0.52	<0.27	--	--	<0.27	--	<0.11
Lithium	ug/L	19	25	--	--	25	--	26
Mercury	ug/L	<0.1	--	--	--	<0.1	--	--
Molybdenum	ug/L	<1.1	<1.1	--	--	<1.1	--	<1.1
Selenium	ug/L	<1	--	--	--	<1	--	<1
Thallium	ug/L	<0.27	--	--	--	<0.26	--	--
Total Radium	pCi/L	0.897	1.79	--	--	--	--	1.16
Radium-226	pCi/L	0.432	0.902	--	--	--	--	0.459
Radium-228	pCi/L	0.465	0.889	--	--	--	--	0.696
pH at 25 Degrees C	Std. Units	6.9	7.2	--	--	6.9	--	6.8
Field Oxidation Potential	mV	22	-1205	-127	-127.7	-137	--	-142.3
Field Specific Conductance	umhos/cm	1632	1998	2196	2477	2332	1911	1832
Field Temperature	deg C	13.8	16.33	16.3	13.7	12.7	15	16.2
Groundwater Elevation	feet	0	622.47	620.6	620.83	620.43	620.37	619.92
Oxygen, Dissolved	mg/L	1	0.27	0.9	0.23	0.3	0.1	0.26
Turbidity	NTU	25.9	3.67	10.26	4.43	2.63	0.16	3.08
Total Alkalinity as CaCO3	mg/L	620	--	--	--	--	--	--
Iron, dissolved	ug/L	--	--	--	--	--	44000	39000
Manganese, dissolved	ug/L	--	--	--	--	--	5100	4800
Calcium, total	ug/L	--	--	--	--	--	--	280000
Iron, total	ug/L	--	--	--	--	--	--	40000
Magnesium, total	ug/L	--	--	--	--	--	--	46000
Manganese, total	ug/L	--	--	--	--	--	--	4800
Potassium, total	ug/L	--	--	--	--	--	--	7100
Sodium	ug/L	--	--	--	--	--	--	110000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	850	800
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	<7.6	<3.8
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	--	--	--	850	800
Arsenic, dissolved	ug/L	--	--	--	--	--	9.4	--
Molybdenum, dissolved	ug/L	--	--	--	--	--	<1.1	--
Molybdenum, total	ug/L	--	--	--	--	--	<1.1	--
Oxidation Reduction Potential	millivolts	--	--	--	--	--	-139.1	--

Single Location

Name: IPL - Lansing

Location ID: MW-306A					
Number of Sampling Dates: 4					
Parameter Name	Units	5/19/2020	7/6/2020	8/18/2020	10/20/2020
Boron	ug/L	290	340	--	280
Calcium	mg/L	83	82	--	76
Chloride	mg/L	7.8	7.1	7.4	7.2
Fluoride	mg/L	<0.23	<0.23	--	<0.23
Field pH	Std. Units	6.99	7.04	7.38	7.18
Sulfate	mg/L	44	40	41	41
Total Dissolved Solids	mg/L	610	360	--	350
Antimony	ug/L	<0.58	<0.51	--	--
Arsenic	ug/L	<0.88	<0.88	--	<0.88
Barium	ug/L	61	58	--	58
Beryllium	ug/L	<0.27	<0.27	--	--
Cadmium	ug/L	<0.039	<0.049	--	<0.049
Chromium	ug/L	<1.1	<1.1	--	<1.1
Cobalt	ug/L	0.33	0.18	--	0.22
Lead	ug/L	<0.27	<0.11	--	<0.11
Lithium	ug/L	<2.3	<2.5	--	<2.5
Mercury	ug/L	<0.1	<0.1	--	--
Molybdenum	ug/L	<1.1	<1.1	--	<1.1
Selenium	ug/L	<1	<1	--	<1
Thallium	ug/L	<0.26	<0.26	--	--
Total Radium	pCi/L	--	0.525	--	0.124
Radium-226	pCi/L	--	0.0377	--	-0.201
Radium-228	pCi/L	--	0.487	--	0.124
pH at 25 Degrees C	Std. Units	7.4	7.5	--	7.4
Field Oxidation Potential	mV	-21.7	-55.8	--	-38.5
Field Specific Conductance	umhos/cm	697	683	654	681
Field Temperature	deg C	14.6	15.3	15.5	14.4
Groundwater Elevation	feet	620.4	621.66	620.63	620.17
Oxygen, Dissolved	mg/L	1.18	1.24	1.16	1.3
Turbidity	NTU	4.15	1.4	2.71	1.56
Iron, dissolved	ug/L	--	--	1900	1600
Manganese, dissolved	ug/L	--	--	1200	1100
Calcium, total	ug/L	--	--	--	85000
Iron, total	ug/L	--	--	--	1900
Magnesium, total	ug/L	--	--	--	37000
Manganese, total	ug/L	--	--	--	1100
Potassium, total	ug/L	--	--	--	1200
Sodium	ug/L	--	--	--	11000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	330	320
Carbonate Alkalinity as CaCO3	mg/L	--	--	<7.6	<1.9
Total Alkalinity as CaCO3 to pH 4.5	mg/L	--	--	330	320
Arsenic, dissolved	ug/L	--	--	<0.88	--
Molybdenum, dissolved	ug/L	--	--	<1.1	--
Molybdenum, total	ug/L	--	--	<1.1	--
Oxidation Reduction Potential	millivolts	--	--	21.2	--

Appendix E

Statistical Evaluation

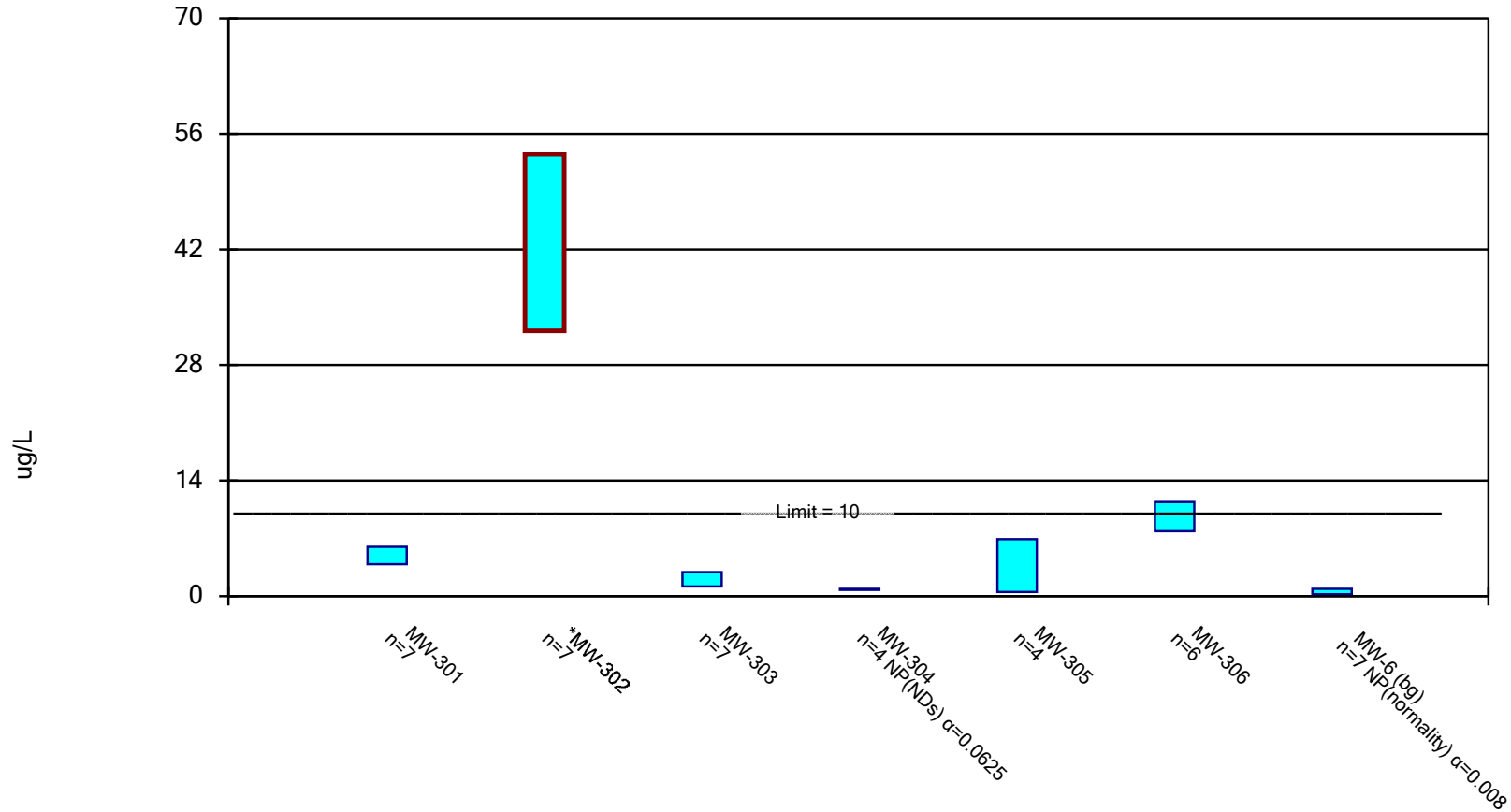
Confidence Interval

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev Printed 1/12/2021, 3:47 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (ug/L)	MW-301	5.975	3.882	10	No	7	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-302	53.51	32.14	10	Yes	7	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-303	2.913	1.173	10	No	7	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-304	0.88	0.75	10	No	4	100	None	No	0.0625	NP (NDs)
Arsenic (ug/L)	MW-305	6.9	0.5	10	No	4	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-306	11.4	7.868	10	No	6	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-6 (bg)	0.88	0.23	10	No	7	57.14	None	No	0.008	NP (normality)
Molybdenum (ug/L)	MW-301	11.08	5.173	100	No	7	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-302	1.443	0.714	100	No	7	42.86	Cohen's	No	0.01	Param.
Molybdenum (ug/L)	MW-303	16.99	3.007	100	No	7	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-304	1.1	1.1	100	No	4	100	None	No	0.0625	NP (NDs)
Molybdenum (ug/L)	MW-304A	162.1	97.89	100	No	4	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-305	2.344	0.02644	100	No	4	50	Cohen's	No	0.01	Param.
Molybdenum (ug/L)	MW-306	1.1	1.1	100	No	4	100	Cohen's	No	0.0625	NP (NDs)
Molybdenum (ug/L)	MW-6 (bg)	1.1	0.26	100	No	7	71.43	None	No	0.008	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: Arsenic Analysis Run 1/12/2021 3:43 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

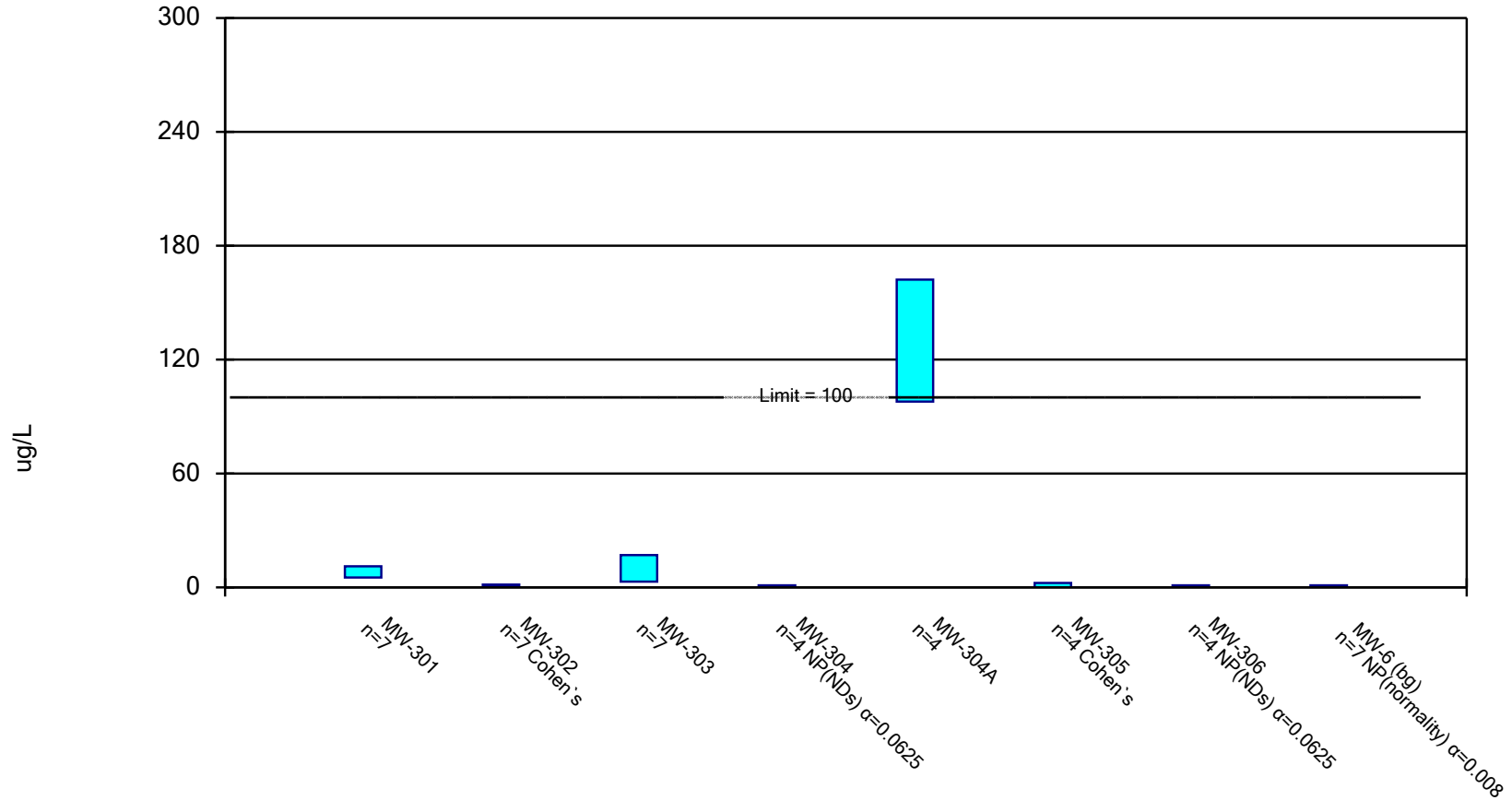
Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 1/12/2021 3:47 PM
 Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-6 (bg)
4/16/2018	3.9	30.8	1.2				
4/26/2018							0.23 (J)
8/7/2018	4.4	47.6	2.3				0.26 (J)
10/8/2018	5.4	50.4	2.3				0.24 (J)
4/15/2019	5.4	37	1.4 (J)				<0.75 (U)
6/20/2019				<0.75 (U)	2.2	8.6	
10/2/2019	5.6	53	2.5	<0.75 (U)	3.4	12	<0.75 (U)
12/5/2019						9.3	
2/5/2020						9.4	
5/19/2020	3.8		1.4 (J)		3.6	8.5	
5/20/2020		33		<0.88 (U)			<0.88 (U)
10/19/2020	6	48	3.2	<0.88			
10/20/2020					5.6	10	<0.88
Mean	4.929	42.83	2.043	0.815	3.7	9.633	0.57
Std. Dev.	0.8807	8.996	0.7323	0.07506	1.409	1.285	0.3103
Upper Lim.	5.975	53.51	2.913	0.88	6.9	11.4	0.88
Lower Lim.	3.882	32.14	1.173	0.75	0.5	7.868	0.23

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: Molybdenum Analysis Run 1/12/2021 3:44 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 1/12/2021 3:47 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-6 (bg)
4/16/2018	4.4	0.91 (J)	7.3					
4/26/2018								0.26 (J)
8/7/2018	5.6	1.2	21.6					0.28 (J)
10/8/2018	10.3	1.5	12					<0.57 (U)
4/15/2019	11	<1.1 (U)	6.2					<1.1 (U)
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)	<1.1 (U)
5/19/2020	8.1		3.1			<1.1 (U)	<1.1 (U)	
5/20/2020		<1.1 (U)		<1.1 (U)	110			<1.1 (U)
7/6/2020					140			
8/19/2020					140			
10/19/2020	7.5	<1.1	10	<1.1	130			
10/20/2020						<1.1	<1.1	<1.1
Mean	8.129	1.187	10	1.1	130	1.375	1.1	0.7871
Std. Dev.	2.488	0.2012	5.887	0	14.14	0.3202	0	0.4029
Upper Lim.	11.08	1.443	16.99	1.1	162.1	2.344	1.1	1.1
Lower Lim.	5.173	0.714	3.007	1.1	97.89	0.02644	1.1	0.26

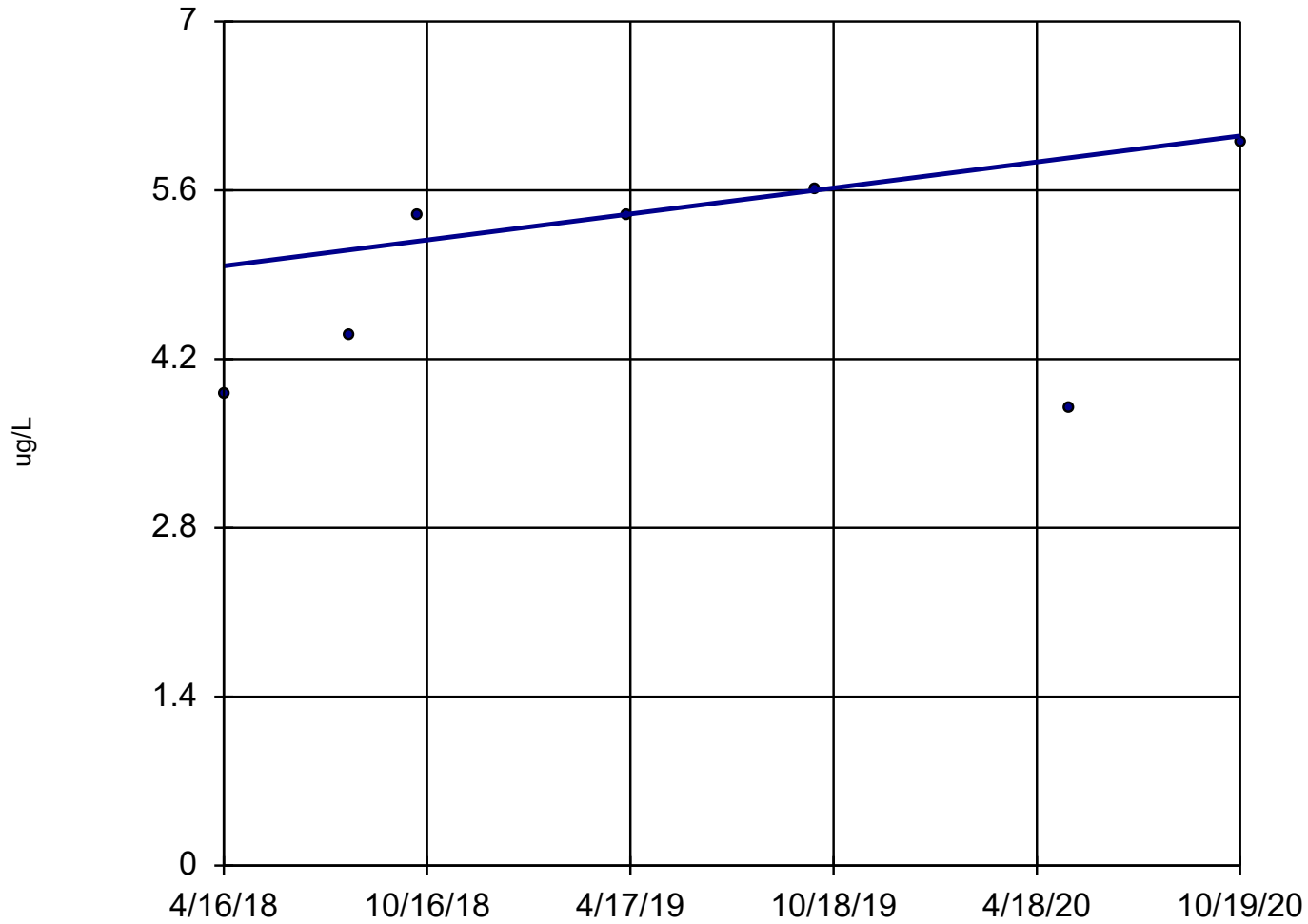
Trend Test

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev Printed 1/12/2021, 3:54 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (ug/L)	MW-301	0.4294	10	17	No	7	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-302	2.643	5	17	No	7	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-302A	0	NaN	NaN	No	3	100	n/a	n/a	NaN	NP
Arsenic (ug/L)	MW-303	0.2033	9	17	No	7	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-304	0.1107	4	8	No	4	100	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-304A	-1.009	NaN	NaN	No	3	66.67	n/a	n/a	NaN	NP
Arsenic (ug/L)	MW-305	2.317	6	8	No	4	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-306	0.5887	1	13	No	6	0	n/a	n/a	0.02	NP
Arsenic (ug/L)	MW-306A	0	NaN	NaN	No	3	100	n/a	n/a	NaN	NP

Sen's Slope Estimator

MW-301



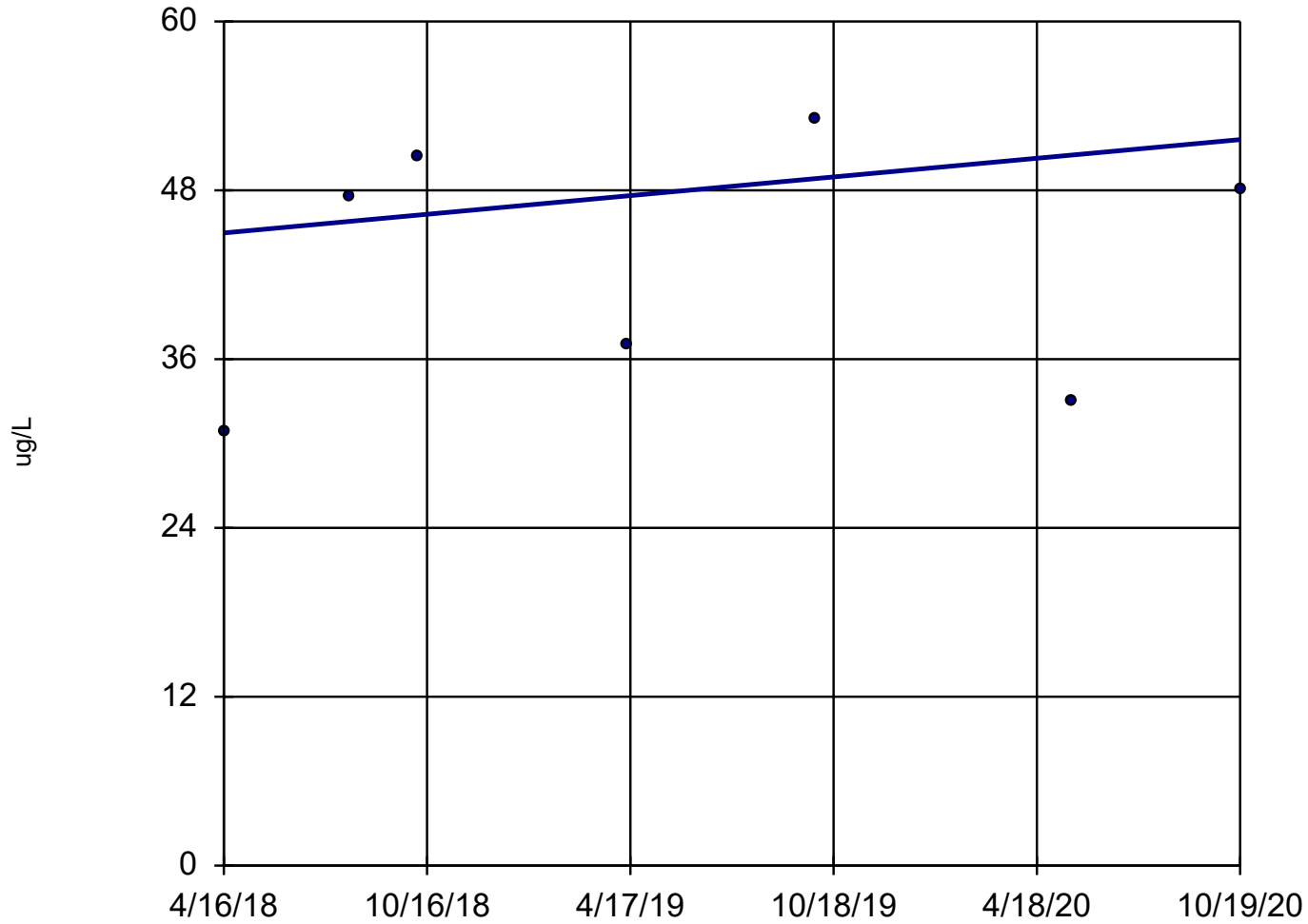
n = 7
Slope = 0.4294 units per year.
Mann-Kendall statistic = 10
critical = 17
Trend not significant at 98% confidence level ($\alpha = 0.01$ per tail).

Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-302



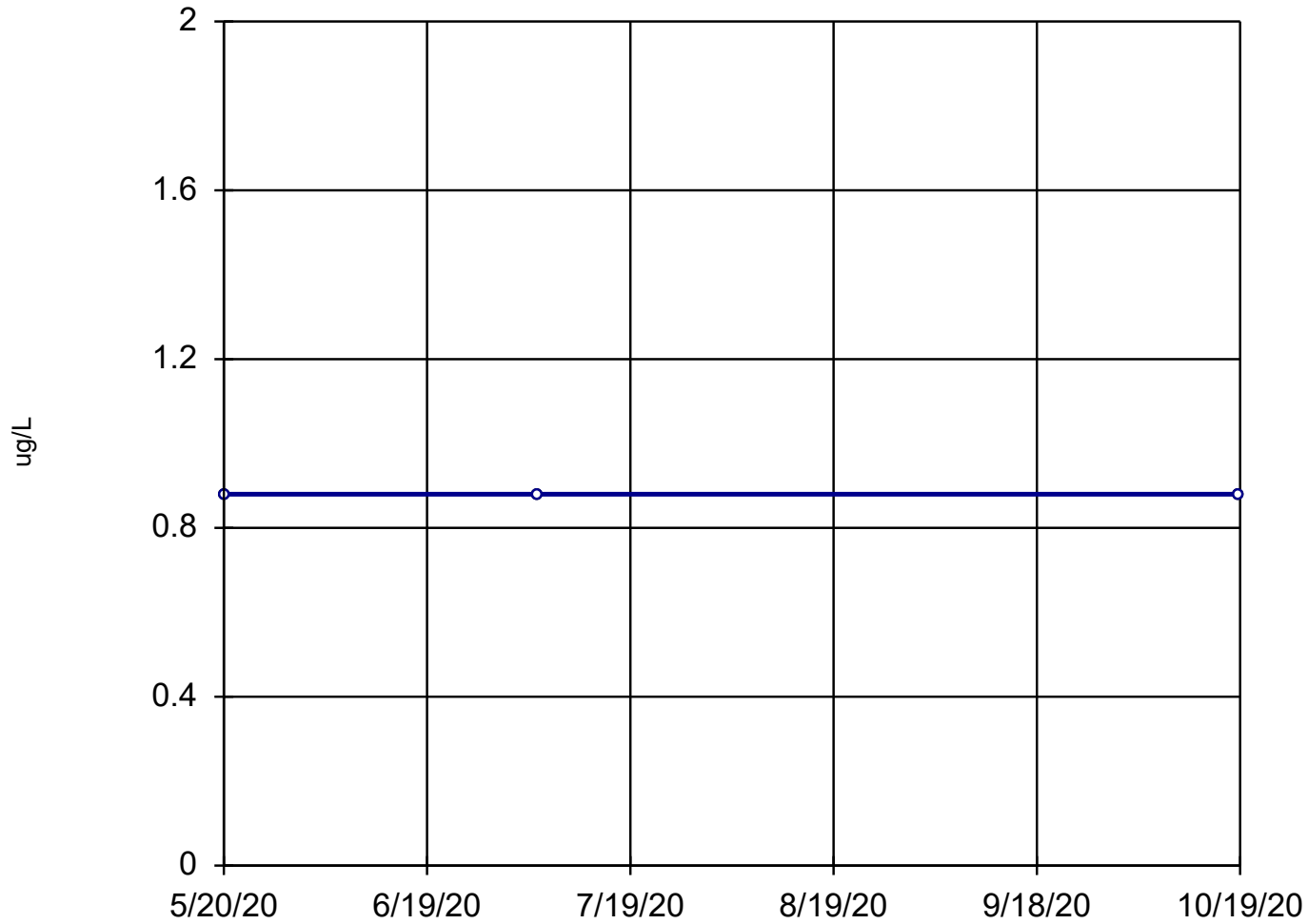
n = 7
Slope = 2.643 units per year.
Mann-Kendall statistic = 5
critical = 17
Trend not significant at 98% confidence level ($\alpha = 0.01$ per tail).

Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-302A



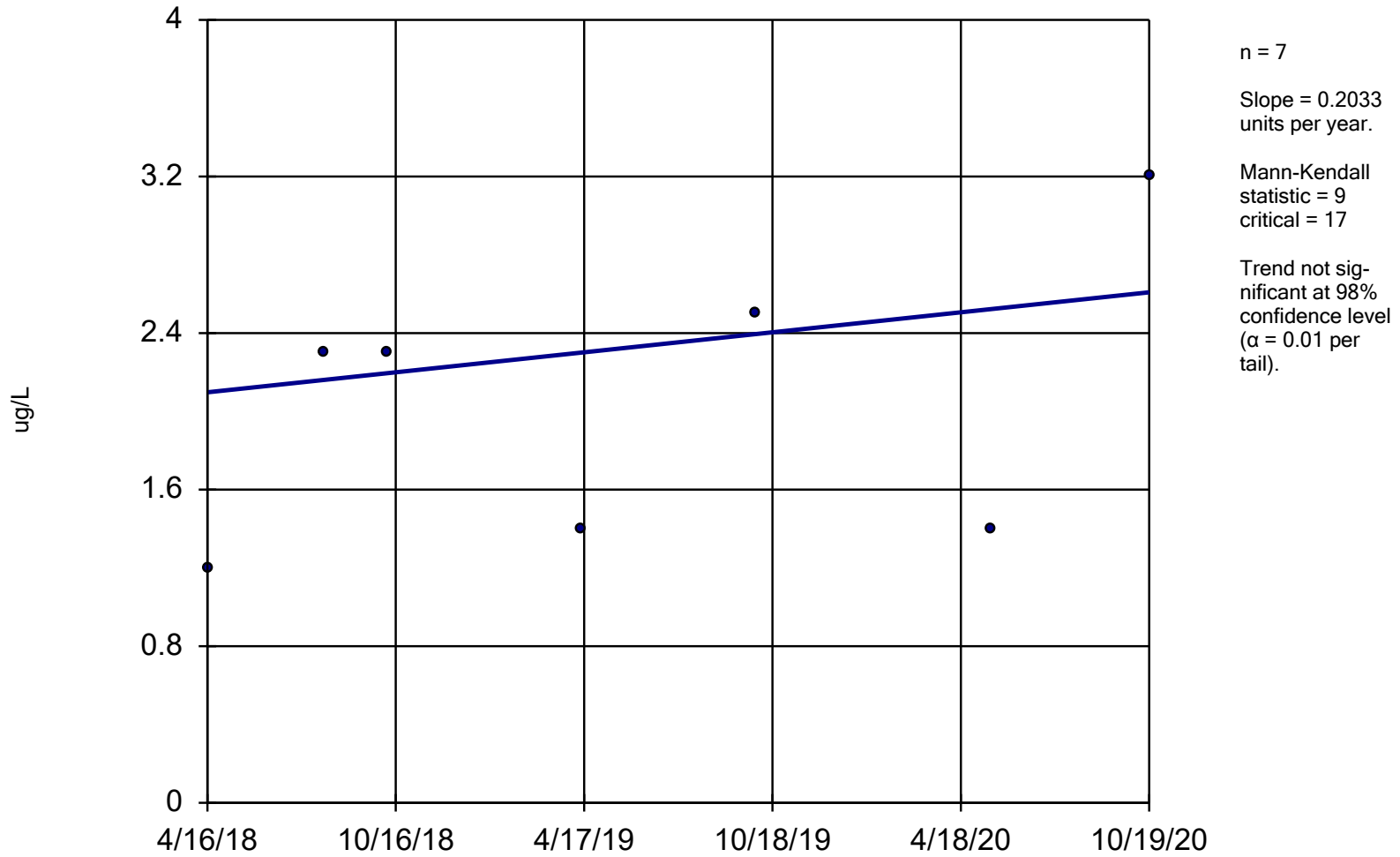
n = 3
Slope = 0
units per year.
Minimum n for
Mann-Kendall
is 4.

Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-303

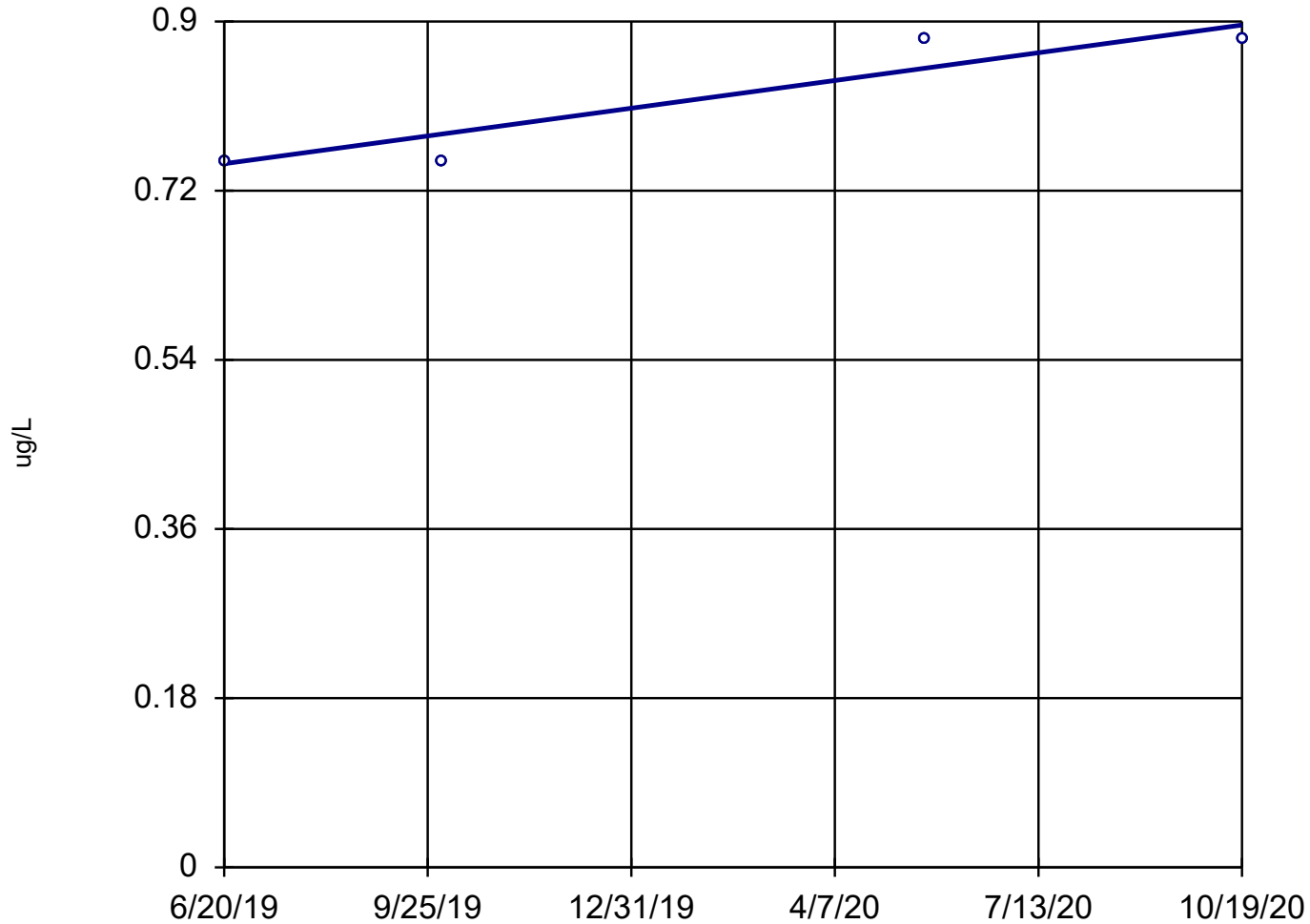


Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-304



n = 4

Slope = 0.1107
units per year.

Mann-Kendall
statistic = 4
critical = 8

Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

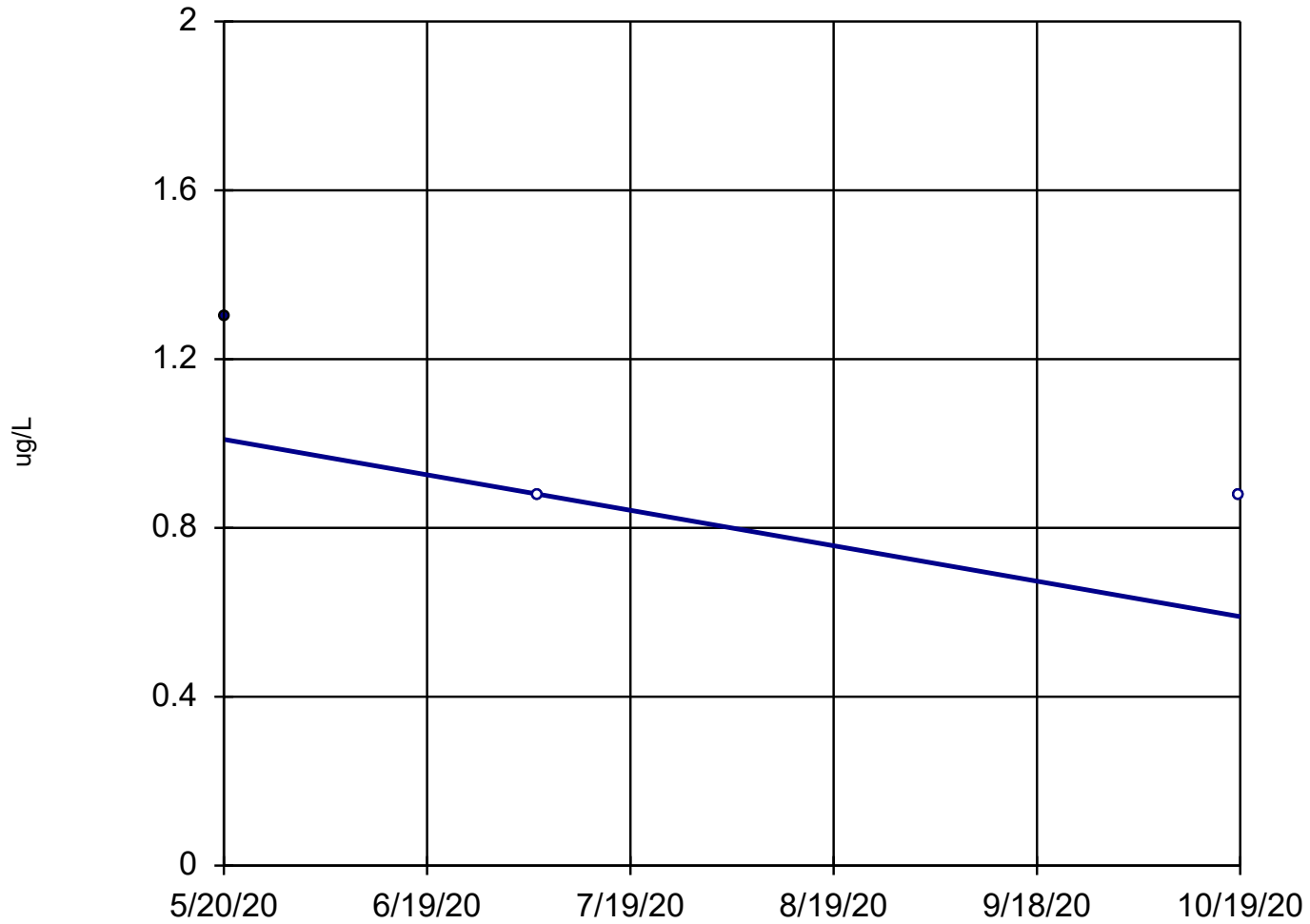
With n = 4, no data
set will result in
a significant Mann-
Kendall statistic.

Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-304A



n = 3

Slope = -1.009
units per year.

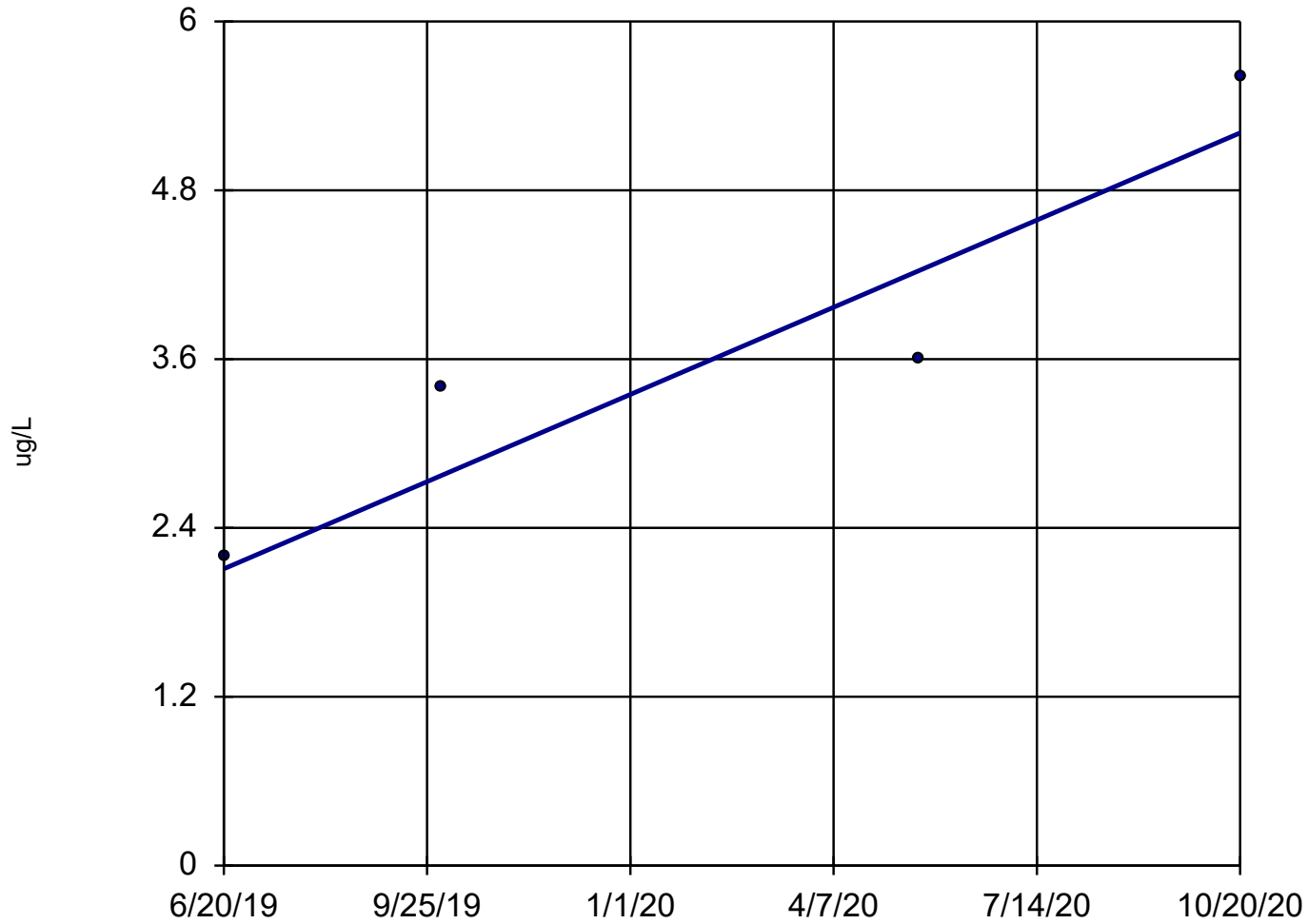
Minimum n for
Mann-Kendall
is 4.

Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-305



n = 4

Slope = 2.317
units per year.

Mann-Kendall
statistic = 6
critical = 8

Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

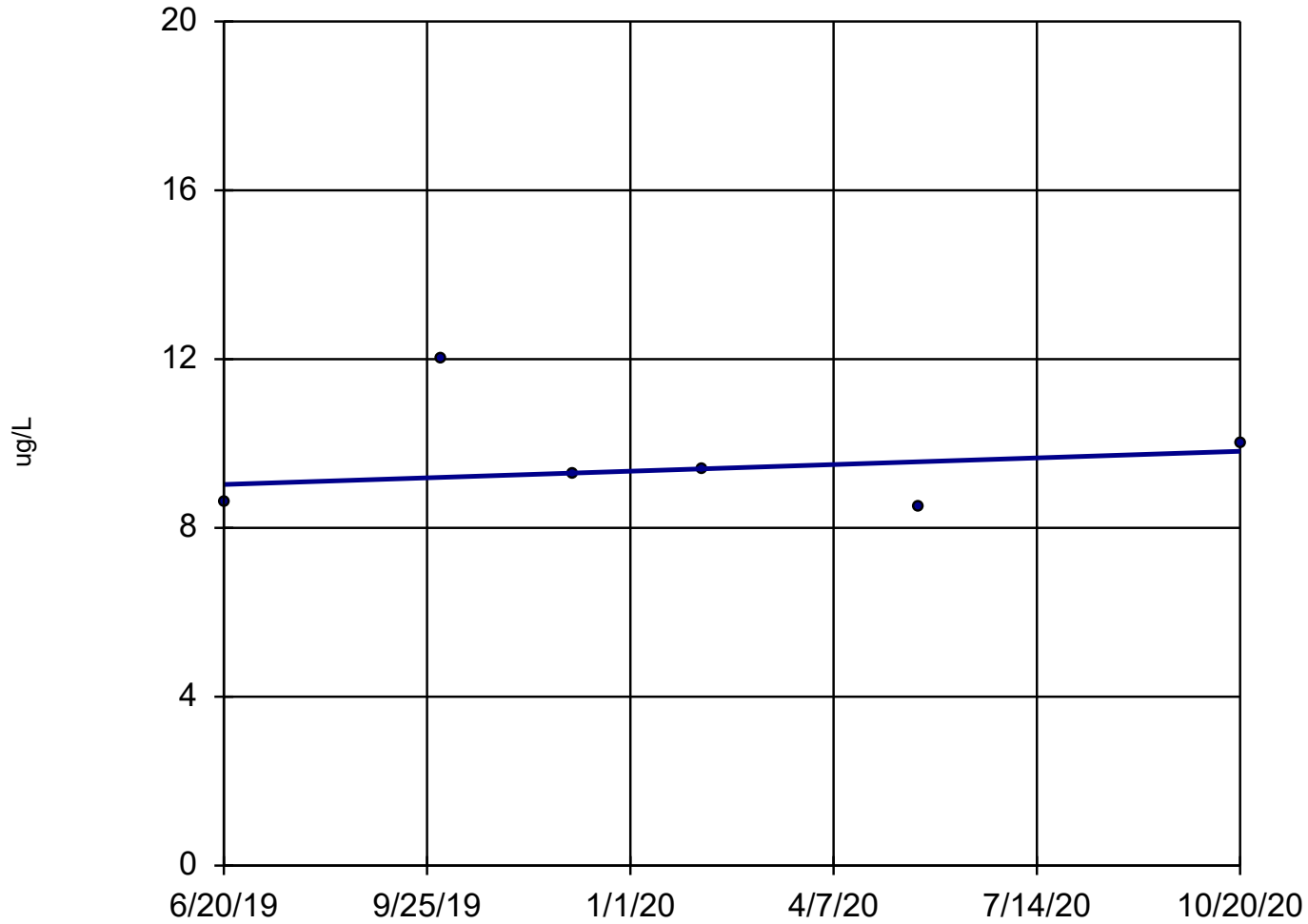
With n = 4, no data
set will result in
a significant Mann-
Kendall statistic.

Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-306



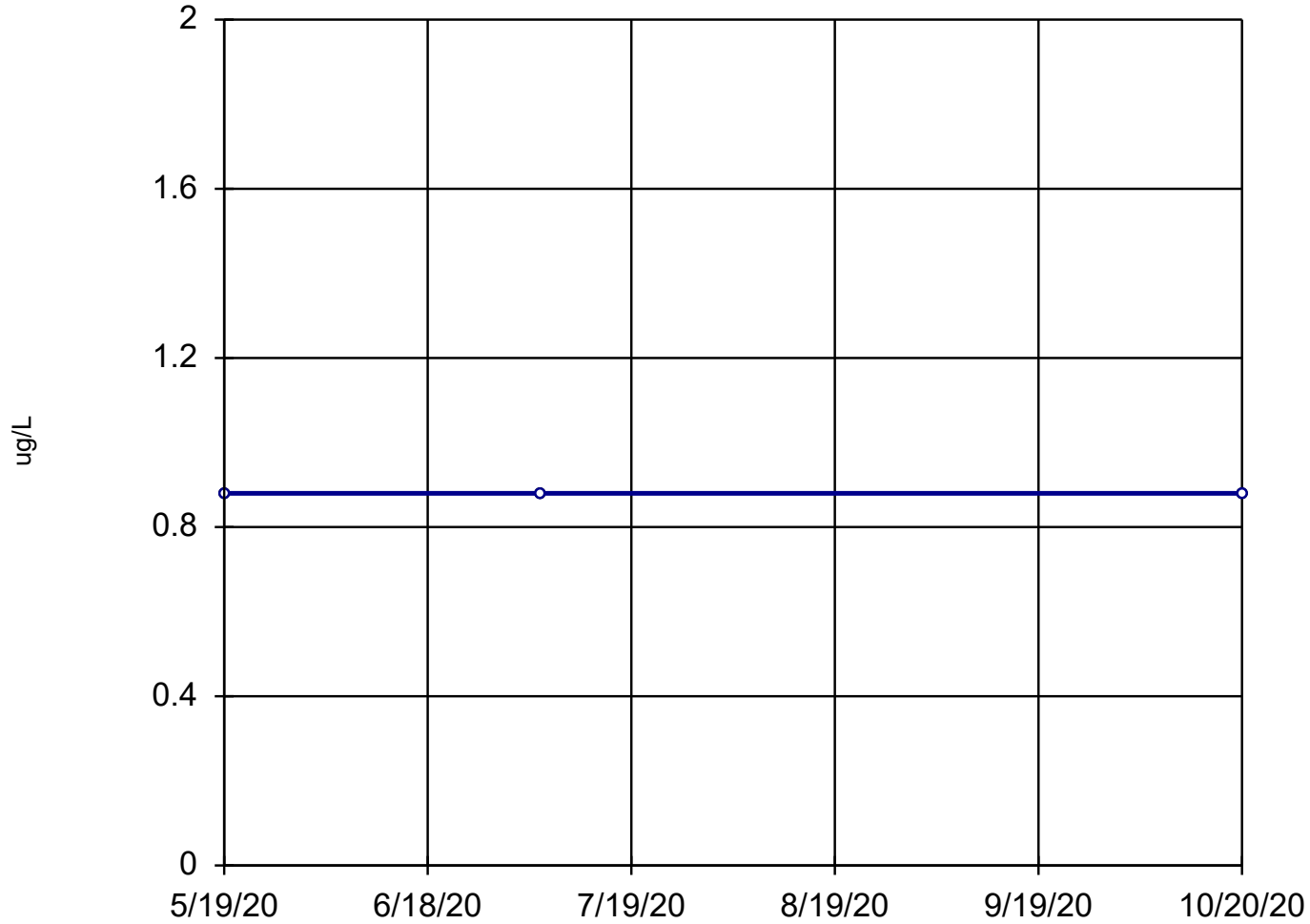
n = 6
Slope = 0.5887
units per year.
Mann-Kendall
statistic = 1
critical = 13
Trend not sig-
nificant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Sen's Slope Estimator

MW-306A



Constituent: Arsenic Analysis Run 1/12/2021 3:53 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev