2025 Annual Groundwater Monitoring and Corrective Action Report

Lansing Generating Station
Lansing, Iowa

Prepared for:

Alliant Energy

SCS ENGINEERS

25225070.00 | January 30, 2026

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OVERVIEW OF CURRENT STATUS

Lansing Generating Station, Landfill, and Upper Ash Pond
2025 Annual Report

In accordance with §257.90(e)(6), this section at the beginning of the annual report provides an overview of the current status of groundwater monitoring and corrective action programs for the coal combustion residual (CCR) unit. The groundwater monitoring system at the Lansing Generating Station (LAN) is a multiunit system that includes the Landfill and Upper Ash Pond. Supporting information is provided in the text of the annual report.

Category	Rule Requirement	Site Status
Monitoring Status – Start of Year	(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Monitoring Status – End of Year	(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Statistically Significant Increases (SSIs)	(iii) If it was determined that there was an SSI over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e): (A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and	SSIs initially determined on January 15, 2018, based on October 2017 monitoring results. SSIs identified for semiannual events In October 2024 and April 2025 for compliance wells at waste boundary included the following; see Table 5 for complete results. <u>October 2024</u> Boron: MW-301, MW-307 Calcium: MW-301 Chloride: MW-301, MW-307 Sulfate: MW-307 <u>April 2025</u> Boron: MW-301, MW-307 Calcium: MW-301 Chloride: MW-301, MW-307 Field pH: MW-307 Sulfate: MW-301, MW-307
	(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	July 16, 2018

Category	Rule Requirement	Site Status
Statistically Significant Levels (SSL) Above Groundwater Protection Standard (GPS)	(iv) If it was determined that there was an SSL above the GPS for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g) include all of the following:	
	(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;	Arsenic: MW-302 Determined to be at SSL above GPS on January 15, 2019. Arsenic was not an SSI above the GPS in compliance wells at the waste boundary in October 2024 and April 2025. Molybdenum: MW-304A Determined to be at SSL above GPS on June 7, 2021, and attributed to alternative source. No SSLs at compliance wells.
	(B) Provide the date when the Assessment of Corrective Measures (ACM) was initiated for the CCR unit;	Arsenic: April 15, 2019 Molybdenum: No ACM required.
	(C) Provide the date when the public meeting was held for the ACM for the CCR unit; and	July 17, 2023
	(D) Provide the date when the ACM was completed for the CCR unit.	September 12, 2019 – Original ACM November 25, 2020 –Addendum No. 1 to ACM June 5, 2023 – Addendum No. 2 to ACM
Selection of Remedy (SOR)	(v) Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection; and	Selection of Remedy dated May 6, 2024
Corrective Action	(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	A Corrective Action Monitoring Plan was implemented August 2024

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1.0 INTRODUCTION

This 2025 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the Coal Combustion Residuals (CCR) Rule [40 Code of Federal Regulations (CFR) 257.50-107]. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.90(e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2025 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, 2025, through December 31, 2025.

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

- LAN Landfill
- LAN Upper Ash Pond

The groundwater system is designed to detect monitored constituents at the waste boundary of the facility as required by 40 CFR 257.91(d). The groundwater monitoring system includes one upgradient monitoring well (MW-6) and three downgradient monitoring wells (MW-301, MW-303/MW-303R, and MW-307) at the waste boundary. The network was recertified on August 2, 2024, to replace original compliance well MW-302 with MW-307 as a downgradient compliance monitoring well. MW-302 will remain as part of the corrective action monitoring plan (Figure 2 and Table 1). The network also includes 10 additional downgradient wells. Four of the additional 10 downgradient wells are delineation monitoring wells (MW-302/MW-307, MW-304, MW-305, and MW-306), four wells are deeper delineation piezometers (MW-302A, MW-304A, MW-306A, and MW-307A), and two wells function as groundwater elevation monitoring points only (MW-308 and MW-309).

The ongoing groundwater investigation has provided evidence that the Ash Pond and Landfill are not the source of the arsenic groundwater protection standard (GPS) exceedances in compliance monitoring well MW-302. An amendment to the Assessment of Corrective Measures (ACM) was completed in June 2023 to provide a summary of the information supporting that conclusion and a revision of the site conceptual model.

The Landfill and Upper Ash Pond were both closed in 2023. A Selection of Remedy (SOR) was prepared and finalized on May 6, 2024. A Corrective Action Monitoring Plan for assessment monitoring was prepared in August 2024. Assessment of the nature and extent of arsenic in groundwater suggests that the LAN CCR units are not the source for the arsenic GPS exceedances and "No Additional Action" was selected.

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 LAN is located but is thin to absent on the surrounding bluffs and hilltops. The lower Cambrian-Ordovician sandstone unit (Jordan sandstone) is the shallowest regional bedrock aquifer. The October 1989 Iowa Department of Natural Resources (IDNR) Water Atlas No. 8 states that the Jordan aquifer is commonly the source of municipal and industrial high-capacity wells in the region. A summary of the regional groundwater units 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 and northwest (**Figures 3** and **5**). 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-312 and piezometers MW-302A, MW-304A, MW-306A, and MW-307A are installed in the shallow alluvial aquifer and in the hydraulically connected lower Cambrian-Ordovician sandstone unit (Jordan sandstone), which together comprise 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-312 are between 16 and 35 feet, and bedrock was not encountered in any of the monitoring well borings. The total depths of piezometers MW-302A, MW-304A, and MW-307A are between 50 and 56 feet. Background monitoring well MW-6 is screened within the bedrock unit because the water table occurs within the bedrock at this location. Boring logs, well construction, and development documentation for all monitoring wells are included in **Appendix B**.

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

near the water table. The potentiometric surface maps are based on the deeper "A" wells. The potentiometric surface maps do not incorporate water level data from state monitoring program well located south of the "A" wells because they are screened in higher elevations.

The water table and potentiometric surface contours and groundwater flow patterns based on April 2025 water level measurements are shown on **Figures 3** and **4**. The water table and potentiometric surface contours and groundwater flow patterns for the October 2025 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. Through the April 2025 monitoring event, the three downgradient compliance wells at the waste boundary included MW-301, MW-303, and MW-307. MW-303 was not sampled in April 2025 because it did not have enough water to sample, consistent with an overall decrease in water levels at the site following pond closure activities. MW-303R was installed in September 2025 to replace MW-303 with a monitoring well that consistently intersects the water table. MW-303R was sampled in November 2025 following development in October 2025. MW-303 was properly abandoned in September 2025, and the network will be recertified to include MW-303R in place of MW-303 in 2026.

MW-307 replaced MW-302 in the October 2024 event as a downgradient well at the waste boundary. Monitoring well nest MW-307/MW-307A was installed in 2021 at the waste boundary, at a location between the Upper Ash Pond and downgradient compliance well MW-302. Installation of a compliance well at this location was not feasible when the monitoring system was originally installed in 2015. In August 2024, the monitoring network was recertified to add MW-307 in place of MW-302 as a downgradient compliance well. MW-302 will remain as part of the corrective action monitoring program.

Four additional water table wells (MW-304, MW-305, MW-306, and MW-307) and four deeper piezometers (MW-302A, MW-304A, MW-306A, MW-307A) were added as delineation wells to support the evaluation of the nature and extent of groundwater impacts and characterization of the site conditions. Two additional water table wells (MW-308 and MW-309) were installed to provide information on horizontal groundwater flow, and groundwater sample collection is not currently planned at these two wells. Three additional downgradient water-level only wells (MW-310, MW-311, and MW-312) were installed in September 2025.

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 CCR*

management units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31, 2029, 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 on **Figure 2**.

3.2 §257.90(E)(2) MONITORING SYSTEM CHANGES

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

Four monitoring wells were installed in September 2025. MW-303R was installed to replace MW-303 because samples were unable to be obtained due to insufficient water volume available for sample collection. The network will be re-certified to include this well in 2026. Wells MW-310, MW-311, and MW-312 were installed to be used for water elevation measurements only.

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;

Two semiannual groundwater sampling events were completed in April and October 2025. A supplemental event was conducted in November 2025 to sample the newly installed MW-303R. 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 or assessment monitoring programs is included in **Table 2**.

The semiannual assessment monitoring events for the compliance monitoring network were completed in April and October 2025. MW-303 could not be sampled due to low water levels in 2024 and April 2025, so this well was plugged and abandoned in September 2025. A replacement well MW-303R was installed a greater depth to allow for sufficient sample water volume. A water level was obtained from MW-303R for the October 2025 event. In April and October 2025, samples from the background well and compliance wells installed at the waste boundary were analyzed for

Appendix III and Appendix IV parameters. MW-303R was sampled and analyzed for Appendix III and Appendix IV parameters in November 2025 following well development and stabilization. Samples from the delineation wells were analyzed for arsenic and iron. As discussed in the SOR, the CCR Landfill and Upper Ash Pond are not believed to be the source of arsenic at MW-302. Arsenic at MW-302 is likely attributed to in-situ geochemical processes in organic-rich sediments present near the location of MW-302.

The validation and evaluation of the October 2024 monitoring event data was completed and transmitted to IPL on February 17, 2025. The validation and evaluation of the April 2025 monitoring event data was completed and transmitted to IPL on August 18, 2025. The validation and evaluation of the October and November 2025 monitoring event data was in progress at the end of 2025 and will be transmitted to IPL in 2026; therefore, the October and November 2025 monitoring results will be included in the 2026 annual report. The October and November 2025 groundwater elevation data is included in this report.

The October 2024 and April 2025 monitoring results are summarized in **Table 5**. Field parameter results for the October 2024 and April 2025 sampling events are provided in **Table 6**. The analytical reports for October 2024 and April 2025 are provided in **Appendix C**. Historical results for each monitoring well through April 2025 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);

Following the SOR completion in May 2024, the monitoring program transitioned into the Corrective Action Groundwater Monitoring Program, which is outlined in an updated plan dated August 2, 2024. The SOR identified “No Additional Action” beyond the consolidation and closure activities for the CCR Units at the site as the selected remedy. The Landfill was closed in 2023. Construction work to consolidate and cap the Upper Ash Pond area was completed in 2023.

The LAN monitoring program transitioned to assessment monitoring beginning in April 2018 and assessment monitoring continued through 2023. An ACM was initiated for the LAN CCR units in April 2019 and completed in September 2019. The ACM was initiated in response to the detection of arsenic at SSLs exceeding the GPS at compliance well MW-302. Addendum No. 1 to the ACM was completed in November 2020 and Addendum No. 2 to the ACM was completed in June 2023. Addendum No. 2 to the ACM showed that the “No Additional Action” alternative is viable based on the available data, which indicates the CCR Units are not the source of groundwater impacts above the GPS at LAN. Following completion of the SOR in May 2024, the corrective action groundwater monitoring program was initiated in 2024.

In 2024, the only Appendix IV parameter detected at a concentration above the GPS in a sample from a compliance well was arsenic at MW-302. As noted above, beginning with the October 2024 monitoring event, MW-307 replaced MW-302 in the compliance monitoring network, because it is closer to the waste boundary. Appendix III constituents were determined to be SSIs above the background including boron, calcium, chloride, field pH, sulfate, and total dissolved solids (TDS).

In accordance with the Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act (RCRA) Facilities (U.S. Environmental Protection Agency, 2009), a prediction limit or tolerance limit procedure is used where an interval for each constituent

is established from the distribution of the background data. The level of each constituent in each compliance well is compared to the upper prediction limit (UPL) for Appendix III parameters or the upper tolerance limit (UTL) for Appendix IV parameters. For assessment monitoring, the monitoring data are also compared to the GPS was based on the lower confidence limit (LCL) for the arithmetic mean concentration for each well.

The LCL evaluations completed in 2025 for the October 2024 and April 2025 monitoring events are included in **Appendix E**. The LCLs were calculated with Sanitas™.

The October 2024 and April 2025 event LCL evaluations did not identify SSLs above the GPS for the compliance wells at the waste boundary. Arsenic was identified as an SSL above the GPS in delineation well MW-302. This is consistent with previous monitoring results. The May 2024 SOR identified "No Additional Action" as the proposed remedy because the Upper Ash Pond and Landfill are not considered as sources of the arsenic GPS exceedances at MW-302.

The interwell UPLs and UTLs for Appendix III and Appendix IV parameters were most recently updated in January 2023, using background data collected through October 2022. The Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (U.S. Environmental Protection Agency, 2009; Section 5.3.1) recommends periodic updating of background for interwell analyses. For semiannual monitoring, an update interval of 2 to 3 years is recommended.

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 2025 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 continued 2025, with assessment monitoring. The SOR was completed in May 2024, and the Corrective Action Monitoring Program was established on August 2, 2024. The monitoring program meets the requirements of an assessment monitoring program under § 257.95.

Summary of Key Actions Completed.

- Completed two semiannual assessment monitoring events (April and October 2025).
- Completed statistical evaluation for the October 2024 assessment monitoring event and prepared groundwater monitoring results letter (February 2025).

- Completed statistical evaluation for the April 2025 assessment monitoring event and prepared a groundwater monitoring results letter (August 2025).

- Installed and developed replacement wells MW-303R. Installed groundwater elevation measurement wells MW-310, MW-311, and MW-312. Abandoned MW-303 (September 2025).

- Conducted a supplemental sampling event for MW-303R in November 2025.

Description of Any Problems Encountered. Compliance monitoring well MW-303 was not sampled during the April 2025 sampling event due to insufficient water for sample collection.

Discussion of Actions to Resolve the Problems. Samples could not be collected from MW-303 in 2024 and in April 2025 due to low water levels. Due to the closure of the Upper Ash Pond in 2023, groundwater levels in MW-303 have not returned to historical levels and sample collection has not been feasible. MW-303 was plugged and abandoned in September 2025. A replacement well MW-303R was installed to a greater depth to allow for sufficient water volume for sample collection. The groundwater elevation was measured in October and November 2025, and a sample was collected in November 2025.

Projection of Key Activities for the Upcoming Year (2026).

- Complete two semiannual assessment monitoring events (April and October 2026).

- Complete statistical evaluation and determination of any SSLs exceeding the GPS and prepare groundwater monitoring results letter for the October 2025 monitoring event.

- Complete statistical evaluation and determination of any SSLs exceeding the GPS and prepare a groundwater monitoring results letter for the April 2026 monitoring event.

- Recertify the monitoring well network to remove MW-303 and include MW-303R.

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 2025 assessment monitoring results, background UPLs/UTLs, and GPSs established for LAN are provided in Table 5. The laboratory reports are provided in Appendix C. Historical monitoring results are summarized in Appendix D.

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 demonstrations were completed in 2025.

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.

Not applicable. The ACM was initiated on April 15, 2019. The July 10, 2019, certification, demonstrated 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. Addendum No. 2 to the ACM was completed on June 5, 2023. The SOR was finalized on May 7, 2024, and "No Additional Action" was selected.

3.6 §257.90(E)(6) OVERVIEW

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

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

4.0 REFERENCE

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

Tables

Table 1. Groundwater Monitoring Well Network
Lansing Generating Station / SCS Engineers Project #25225070.00

Monitoring Well	Location in Monitoring Network	Role in Monitoring Network
MW-6	Upgradient	Background
MW-301	Downgradient	Compliance
MW-302	Downgradient	Delineation
MW-302A	Downgradient, deeper	Delineation
MW-303R*	Downgradient	Compliance
MW-304	Downgradient	Delineation
MW-304A	Downgradient, deeper	Delineation
MW-305	Downgradient	Delineation
MW-306	Downgradient	Delineation
MW-306A	Downgradient, deeper	Delineation
MW-307	Downgradient	Compliance
MW-307A	Downgradient, deeper	Delineation
MW-308	Downgradient	Water Level Only
MW-309	Downgradient	Water Level Only
MW-310	Downgradient	Water Level Only
MW-311	Downgradient	Water Level Only
MW-312	Downgradient	Water Level Only

*MW-303 was replaced with MW-303R in September 2025.

Last revision by: NLB Date: 12/30/2025
Checked by: RM Date: 12/31/2025

Table 2. CCR Rule Groundwater Samples Summary
Lansing Generating Station / SCS Engineers Project #25225070.00

Sample Dates	Background Well	Compliance Wells				Delineation Wells								Groundwater Elevation Only				
	MW-6	MW-301	MW-303[2]	MW-303R[2]	MW-307	MW-302	MW-302A	MW-304	MW-304A	MW-305	MW-306	MW-306A	MW-307A	MW-308[1]	MW-309[1]	MW-310[1]	MW-311[1]	MW-312[1]
April 1-2, 2025	A	A	DRY	NI	A	A-NE	A-NE	A-NE	A-NE	A-NE	A-NE	A-NE	A-NE	--	--	NI	NI	NI
October 8-9, 2025	A	A	AB	--	A	A-NE	A-NE	A-NE	A-NE	A-NE	A-NE	A-NE	A-NE	--	--	NI	NI	NI
November 21, 2025	--	--	AB	S	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Samples	2	2	0	1	2	2	2	2	2	2	2	2	2	0	0	0	0	0

Abbreviations:
A = Assessment Monitoring Program
A-NE = Assessment Monitoring for nature and extent, wells sampled for arsenic, iron, and field parameters.
S = Supplemental Event
NI = Not Installed
AB = Abandoned
-- = Not Sampled
DRY = sample not collected due to lack of water volume for sampling

Notes:
1. No sampling events are currently planned for MW-308, MW-309, MW-310, MW-311 and MW-312. These wells are intended for groundwater elevation measurements only.
2. MW-303 had insufficient water for sample collection during the April 2025 event. MW-303 was replaced with deeper well MW-303R in September 2025 and subsequently sampled in November 2025.

Last revision by: NLB Date: 12/30/2025
Checked by: RM Date: 12/31/2025

Table 3. Water Level Summary
Interstate Power & Light - Lansing, Iowa / SCS Engineers Project #25225070.00

Well Number	MW1[4]	MW2	MW3[3]	MW4	MW5	MW6	MW11	MW11R	MW12	MW12P	MW13	MW13R	MW14	MW15	MW15R	TW17	TW18	TW19	MW16	MW18	MW19	MW22	MW22P	MW20
Measurement Date																								
May 11, 2001	632.77	628.53	629.29	653.61	654.82	663.12	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
March 8, 2002	627.95	620.21	620.94	650.57	651.80	661.71	653.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 19, 2004	NM	NM	NM	648.80	650.05	653.27	648.03	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 26, 2004	NM	NM	NM	652.89	654.15	664.29	652.09	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
August 23, 2004	NM	NM	NM	652.15	653.38	662.65	650.04	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
November 18, 2004	NM	NM	NM	650.81	652.04	663.88	648.18	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 5, 2005	NM	NM	NM	650.42	651.67	661.80	647.77	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 19, 2006	NM	NM	NM	650.43	651.66	661.78	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 30, 2007	NM	NM	NM	650.21	651.43	661.69	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 16, 2008	NM	NM	NM	653.99	655.24	664.55	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 3, 2009	NM	NM	NM	655.72	656.95	666.16	DRY	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 21, 2010	NM	NM	NM	652.27	653.51	663.08	DRY	646.41	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 4, 2011	NM	NM	NM	653.51	654.75	663.84	DRY	646.58	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 25, 2012	NM	NM	NM	651.77	653.03	662.83	DRY	646.53	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 17, 2012	627.33	620.03	NM[2]	650.73	651.97	662.10	AB	646.16	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 19-20, 2013	627.03	620.03	621.26	650.72	651.96	662.13	AB	645.42	650.31	NI	643.72	NI	641.93	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 1, 2013	627.80	620.68	621.79	652.24	653.46	664.16	AB	646.21	651.71	NI	644.61	NI	641.36	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 1, 2013	631.57	625.88	626.68	661.13	662.31	673.12	AB	648.73	653.66	NI	648.43	NI	642.43	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 29, 2014	629.84	NM	NM	654.17	655.43	664.86	AB	646.96	651.62	651.33	645.97	NI	641.95	633.83	NI	648.74	647.26	648.08	NI	NI	NI	NI	NI	NI
May 29, 2014	629.75	624.37	624.50	653.53	653.81	664.30	AB	646.53	651.05	650.73	645.39	NI	641.43	633.61	NI	648.14	646.55	646.96	NI	NI	NI	NI	NI	NI
April 20, 2015	628.16	620.09	620.78	652.00	653.24	663.30	AB	645.93	650.32	650.05	643.73	NI	642.02	633.85	NI	647.79	646.35	646.97	NI	NI	NI	NI	NI	NI
December 10, 2015	NM	NM	NM	NM	NM	662.28	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NI	NI	NI	NI	NI	648.27
April 28, 2016	627.50	620.26	620.83	651.55	652.79	662.80	AB	645.96	650.05	650.00	643.56	NI	641.56	634.71	NI	647.78	NM[5]	646.80	NI	NI	NI	NI	NI	648.61
July 20, 2016	NM	NM	NM	NM	NM	663.21	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	649.86
October 27, 2016	NM	NM	NM	NM	NM	670.82	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	651.32
January 18, 2017	NM	NM	NM	NM	NM	666.28	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	650.18
April 19-21, 2017	629.39	622.04	622.02	658.84	660.00	669.82	AB	648.24	653.68	653.40	647.61	NI	643.01	634.50	NI	649.87	649.03	649.01	660.45	669.88	652.12	668.38	667.45	651.71
June 19-20, 2017	NM	NM	NM	NM	NM	670.65	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	650.22
August 15, 2017	NM	NM	NM	NM	NM	670.61	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	649.58
October 16, 2017	NM	NM	NM	NM	NM	669.58	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	650.81
April 16-17, 2018	628.63	620.82	617.50	AB	AB	667.64	AB	647.07	652.25	651.90	646.36	NI	642.61	634.07	NI	648.77	648.49	648.23	NM	NM	NM	NM	NM	650.77
April 26, 2018	628.67	620.86	617.63	AB	AB	667.96	AB	647.47	651.75	652.54	646.38	NI	645.46	634.14	NI	648.99	648.35	648.00	656.61	667.79	650.19	666.28	665.17	651.18
June 4, 2018	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
October 8, 2018	NM	NM	NM	AB	AB	664.71	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
April 15-16, 2019	630.95	632.16	628.40	AB	AB	672.78	AB	648.69	654.35	653.99	649.45	NI	643.08	633.71	NI	649.73	648.47	648.10	NM	672.64	654.55	671.05	669.22	652.57
June 20, 2019	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
October 2, 2019	NM	NM	NM	AB	AB	675.54	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	652.64
December 5, 2019	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
February 5, 2020	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
May 20-21, 2020	629.38	620.61	621.38	AB	AB	674.47	AB	648.17	654.45	654.04	647.94	NI	643.23	633.80	NI	648.82	648.86	649.40	661.08	674.36	656.06	672.16	670.46	650.20
July 6, 2020	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
August 19-21, 2020	NM	NM	NM	AB	AB	674.64	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	650.88
October 19-20, 2020	628.69	620.38	621.22	AB	AB	673.37	AB	647.71	653.94	653.57	647.50	NI	642.96	633.44	NI	649.67	648.76	648.14	660.42	673.35	654.95	671.21	669.55	649.50
February 23, 2021	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
April 7-9, 2021	628.84	620.55	621.36	AB	AB	671.08	AB	647.97	652.31	652.92	647.39	NI	642.92	634.38	NI	649.58	648.86	648.21	659.59	670.95	652.86	669.02	667.74	650.79
July 12-13, 2021	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM
August 13, 2021	627.92	620.87	621.58	AB	AB	669.47	AB	647.22	652.57	652.31	646.79	NI	NM	631.59	NI	649.26	648.79	648.21	658.98	669.17	651.25	667.85	666.63	651.19
September 23, 2021	627.54	620.48	621.38	AB	AB	668.88	AB	647.28	652.46	652.12	646.53	NI	642.79	632.44	NI	649.12	648.65	647.96	658.72	668.58	650.77	667.12	665.96	650.46
October 25-27, 2021	627.51	620.48	621.19	AB	AB	668.14	AB	646.82	652.10	651.79	645.58	NI	642.68	635.44	NI	649.00	648.61	647.90	658.32	667.79	650.24	666.48	665.37	649.34
February 18, 2022	627.18	620.05	620.69	AB	AB	666.67	AB	647.19	651.83	651.42	645.95	NI	642.67	638.17	NI	648.93	648.58	647.83	657.69	666.36	649.16	665.06	664.10	649.81
April 4-7, 2022	627.65	620.66	621.36	AB	AB	667.14	AB	647.31	652.11	651.71	646.61	NI	642.88	640.13	NI	649.09	648.91	648.24	658.09	666.58	649.60	665.47	664.41	650.86
June 2, 2022	NM	NM	NM	AB	AB	NM	AB	646.78	651.73	651.37	645.41	NI	642.58	635.53	NI	NM	648.61	NM	NM	NM	NM	NM	NM	NM
October 17-19, 2022	627.05	620.12	620.91	AB	AB	665.34	AB	646.34	651.12	650.79	643.88	NI	642.34	639.04	NI	648.57	648.39	647.63	656.97	664.97	647.72	663.92	663.06	AB
April 10-12, 2023	620.36	622.75	623.57	AB	AB	664.79	AB	643.72	650.75	649.09	DRY	NI	641.64	DRY	NI	647.87	648.50	647.91	656.93	664.44	640.69	663.48	662.88	AB
October 11, 2023	NM	620.04	620.72	AB	AB	NM	AB	644.47	649.65	649.28	DRY	NI	NM	631.27	NI	647.75	647.96	647.25	655.66	664.29	644.42	662.20	661.57	AB
October 30-31, 2023	626.96	620.82	621.46	AB	AB	663.59	AB	644.40	649.67	649.37	637.87	NI	NM	629.13	NI	647.92	648.28	647.54	655.61	664.20	644.43	662.11	661.51	AB
April 1-2, 2024	625.22	620.56	621.68	AB	AB	663.16	AB	644.34	649.51	649.22	637.11	NI	641.85	628.88	NI	647.85	648.33	647.55	655.26	664.17	643.94	661.55	661.02	AB
October 21-22, 2024	626.69	620.18	620.89	AB	AB	664.87	AB	644.60	650.27	649.83	638.00	NI	641.60	630.11	NI	647.96	648.29	647.51	656.52	664.49	645.20	663.25	662.52	AB
April 1-2, 2025	627.03	620.62	621.29	AB	AB	664.35	AB	644.64	650.45	649.93	637.91	NI	641.77	629.75	NI	648.03	648.70	648.09	656.32	664.31	644.96	662.92	662.14	AB
April 16, 2025	NM	NM	NM	AB	AB	664.43	NM	NM	NM	649.73	NM	NI	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	AB
October 8-9, 2025	626.78	620.25	620.89	AB	AB	664.48	AB	643.84	650.01	649.70	AB	638.08	640.90	AB	629.92	648.12	648.28	647.58	656.46	664.37	645.11	663.15	662.33	AB
November 21, 2025	NM	NM	NM	AB	AB	NM	AB	NM	NM	NM	AB	637.69	NM	AB	629.40	NM	NM	NM	NM	NM	NM	NM	NM	AB

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

1. The groundwater elevations recorded for MW11 on 2/19/04, 11/18/04, and 5/5/05 are not considered reliable due to a minimal quantity of water observed in the well. The actual water table elevation could be lower than the reported value.
2. MW-6 and MW-14 could not be located during this sampling event.
3. Repairs were completed at MW3 in July 2013. Elevations calculated for February, April, and July 2013 are estimates based on the old top of casing elevation (657.36 feet amsl). MW3 was re-surveyed on June 3, 2014.
4. MW1 was repaired in April 2013. Groundwater elevations measured before this date are calculated using the old top of casing elevation (637.60 ft amsl).
5. TW-18 was damaged and could not be accessed for a water level measurement in April 2016. The well was repaired in July 2016. SW-4 was demolished and no longer exists.
6. On October 11, 2023, wells MW-1, MW-305, MW-306, MW-306A, MW-308, MW-309 and SW-5 were roped off for plant demo and could not be accessed.

Created by: MDB Date: Date: 8/9/2013
Last revision by: RM Date: Date: 12/2/2025
Checked by: LH Date: Date: 12/2/2025

I:\25225070.00\Deliverables\2025 Annual CCR Report\Tables\[Table 3 - LAN GW Elevation Summary_2025.xls]levels

Table 3. Water Level Summary
Interstate Power & Light - Lansing, Iowa / SCS Engineers Project #25225070.00

Well Number	MW301	MW302	MW302A	MW303	MW-303R	MW304	MW304A	MW305	MW306	MW306A	MW307	MW-307A	MW308	MW309	MW310	MW311	MW312	Entrance Rd Bridge / SW-1	Culvert near TW 17, 18, 19 / SW-2	Bridge to mobile home court / SW-3	Ash Pond / SW-4	Outfall / SW-5
Measurement Date																						
May 11, 2001	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
March 8, 2002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 19, 2004	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 26, 2004	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
August 23, 2004	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
November 18, 2004	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 5, 2005	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 19, 2006	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 30, 2007	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 16, 2008	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 3, 2009	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 21, 2010	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 4, 2011	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 25, 2012	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 17, 2012	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 19-20, 2013	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 1, 2013	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 1, 2013	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 29, 2014	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 29, 2014	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 20, 2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
December 10, 2015	623.54	627.88	NI	638.79	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 28, 2016	623.45	627.24	NI	638.15	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 20, 2016	624.76	628.60	NI	639.33	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 27, 2016	624.97	628.35	NI	638.65	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
January 18, 2017	624.09	627.32	NI	638.10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 19-21, 2017	624.70	628.98	NI	639.20	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
June 19-20, 2017	624.89	627.75	NI	638.77	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
August 15, 2017	624.09	627.28	NI	637.86	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 16, 2017	625.70	628.75	NI	638.79	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 16-17, 2018	624.29	628.98	NI	638.62	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 26, 2018	624.56	628.75	NI	638.57	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
June 4, 2018	624.62	628.27	NI	638.81	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 8, 2018	625.73	628.59	NI	637.32	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 15-16, 2019	629.19	629.99	NI	638.22	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
June 20, 2019	NM	NM	NI	NM	NI	623.61	NI	629.12	623.05	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 2, 2019	626.54	630.04	NI	638.03	NI	623.79	NI	629.77	622.47	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
December 5, 2019	NM	NM	NI	NM	NI	NM	NI	NM	620.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 5, 2020	NM	NM	NI	NM	NI	NM	NI	NM	620.83	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 20-21, 2020	624.46	627.68	623.19	637.98	NI	621.57	624.88	627.24	620.43	620.40	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 6, 2020	NM	NM	624.20	NM	NI	NM	625.76	NM	NM	621.66	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
August 19-21, 2020	625.02	627.53	623.52	638.22	NI	621.75	NM	626.98	620.37	620.63	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 19-20, 2020	624.42	627.14	623.03	636.96	NI	621.40	624.41	626.54	619.92	620.17	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 23, 2021	NM	NM	NM	NM	NI	NM	625.04	NM	619.76	NM	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 7-9, 2021	624.02	627.87	623.12	638.07	NI	621.46	624.31	627.02	620.03	620.14	NI	NI	NI	NI	NI	NI	NI	630.57	NI	NI	NI	NI
July 12-13, 2021	624.40	627.89	622.77	637.70	NI	621.23	623.87	626.79	619.83	620.00	630.95	625.27	621.00	621.59	NI	NI	NI	NM	NM	NM	646.76	620.02
August 13, 2021	623.92	628.46	623.12	636.67	NI	621.57	624.11	627.14	620.38	620.82	630.01	625.48	621.44	622.02	NI	NI	NI	630.61	DRY	DRY	DRY	620.54
September 23, 2021	624.33	627.65	622.85	637.62	NI	621.20	623.74	626.44	619.95	620.28	631.74	625.28	621.09	621.92	NI	NI	NI	630.65	DRY	DRY	DRY	620.07
October 25-27, 2021	627.00	628.86	623.10	638.68	NI	621.29	623.87	626.41	619.91	620.17	634.90	626.25	620.90	621.68	NI	NI	NI	630.52	DRY	DRY	645.08	620.09
February 18, 2022	629.46	629.87	623.09	641.17	NI	621.19	623.59	626.42	619.59	619.90	638.27	626.12	620.66	621.42	NI	NI	NI	630.37	DRY	DRY	647.19	619.71
April 4-7, 2022	630.67	630.29	623.71	641.69	NI	621.72	619.00	627.17	620.42	620.61	639.74	626.72	621.44	622.04	NI	NI	NI	630.62	DRY	DRY	642.81	620.27
June 2, 2022	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NM	NM	NM	NM	NM
October 17-19, 2022	630.79	629.51	622.97	639.39	NI	621.21	623.56	626.36	619.79	620.05	639.23	625.77	621.78	621.96	NI	NI	NI	630.58	DRY	DRY	643.69	619.90
April 10-12, 2023	623.40	628.61	621.32	DRY	NI	622.31	623.95	624.54	622.07	622.68	629.13	617.75	622.89	622.37	NI	NI	NI	630.70	DRY	DRY	DRY	621.87
October 11, 2023	621.79	625.84	622.22	629.96	NI	620.63	623.05	NM	NM	NM	628.53	624.46	NM	NM	NI	NI	NI	630.61	DRY	DRY	AB	NM
October 30-31, 2023	622.20	627.05	622.91	629.98	NI	621.21	623.57	626.89	620.41	621.02	628.65	625.01	621.39	622.20	NI	NI	NI	630.62	DRY	DRY	AB	620.05
April 1-2, 2024	622.11	625.60	622.53	629.85	NI	621.05	623.25	626.49	620.18	620.56	628.61	624.61	621.00	621.89	NI	NI	NI	630.37	#VALUE!	DRY	AB	NM
October 21-22, 2024	622.16	625.89	622.41	DRY	NI	620.95	623.22	626.23	619.92	620.18	629.73	624.59	620.82	621.77	NI	NI	NI	630.43	646.59	DRY	AB	NM
April 1-2, 2025	622.21	627.32	622.68	630.55	NI	620.80	623.18	626.92	619.95	620.67	629.31	624.57	621.14	621.94	NI	NI	NI	630.57	646.84	DRY	AB	620.16
April 16, 2025	NM	NM	NM	NM	NI	NM	NM	NM	NM	619.88	NM	NM	NM	NM	NI	NI	NI	NM	NM	NM	AB	NM
October 8-9, 2025	624.11	626.84	622.46	AB	634.51	620.92	623.26	626.43	619.98	620.12	629.87	624.65	620.91	621.73	633.65	640.00	641.92	630.59	646.76	DRY	AB	618.62
November 21, 2025	NM	NM	NM	AB	630.50	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	AB	NM

Table 4A. Horizontal Gradients and Flow Velocity
Lansing Generating Station / SCS Engineers Project #25225070.00

Flow Path A - Shallow Water Table - Northwest					
Sampling Dates	**h1 (ft)**	**h2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**V (ft/d)**
April 1-2, 2025	630.55	626.92	272	0.013	1.01
October 8-9, 2025	634.51	626.43	284	0.028	2.15

Flow Path B - Deep Potentiometric Surface - Northeast or Northwest					
Sampling Dates	**h1 (ft)**	**h2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**V (ft/d)**
April 1-2, 2025	623.18	621.00	460	0.005	0.36
October 8-9, 2025	624.65	622.46	176	0.012	0.94

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

Assumed Porosity, n
0.40

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

ft = feet
ft/d = feet per day
K = hydraulic conductivity
n = effective porosity
V = groundwater flow velocity

h1, h2 = point interpreted groundwater elevation at locations 1 and 2
Δl = distance between location 1 and 2
Δh/Δl = hydraulic gradient

Note:
1. See Figures 3, 4, 5, and 6 for velocity calculation flow path locations.

Last revision by: NLB Date: 12/2/2025
Checked by: LH Date: 12/2/2025

Table 4B. Summary of Vertical Hydraulic Gradients
Lansing Generating Station / SCS Engineers Project #25225070.00

				April 2025					October 2025				
Well Nest Location	Well Type	Top of Screen Elevation (ft amsl)	Bottom of Screen Elevation (ft amsl)	Groundwater Elevation (h) (ft amsl)	Reference Point (L)[1] (ft amsl)	Delta h[2] (ft)	Delta L[3] (ft)	Vertical Hydraulic Gradient (ft/ft)	Groundwater Elevation (h) (ft amsl)	Reference Point (L)[1] (ft amsl)	Delta h[2] (ft)	Delta L[3] (ft)	Vertical Hydraulic Gradient (ft/ft)
MW-302	WT	626.9	616.9	627.32	621.9	4.64	34.9	0.133	626.84	621.9	4.38	34.4	0.127
MW-302A	P	594.9	589.9	622.68	592.4				622.46	592.4			
MW-304	WT	630.4	620.4	620.80	620.6	-2.38	29.7	-0.080	620.92	620.7	-2.34	29.8	-0.078
MW-304A	P	593.6	588.6	623.18	591.1				623.26	591.1			
MW-306	WT	621.5	611.5	619.95	615.7	-0.72	32.9	-0.022	619.98	615.7	-0.14	32.9	-0.004
MW-306A	P	589.6	584.6	620.67	587.1				620.12	587.1			
MW-307	WT	633.1	623.1	629.31	626.2	4.74	33.8	0.140	629.87	626.5	5.22	34.4	0.152
MW-307A	P	598.0	593.0	624.57	595.5				624.65	595.5			
							Average	0.043				Average	0.049

Footnotes:

[1] For water table monitoring wells, the reference point (L) is the midpoint between water table elevation and the bottom of the well screen elevation if the water table intersects the well screen. For water table wells with a saturated screen (water table elevation above the top of screen elevation), the Reference Point (L) is the midpoint between the top and bottom of well screen elevations. For piezometers, reference point (L) is the elevation in the middle of the screen.
[2] Delta h is the difference between water table elevation and potentiometric surface elevation.
[3] Delta L is the difference between water table elevation and the elevation of the mid-point of the piezometer screen.

Notes:
1. Vertical gradient = Delta h/Delta L
2. A negative vertical hydraulic gradient indicates upward flow
3. WT = water table well
4. P = piezometer well
5. ft amsl = feet above mean sea level

Updated by: NLB Date: 11/18/2025
Checked by: LH Date: 12/2/2025

Table 5. Groundwater Analytical Results Summary - October 2024 and April 2025
Lansing Generating Station / SCS Engineers Project #25225070.00

Parameter Name	UPL Method	UPL	GPS	Background Well		Compliance Wells					
				MW-6		MW-301		MW-303		MW-307	
				10/22/2024	4/16/2025	10/22/2024	4/1/2025	10/22/2024	4/2/2025	10/21/2024	4/2/2025
Groundwater Elevation, ft amsl				664.87	664.35*	622.16	622.21	DRY	630.55	629.73	629.31
Appendix III											
Boron, ug/L	NP	110		<76	<82	350	320	--	--	710	640
Calcium, mg/L	P	73.7		69	75	76	75	--	--	54	57
Chloride, mg/L	P	8.13		5.6	6.6	10	14	--	--	12	18
Fluoride, mg/L	P	0.304		<0.38	<0.38	<0.38	<0.38	--	--	<0.38	0.53 J
Field pH, Std. Units	P	7.98		7.25	7.19	7.45	7.59	--	--	7.95	8.23
Sulfate, mg/L	P	28		20	23	20	33	--	--	34	42
Total Dissolved Solids, mg/L	NP	580		320	330	350	330	--	--	170	250
Appendix IV	**UTL Method**	**UTL**	**GPS**								
Antimony, ug/L	NP	1.1	6	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	1.3 J
Arsenic, ug/L	NP	4.5	10	<0.53	<0.53	1.6 J	1.1 J	--	--	2.4	2.0
Barium, ug/L	P	50.2	2,000	43	47	140	150	--	--	310	340
Beryllium, ug/L	DQ	DQ	4	<0.33	<0.33	<0.33	<0.33	--	--	<0.33	<0.33
Cadmium, ug/L	DQ	DQ	5	<0.10	<0.10	<0.10	<0.10	--	--	<0.10	<0.10
Chromium, ug/L	NP	1.10	100	<1.2	<1.8	<1.2	<1.8	--	--	<1.2	<1.8
Cobalt, ug/L	NP	0.5	6	<0.17	<0.17	<0.17	<0.17	--	--	<0.17	<0.17
Fluoride, mg/L	NP	0.63	4	<0.38	<0.38	<0.38	<0.38	--	--	<0.38	0.53 J
Lead, ug/L	NP	1.9	15	<0.26	<0.33	<0.26	<0.33	--	--	<0.26	<0.33
Lithium, ug/L	NP	4.9	40	<2.5	<2.9	10.0	7.6 J	--	--	15	14
Mercury, ug/L	DQ	DQ	2	<0.11	<0.11	<0.11	<0.11	--	--	<0.11	<0.11
Molybdenum, ug/L	NP	1.5	100	<1.3	<1.3	2.5	4.2	--	--	4.3	5.0
Selenium, ug/L	NP	5.8	50	<1.4	<1.4	<1.4	<1.4	--	--	4.1 J	2.2 J
Thallium, ug/L	NP	0.5	2	<0.57	<0.57	<0.57	<0.57	--	--	<0.57	0.65 J
Radium 226/228 Combined, pCi/L	P	1.29	5	0.956	0.392	0.308	0.490	--	--	0.542	0.511
Supplemental Parameters											
Iron, ug/L	UPL or GPS not applicable			<36	<36	250	160	--	--	56 J	48 J

See Page 3 for abbreviations and notes.

Table 5. Groundwater Analytical Results Summary - October 2024 and April 2025
Lansing Generating Station / SCS Engineers Project #25225070.00

Parameter Name	UPL Method	UPL	GPS	Delineation Wells															
				MW-302		MW-302A		MW-304		MW-304A		MW-305		MW-306		MW-306A		MW-307A	
				10/21/2024	4/2/2025	10/21/2024	4/2/2025	10/21/2024	4/1/2025	10/21/2024	4/1/2025	10/22/2024	4/2/2025	10/22/2024	4/2/2025	10/22/2024	4/16/2025	10/21/2024	4/1/2025
Groundwater Elevation, ft amsl				625.89	627.32	622.41	622.68	620.95	620.80	623.22	623.18	626.23	626.92	619.92	619.95	620.18	620.67*	624.59	624.57
Appendix III																			
Boron, ug/L	NP	110		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, mg/L	P	73.7		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride, mg/L	P	8.13		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride, mg/L	P	0.304		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field pH, Std. Units	P	7.98		7.04	6.91	7.18	7.14	7.29	7.22	7.76	7.85	7.10	7.11	6.83	6.96	7.20	7.21	7.32	7.56
Sulfate, mg/L	P	28		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids, mg/L	NP	580		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Appendix IV	**UTL Method**	**UTL**	**GPS**																
Antimony, ug/L	NP	1.1	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, ug/L	NP	4.5	10	54	37	<0.53	<0.53	<0.53	<0.53	<0.53	0.62 J	3.5	0.67 J	6.3	5.8	<0.53	<0.53	4.4	10
Barium, ug/L	P	50.2	2,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, ug/L	DQ	DQ	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, ug/L	DQ	DQ	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, ug/L	NP	1.10	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, ug/L	NP	0.5	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride, mg/L	NP	0.63	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead, ug/L	NP	1.9	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithium, ug/L	NP	4.9	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, ug/L	DQ	DQ	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum, ug/L	NP	1.5	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium, ug/L	NP	5.8	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, ug/L	NP	0.5	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Radium 226/228 Combined, pCi/L	P	1.29	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Supplemental Parameters																			
Iron, ug/L	UPL or GPS not applicable			45,000	45,000	<36	<36	290	<36	160	380	6,700	5,500	53,000	50,000	1,700	1,700	200	180

See Page 3 for abbreviations and notes.

Table 5. Groundwater Analytical Results Summary
Lansing Generating Station / SCS Engineers Project #25224070.00

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

Abbreviations:

UPL = Upper Prediction Limit
UTL = Upper Tolerance Limit
-- = Not Analyzed
µg/L = micrograms per liter
mg/L = milligrams per liter

J = Estimated concentration at or above the LOD and below the LOQ.
DRY = insufficient water available for sample collection or groundwater elevation measurement

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.
4. Interwell App III UPLs updated and App IV UTLs calculated in January 2023 based on background results through October 2022.
5. MW-303 had insufficient water for sample collection during the October 2024 and April 2025 sampling events.

*. Groundwater elevations displayed for MW-6 and MW-306A were measured on 4/1/2025 and 4/2/2025, respectively.

Created by: RM Date: 7/27/2024
Last revision by: LH Date: 11/21/2025
Checked by: RM Date: 12/5/2025

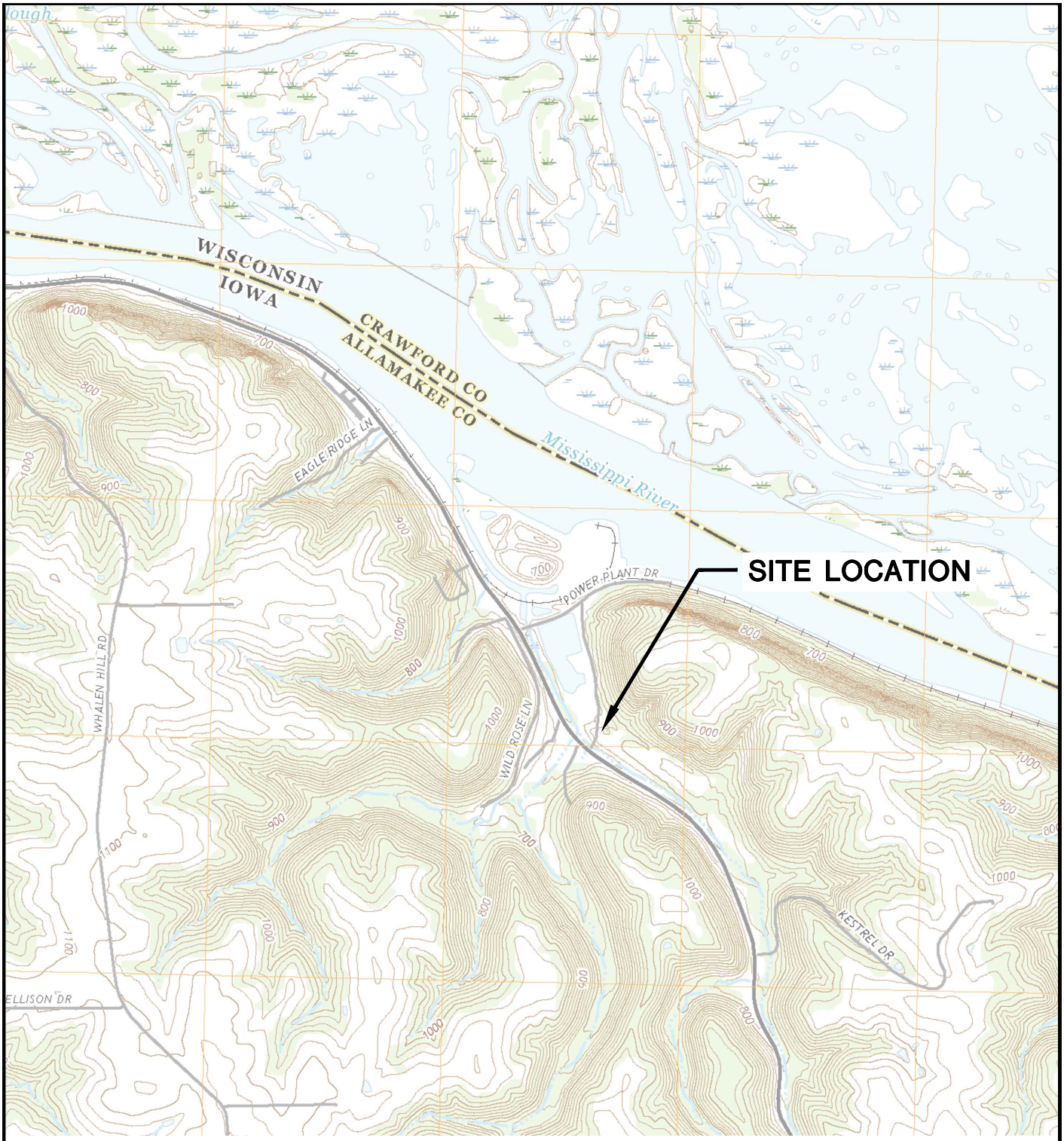
Table 6. Groundwater Field Data Summary
Lansing Generating Station / SCS Engineers Project #25225070.00

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	10/22/2024	622.16	13.8	7.45	0.39	598	30	0.00
	4/1/2025	622.21	9.2	7.59	0.39	614	75	0.00
MW-302	10/21/2024	625.89	16.6	7.04	0.17	1125	-155	0.00
	4/2/2025	627.32	6.7	6.91	0.44	1063	-177	0.00
MW-302A	10/21/2024	622.41	12.0	7.18	5.48	648.0	83	2.06
	4/2/2025	622.68	11.1	7.14	5.92	591	51	0.00
MW-303	10/21/2024	DRY	--	--	--	--	--	--
	4/1/2025	DRY	--	--	--	--	--	--
MW-304	10/21/2024	620.95	12.3	7.29	7.99	604.5	101	4.90
	4/1/2025	620.80	9.3	7.22	7.10	530	180	0.00
MW-304A	10/21/2024	623.22	11.2	7.76	0.42	535	-133	2.17
	4/1/2025	623.18	10.4	7.85	0.09	516	98	29.7
MW-305	10/22/2024	626.23	15.8	7.10	0.16	818.0	-190	0.00
	4/2/2025	626.92	5.9	7.11	3.29	547	-68	4.66
MW-306	10/22/2024	619.92	16.5	6.83	0.07	2074	-153	11.1
	4/2/2025	619.95	11.4	6.96	0.19	1806	-97	2.13
MW-306A	10/22/2024	620.18	14.6	7.20	1.42	668	-94	0.00
	4/16/2025	620.67[(2)]	13.2	7.21	0.03	647	-66	4.00
MW-307	10/21/2024	629.73	14.6	7.95	0.3	454.1	-103	1.22
	4/1/2025	629.31	8.4	8.23	0.17	452	-179	0.71
MW-307A	10/21/2024	624.59	12.0	7.32	0.29	617	-56	3.43
	4/1/2025	624.57	10.6	7.56	0.14	549	-26	2.25
MW-6	10/22/2024	664.87	10.1	7.25	7.72	594	91	0.56
	4/16/2025	664.35[(2)]	10.0	7.19	0.06	58.8	87	4.88

Notes:
1. MW-303 had insufficient water for sample collection during the October 2024 and April 2025 sampling events.
2. Groundwater elevations displayed for MW-6 and MW-306A were measured on 4/1/2025 and 4/2/2025, respectively.

Created by:	RM	Date:	7/26/2023
Last revision by:	LH	Date:	11/18/2025
Checked by:	RM	Date:	12/8/2025

Figures



N

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

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

SITE LOCATION MAP

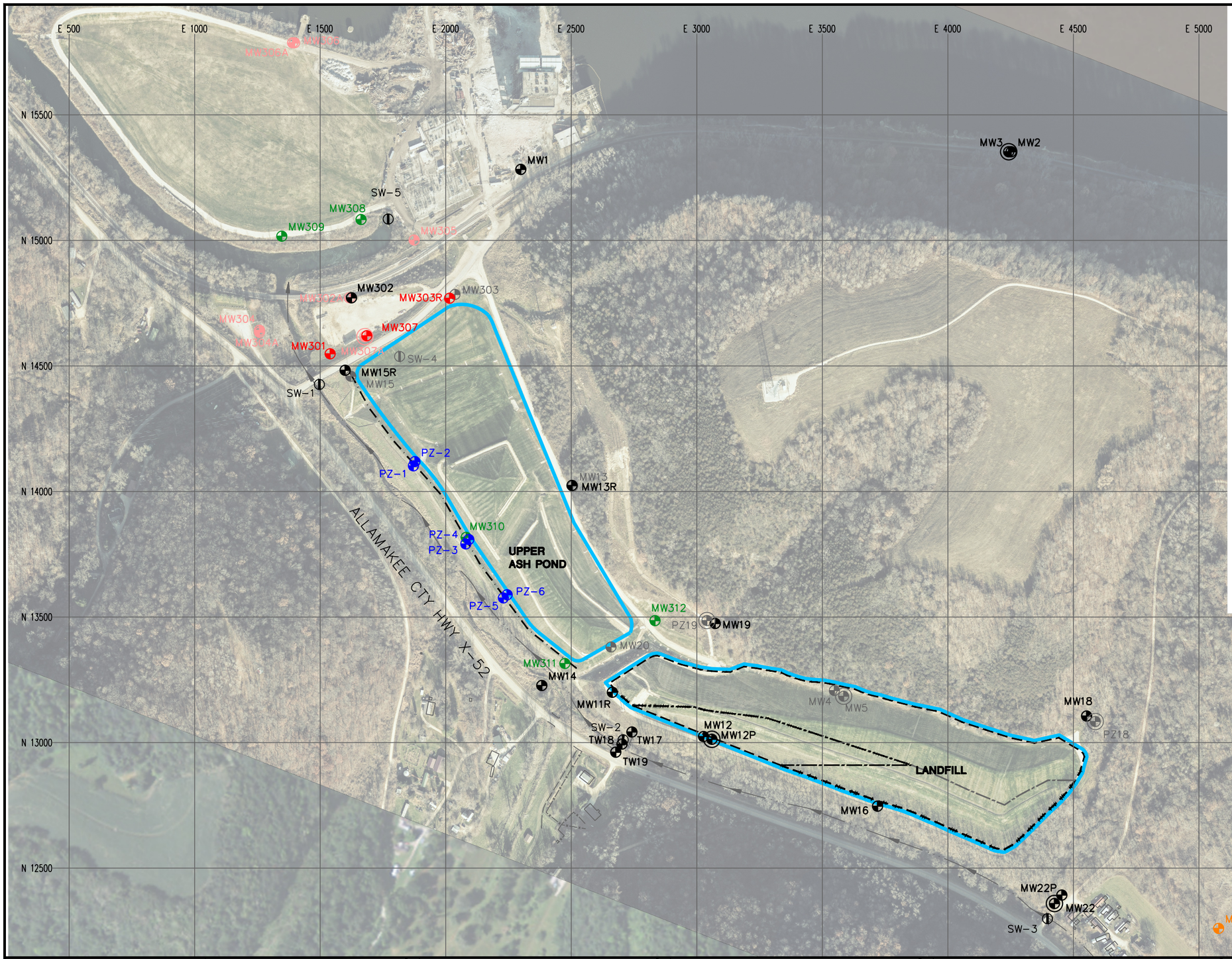
PROJECT NO.	25219070.00	DRAWN BY:	BSS
DRAWN:	11/27/2019	CHECKED BY:	MDB
REVISED:	11/27/2019	APPROVED BY:	TK 01/30/2020

ENGINEER

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

FIGURE
1

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



NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	CCR UNIT LIMITS
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
SW-4	ABANDONED STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW12P	EXISTING PIEZOMETER
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
MW301	WATER LEVEL WELL (NOT PART OF CCR RULE MONITORING SYSTEM)
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
MW306	CCR DELINEATION MONITORING WELL
PZ-1	PIEZOMETERS

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.
2. MONITORING WELL MW20 WAS ABANDONED ON MAY 5, 2022.
3. BACKGROUND AERIAL IMAGE IS A COMPOSITE OF A PHOTOGRAPH FROM DRONEVIEW MAPPING DATED NOVEMBER 25, 2023 AND 2011 AERIAL IMAGERY.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25220082.00	DRAWN BY:	SB/AR
DRAWN:	10/16/2025	CHECKED BY:	MDB
REVISED:	12/31/2025	APPROVED BY:	TK 1/16/2026

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

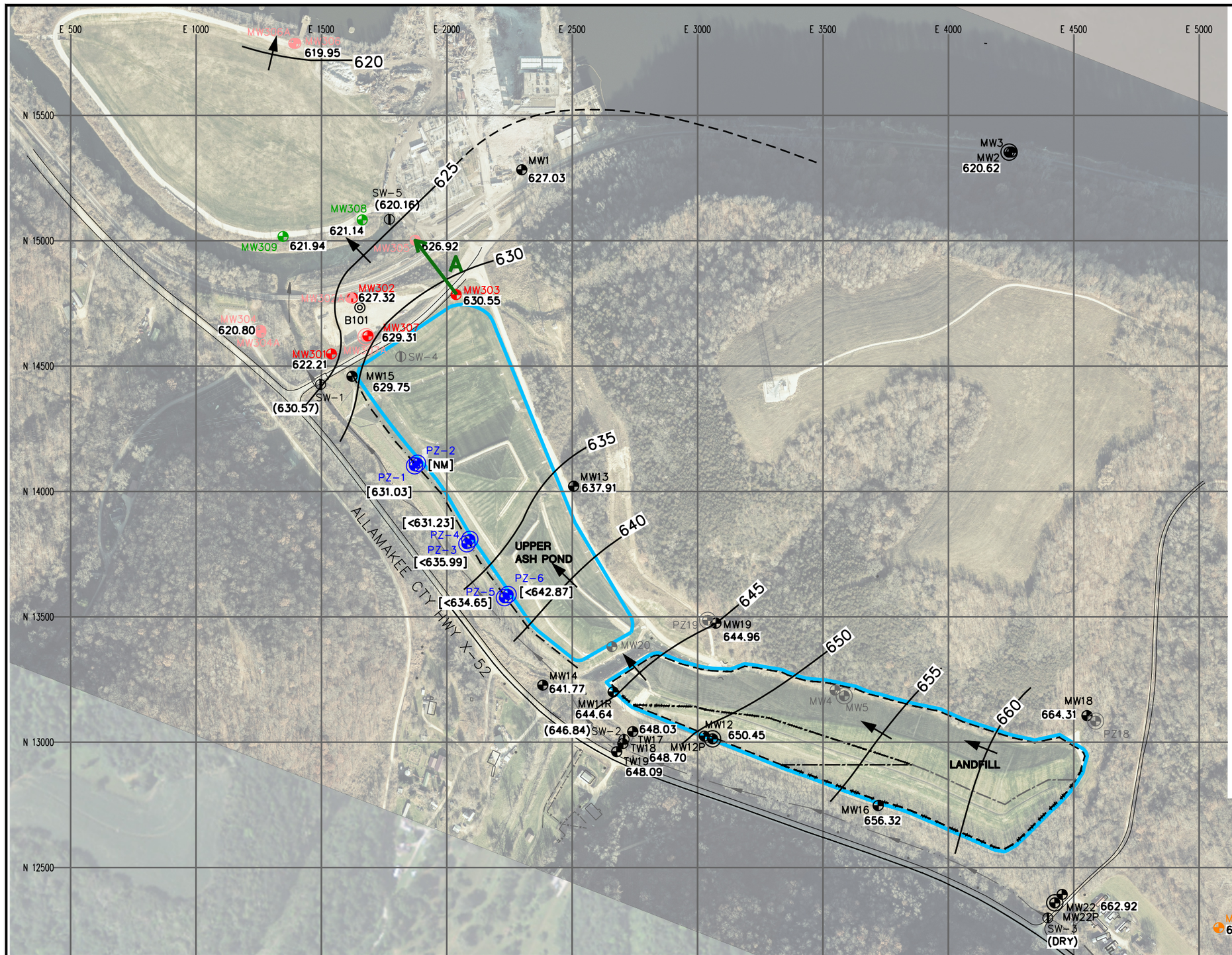
CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

SITE PLAN AND
MONITORING WELL LOCATIONS

FIGURE
2

I:\Client\Alliant_PROJECT SITES\Lansing\CAD Master References LAN\Water Table Maps\MASTER-SitePlan_CCR.dwg,
12/31/2025 12:24:11 PM



NORTH GRID

LEGEND

	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
B101	EXISTING BORING
MW17	EXISTING MONITORING WELL
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
SW-4	ABANDONED STAFF GAUGE
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
MW308	WATER LEVEL WELL (NOT PART OF CCR RULE MONITORING SYSTEM)
MW304	CCR DELINEATION MONITORING WELL
PZ-4	PIEZOMETER
	CCR UNITS
(NM)	NOT MEASURED
666.58	WATER TABLE ELEVATION
[630.76]	GROUNDWATER ELEVATION NOT USED FOR CONTOUR DEVELOPMENT
(630.61)	SURFACE WATER ELEVATION
	WATER TABLE ELEVATION CONTOUR LINE (CONTOUR INTERVAL = 5 FT) (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	VELOCITY FLOW PATH

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25225070.00	DRAWN BY:	RAR/SB/AR
DRAWN:	04/10/2025	CHECKED BY:	NLB (01/16/2026)
REVISED:	01/16/2026	APPROVED BY:	TK 01/16/2026

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

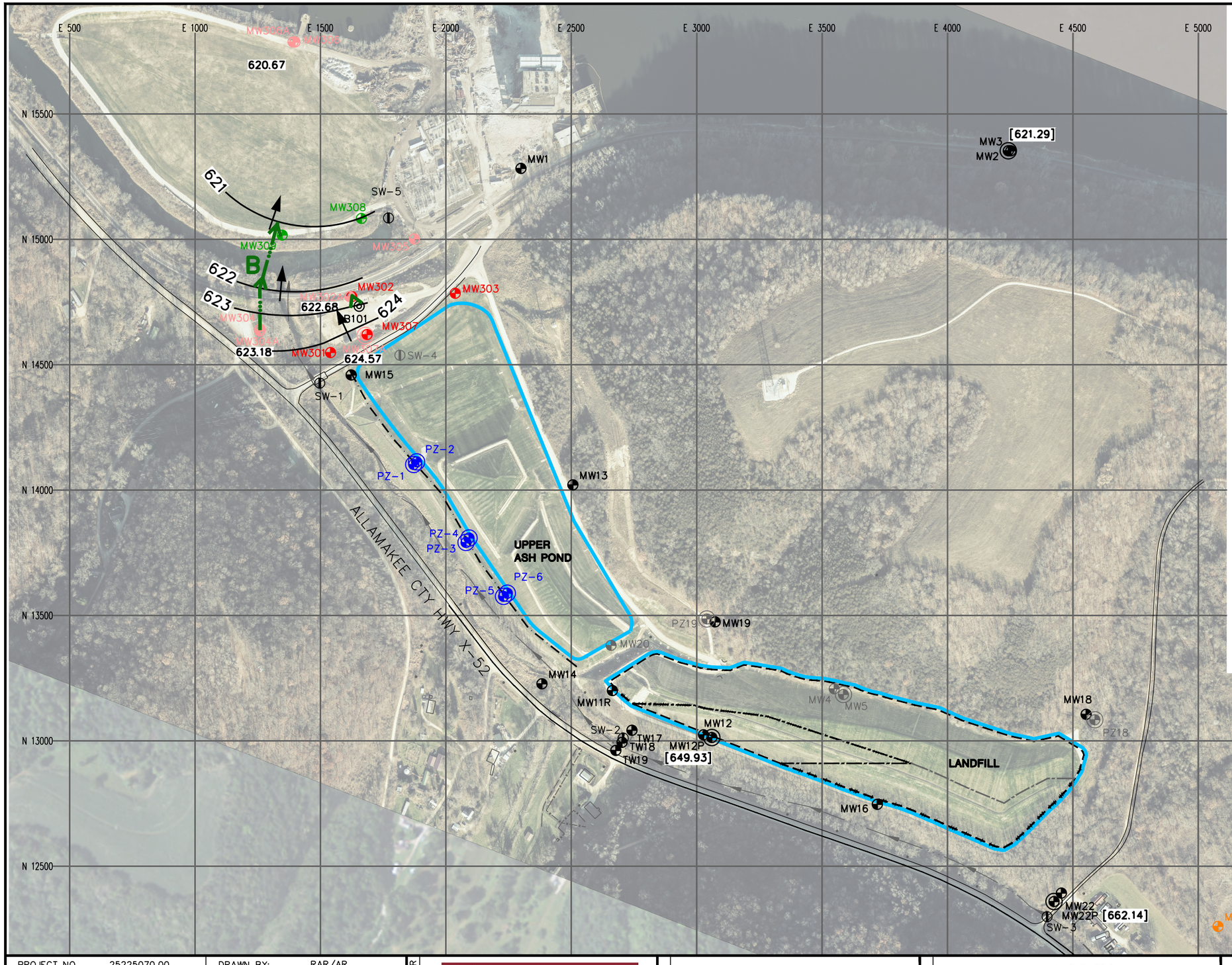
CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

WATER TABLE CONTOUR MAP
APRIL 1-2, 2025

FIGURE 3

I:\Client\Alliant_PROJECT SITES\Lansing\CAD Master References LAN\Water Table Maps\April 2025 Wtbl.dwg, 1/16/2026 7:40:47 AM



NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
SW-1	ABANDONED STAFF GAUGE
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
MW308	WATER LEVEL WELL (NOT PART OF CCR RULE MONITORING SYSTEM)
MW304	CCR DELINEATION MONITORING WELL
PZ-4	PIEZOMETER
	CCR UNITS
661.02	POTENTIOMETRIC GROUNDWATER SURFACE ELEVATION
[621.29]	POTENTIOMETRIC GROUNDWATER SURFACE ELEVATION NOT USED FOR CONTOUR DEVELOPMENT
	POTENTIOMETRIC GROUNDWATER SURFACE CONTOUR (CONTOUR INTERVAL = 5 FT) (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	VELOCITY FLOW PATH

NOTES:

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

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25225070.00	DRAWN BY:	RAR/AR
DRAWN:	04/10/2025	CHECKED BY:	NLB (01/16/2026)
REVISED:	01/16/2026	APPROVED BY:	TK 01/16/2026

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

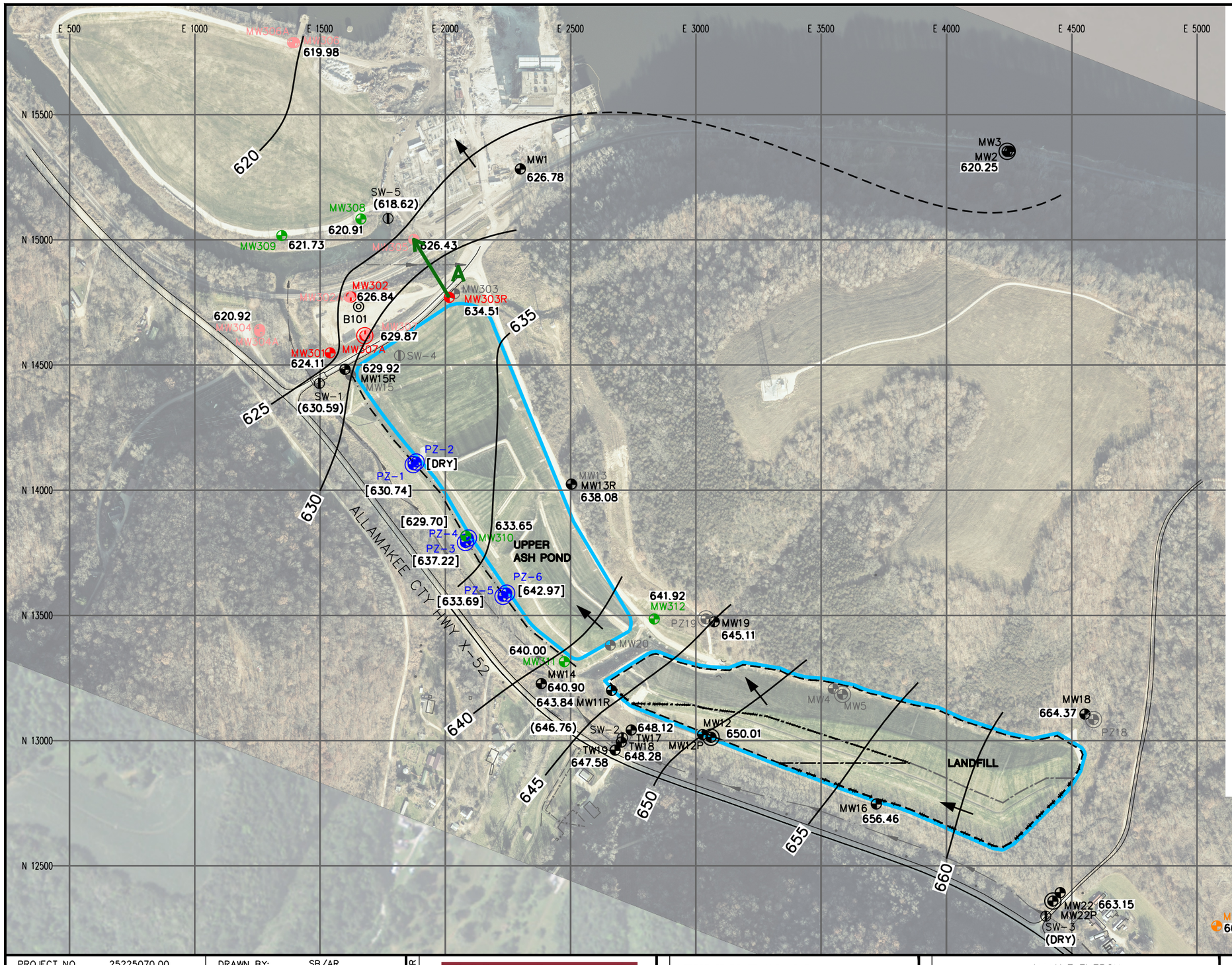
CLIENT: INTERSTATE POWER AND LIGHT
2320 POWER PLANT DRIVE
LANSING, IA 52151-9733

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

POTENTIOMETRIC GROUNDWATER SURFACE CONTOUR MAP
APRIL 1-2, 2025

FIGURE 4

I:\Client\Alliant_PROJECT SITES\Lansing\CAD Master References LAN\Water Table Maps\April 2025 Wtbl.dwg, 1/16/2026 7:46:15 AM



N NORTH GRID

LEGEND

	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
B101	EXISTING BORING
MW17	EXISTING MONITORING WELL
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
SW-4	ABANDONED STAFF GAUGE
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
MW308	WATER LEVEL WELL (NOT PART OF CCR RULE MONITORING SYSTEM)
MW304	CCR DELINEATION MONITORING WELL
PZ-4	PIEZOMETER
	CCR UNITS
(NM)	NOT MEASURED
666.58	WATER TABLE ELEVATION
[630.76]	GROUNDWATER ELEVATION NOT USED FOR CONTOUR DEVELOPMENT
(630.61)	SURFACE WATER ELEVATION
	WATER TABLE ELEVATION CONTOUR LINE (CONTOUR INTERVAL = 5 FT) (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	VELOCITY FLOW PATH

NOTES:

1. MONITORING WELL LOCATIONS AND CCR UNIT LIMITS ARE APPROXIMATE.

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25225070.00	DRAWN BY:	SB/AR
DRAWN:	11/20/2025	CHECKED BY:	NLB (01/16/2026)
REVISED:	01/16/2026	APPROVED BY:	TK 01/16/2026

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 CONTOUR MAP
OCTOBER 8-9, 2025

FIGURE 5

I:\Client\Alliant_PROJECT SITES\Lansing\CAD Master References LAN\Water Table Maps\Oct 2025 Wtbl.dwg, 1/16/2026 7:50:23 AM

NORTH GRID

LEGEND

	APPROVED LIMITS OF WASTE
	LIMITS OF PHASE 1 FINAL COVER
	LIMITS OF PHASE 2 FINAL COVER
	SLURRY WALL
	EXISTING STREAM
SW-1	EXISTING STAFF GAUGE
MW17	EXISTING MONITORING WELL
MW4	ABANDONED MONITORING WELL
MW5	ABANDONED PIEZOMETER
SW-1	ABANDONED STAFF GAUGE
MW301	CCR MONITORING WELL
MW6	CCR BACKGROUND MONITORING WELL
MW308	WATER LEVEL WELL (NOT PART OF CCR RULE MONITORING SYSTEM)
MW304	CCR DELINEATION MONITORING WELL
PZ-4	PIEZOMETER
	CCR UNITS
661.02	POTENTIOMETRIC GROUNDWATER SURFACE ELEVATION
[649.70]	POTENTIOMETRIC GROUNDWATER SURFACE ELEVATION NOT USED FOR CONTOUR DEVELOPMENT
	POTENTIOMETRIC GROUNDWATER SURFACE CONTOUR (CONTOUR INTERVAL = 5 FT) (DASHED WHERE INFERRED)
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	VELOCITY FLOW PATH

NOTES:

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

400 0 400

SCALE: 1" = 400'

PROJECT NO.	25225070.00	DRAWN BY:	SB/AR
DRAWN:	11/20/2025	CHECKED BY:	NLB (01/16/2026)
REVISED:	01/16/2026	APPROVED BY:	TK 01/16/2026

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

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

SITE: ALLIANT ENERGY
LANSING POWER STATION
LANSING, IOWA

POTENTIOMETRIC GROUNDWATER SURFACE CONTOUR MAP
OCTOBER 08-09, 2025

FIGURE 6

I:\Client\Alliant_PROJECT SITES\Lansing\CAD Master References LAN\Water Table Maps\Oct 2025 Wtbl.dwg, 1/16/2026 7:51:25 AM

Appendix A

Regional Hydrogeologic Information

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

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

*Age determinations as used on COSUNA charts published by AAPG-USGS
Source: "Water Resources of Southeast Iowa," Iowa Geologic Survey Water Atlas No. 4.

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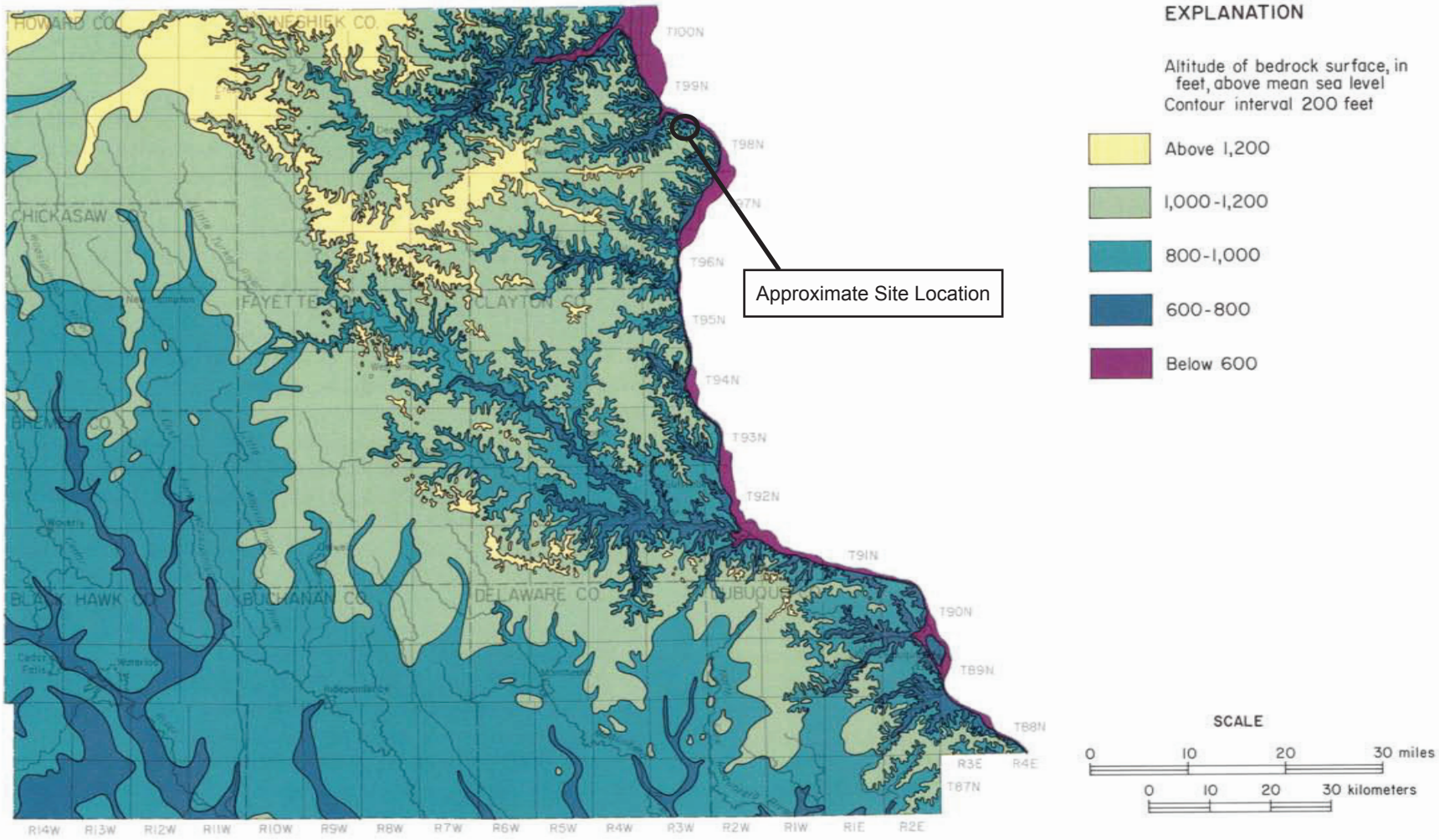


Figure 30. Altitude and configuration of the bedrock surface

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

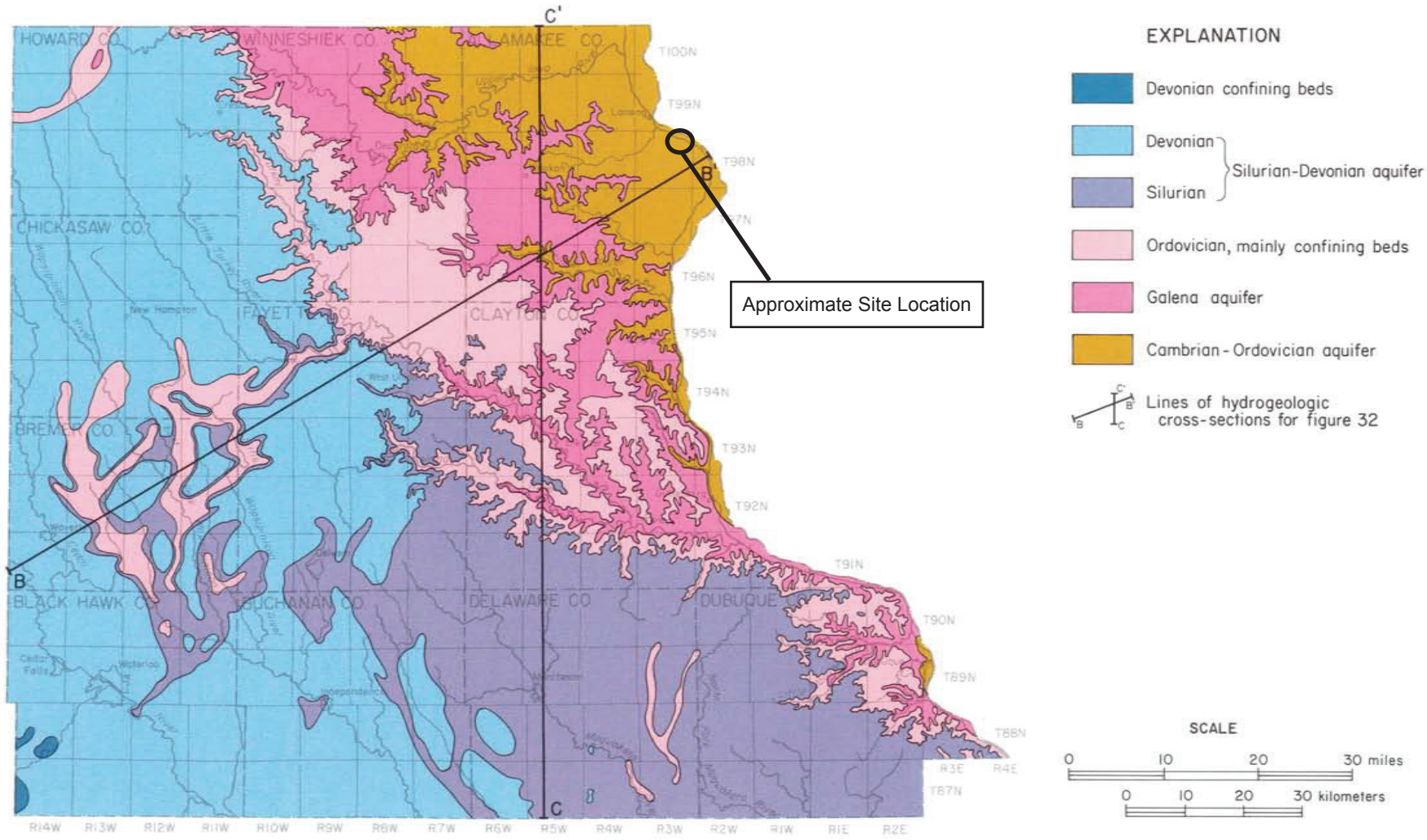


Figure 31. Bedrock hydrogeologic map

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

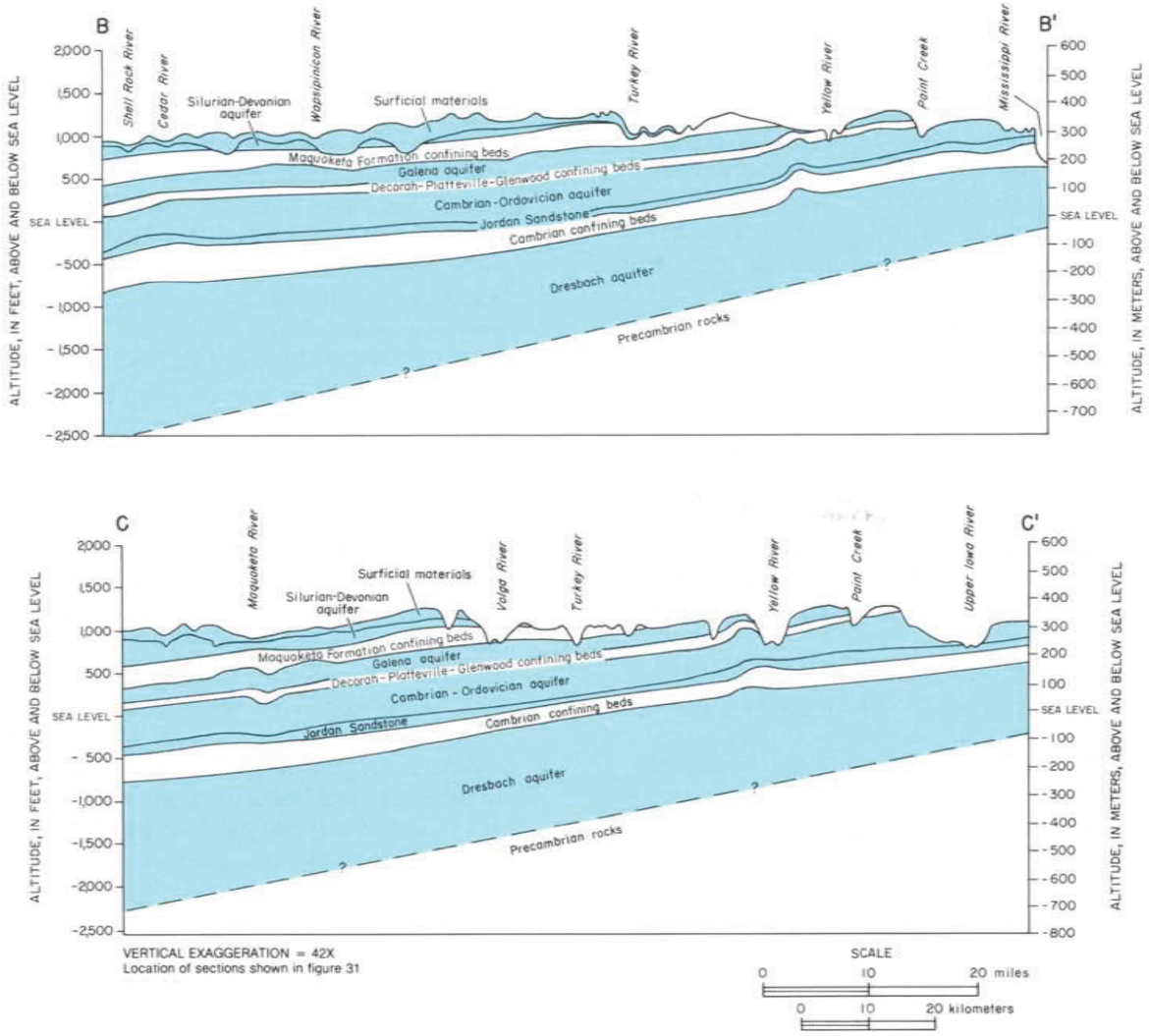


Figure 32. Hydrogeologic cross-sections

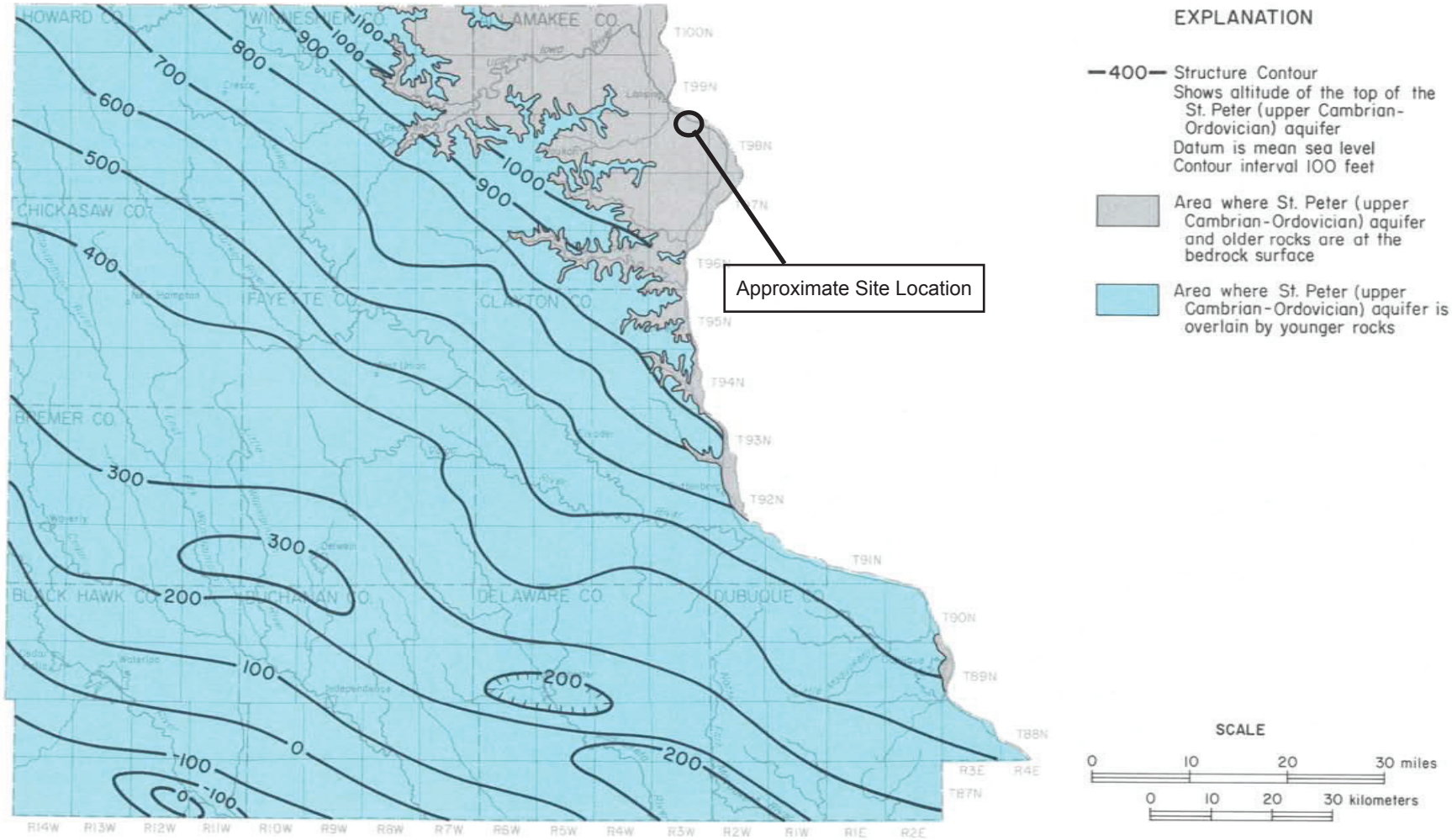


Figure 38. Altitude of the top of the St. Peter (upper Cambrian-Ordovician) aquifer

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

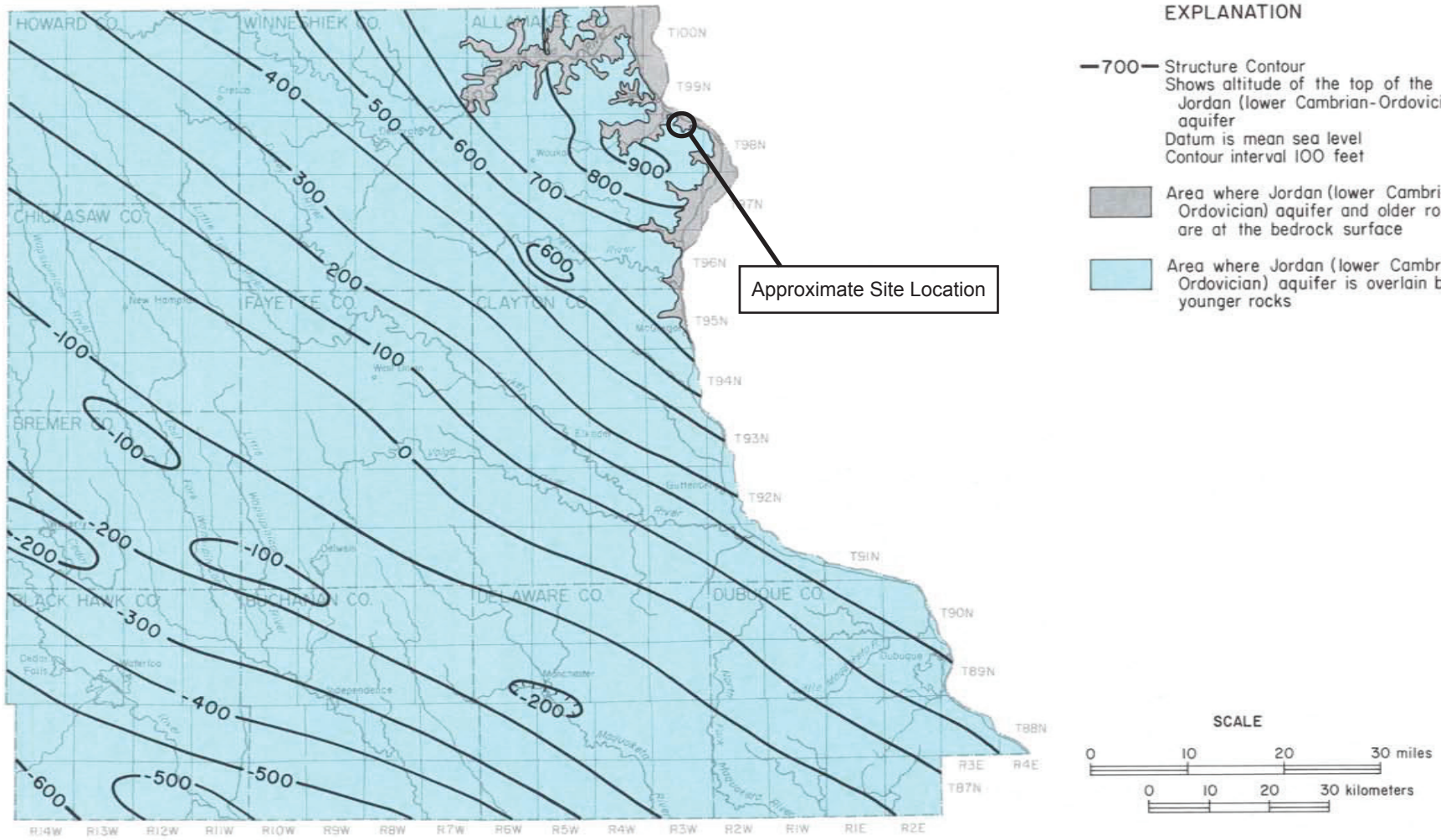


Figure 39. Altitude of the top of the Jordan (lower Cambrian-Ordovician) aquifer

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

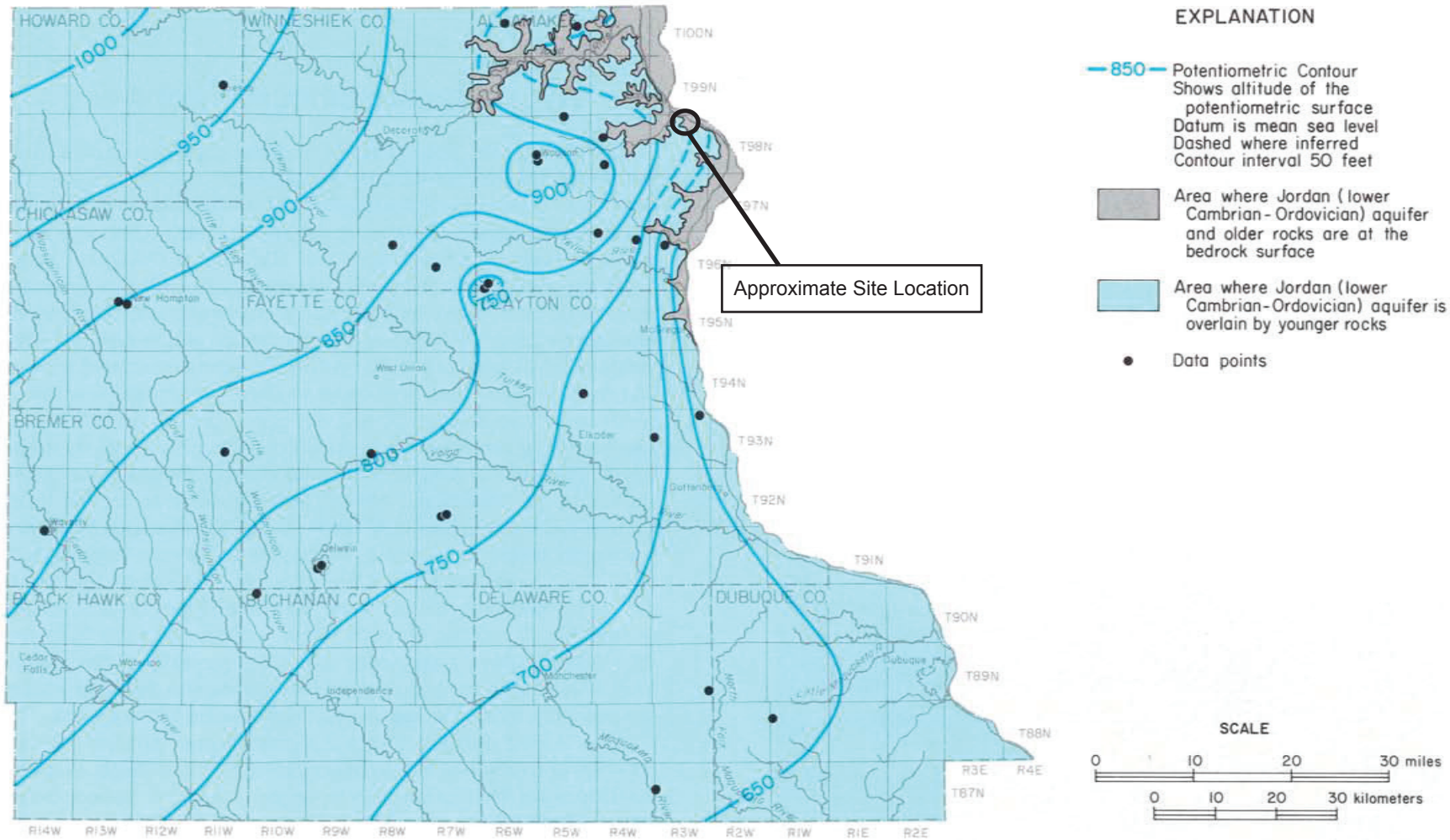


Figure 56. Potentiometric surface of the Jordan (lower Cambrian-Ordovician) aquifer

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

Appendix B

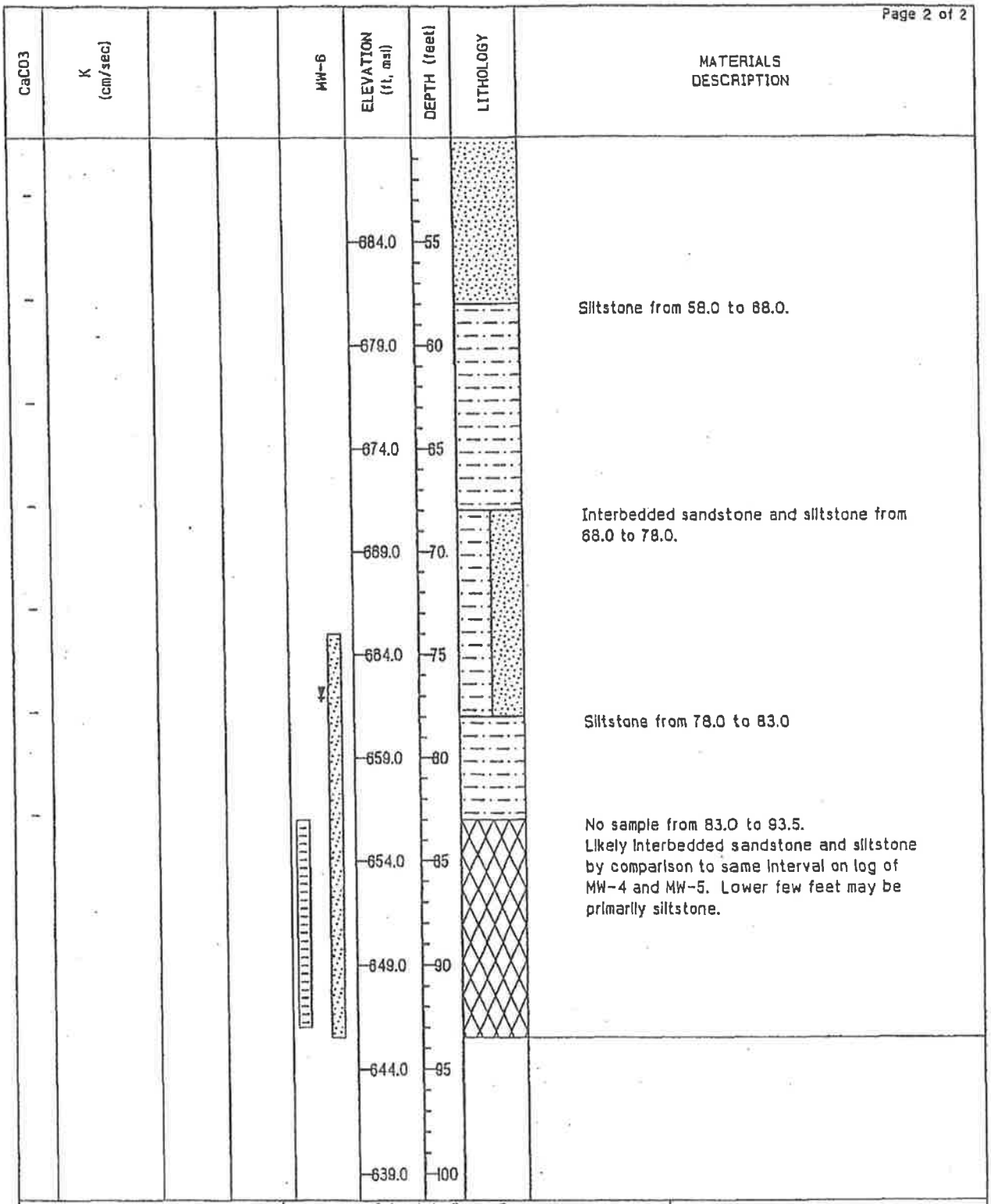
Boring Logs and Well Construction Documentation

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

Howard R. Green Company
CONSULTING ENGINEERS

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

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



Howard R. Green Company
CONSULTING ENGINEERS

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

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

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,957,744 N, 5,541,108 E S/C/N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

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

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S1	23	10 31 38 48	1–4	POORLY GRADED SAND, medium grained, very dark gray brown (10YR 3/2).	SP					M				
S2	24	32 47 50	5–6	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/4).	SP-SM					M				
S3	22	18 33 47 43	7–9	POORLY GRADED SAND WITH SILT AND GRAVEL, medium grained sand, large grained gravel, dark yellowish brown (10YR 3/6).	SP-SM					M				
S4	24	36 46 50	10–11	POORLY GRADED SAND WITH SILT, medium grained, dark yellowish brown (10YR 3/6).						S				Water @ 10 ft bgs
S5	22	13 9 7 10	12–15		SP-SM					S				

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

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

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-301

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S6	20	3 2 4	16	SILT, black (10YR 3/1).	ML					S				
			17											
S7	24	2 2 2 2	18	SILT WITH SAND, black (10YR 3/1).	ML					S				
			19											
S8	24	2 2 4	20	POORLY GRADED SAND WITH SILT, black (10YR 3/1).	SP-SM					S				
			21											
			22											
S9	24	2 9 12 14	23	SILT, dark olive gray (5Y 3/2).	ML					S				
			24											
			25											
			26	End of Boring at 26 ft bgs.										

Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-301

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

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft):

Specify corner of site: NW

Distance & direction along boundary: 540' SE

Distance & direction from boundary to wall: 230' NE

Elevations (± 0.01 ft MSL):

Ground Surface: 639.35

Top of protective casing: 642.18

Top of well casing: 641.61

Benchmark elevation: 622.86, NAVD 1988 datum

Benchmark description: CP 300, iron rod in concrete

B. SOIL BORING INFORMATION

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

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: None

Bore Hole Diameter: 8"

Soil Sampling Method: Spoon

Depth of Boring: 26

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 15 ft

Outside casing diameter: 2.40"

Inside casing diameter: 2"

Casing joint type: threaded

Casing/screen joint type: threaded

Screen material: PVC

Screen opening size: .010

Screen length: 10 ft

Depth of well: 25 ft

Filter Pack:

Material: Red Flint

Grain size: #40

Volume: 300 lbs

Seal (minimum 3 ft length above filter pack):

Material: 3/8" bentonite chips

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design:

Material of protective casing: Steel 6"

Material of grout between protective casing and well casing: sand

Protective cap:

Material: steel

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

Well Cap:

Material: PVC

Vented: ☐ Yes ☒ No

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

Water level: 17.63 Stabilization Time: 2 hrs.

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

Average depth of frostline: 4 ft.

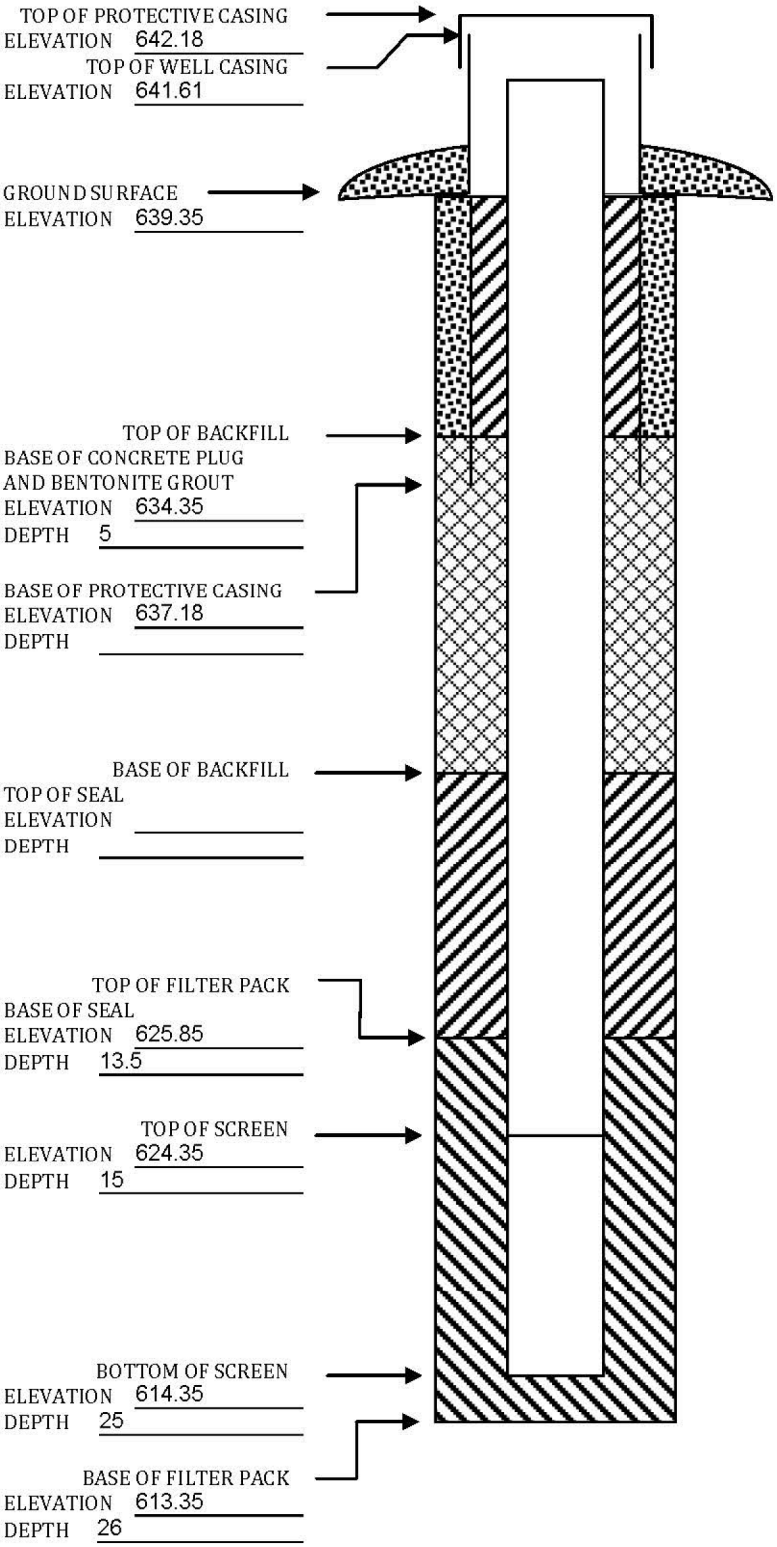
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, medium grained, dark grayish brown (10YR 4/2).										
S1	24	6 14 17 19	2 3 4		SP					M				
S2	24	26 45 50	5 6	SANDY SILT, trace small gravel, black (10YR 3/1).						M				
S3	24	12 13 10 8	7 8 9							M				
S4	11	9 11 13 12	10 11	Large gravel	ML					S				Saturation @ 11 ft bgs
S5	8	32 23 30 36	12 13 14	Large gravel						S				
			15											

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

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

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number B-302 Page 2 of 2

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S6	24	5 5 6 8	16	SANDY SILT, trace small gravel, black (10YR 3/1). *(continued)*	ML					S				
			17											
S7	18		18	Silt, Black (10YR 3/1).	ML					S				
			19											
			20	End of Boring at 20 ft bgs.										

Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-302

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

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft):

Specify corner of site: NW

Distance & direction along boundary: 465' SE

Distance & direction from boundary to wall: 405' NE

Elevations (± 0.01 ft MSL):

Ground Surface: 635.85

Top of protective casing: 638.72

Top of well casing: 638.40

Benchmark elevation: 633.86, NAVD 1988 datum

Benchmark description: CP 300, iron rod in concrete

B. SOIL BORING INFORMATION

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

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: None

Bore Hole Diameter: 8"

Soil Sampling Method: Spoon

Depth of Boring: 20 ft

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 9'

Outside casing diameter: 2.40"

Inside casing diameter: 2"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: .01"

Screen length: 10'

Depth of well: 19'

Filter Pack:

Material: Red Flint

Grain size: #40

Volume: 120 lbs

Seal (minimum 3 ft length above filter pack):

Material: 3/8" hole plug

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design:

Material of protective casing: Steel 6"

Material of grout between protective casing and well casing: sand

Protective cap:

Material: steel

Vented: ☑ Yes ☐ No Locking: ☐ Yes ☐ No

Well Cap:

Material: PVC

Vented: ☐ Yes ☑ No

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

Water level: 9.95 Stabilization Time: 2 hrs.

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

Average depth of frostline: 4 ft.

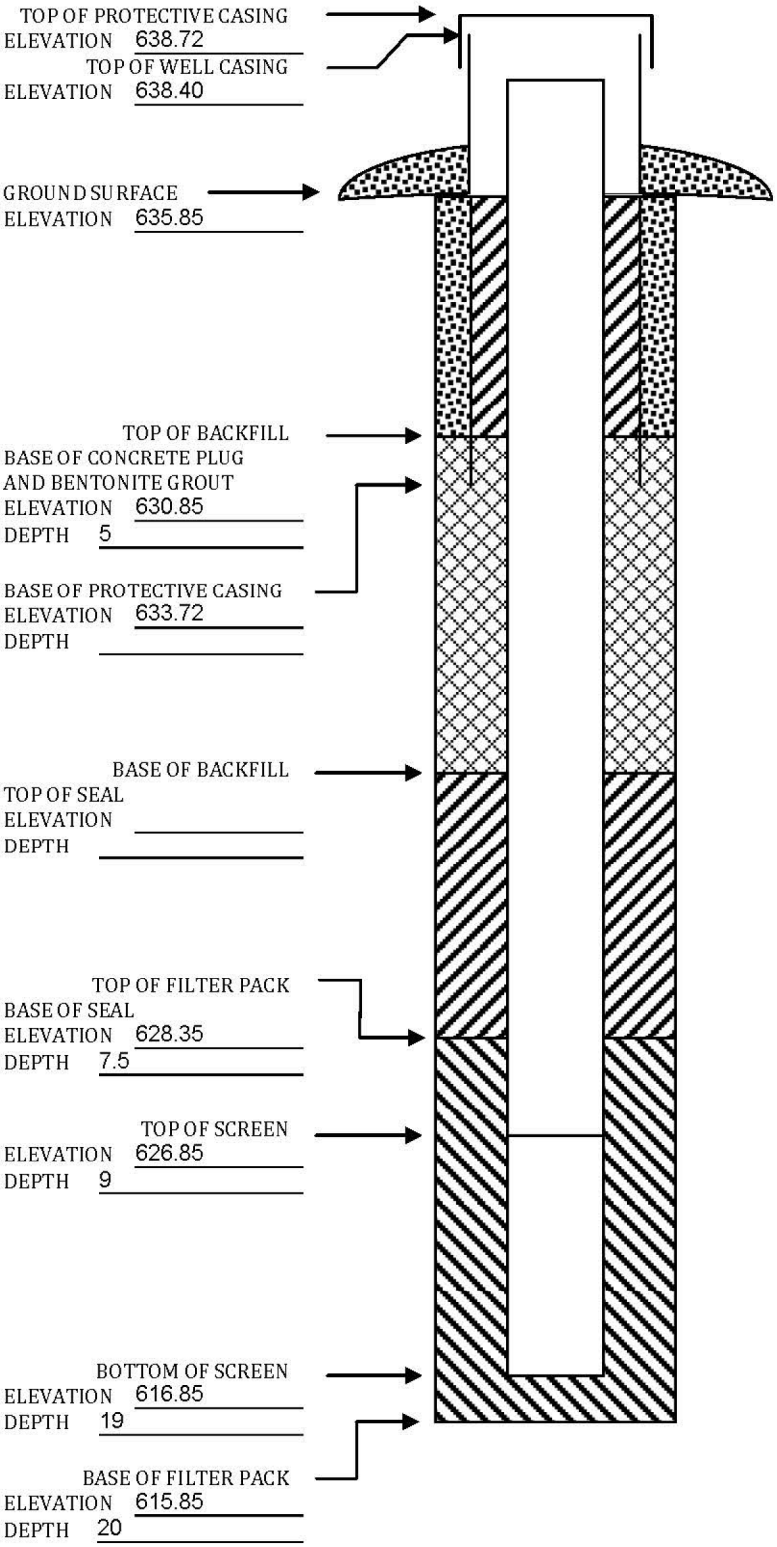
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

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

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

Signature	Firm	Tel:
	SCS Engineers	Fax:

Boring Number MW-302A

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			17	SILTY GRAVEL WITH SAND, gray, sand is fine to medium grained, gravel is subangular to angular. *(continued)*	GM									
			18	SILT, dark gray, trace roots.										
			19											
			20		ML									
S3	48"		21							W				
			22	LEAN CLAY, dark gray, roots.										
			23											
			24											
			25		CL									
S4	40"		26	Same but dark brown.						W				
			27											
			28											
			29	SILTY SAND, gray to dark gray, fine to medium grained.										
			30		SM									
			31	LEAN CLAY, tan with yellow to brown mottling and gray layers, trace silt.										
S5	48"		32		CL					W				
			33	LEAN CLAY, reddish brown, massive, very dense.										
			34											
			35		CL									
			36	LEAN CLAY, gray.										
S6	48"		37							W				
			38		CL									
			39	POORLY GRADED SAND, brown, fine to medium grain, trace gravel.										
			40											
			41		SP									
S7	48"		42	Same with trace shells						W				

Boring Number MW-302A

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

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

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

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

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

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

Elevation (+0.01 ft. MSL)

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

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

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

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

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

Name of driller: Paul Dickinson

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

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

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC

Length of casing: 52.45'

Outside casing diameter: 2.4"

Inside casing diameter: 2.04"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 5'

Depth of Well: 49'

Filter Pack:

Material: Filter Sand

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

Volume: 2 cu. ft.

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

Material: Bentonite Chips

Placement method: Poured

Volume: 2 cu. ft.

Backfill (if different from seal):

Material: Bentonite grout

Placement method: Pumped

Volume: 60 gal.

Surface seal design: Protop

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand

Protective cap: 6" Royer cap

Material: Aluminum

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic and rubber

Vented?: ☐ Y ☒ N

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

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

Well development method: Surged and pumped

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

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

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

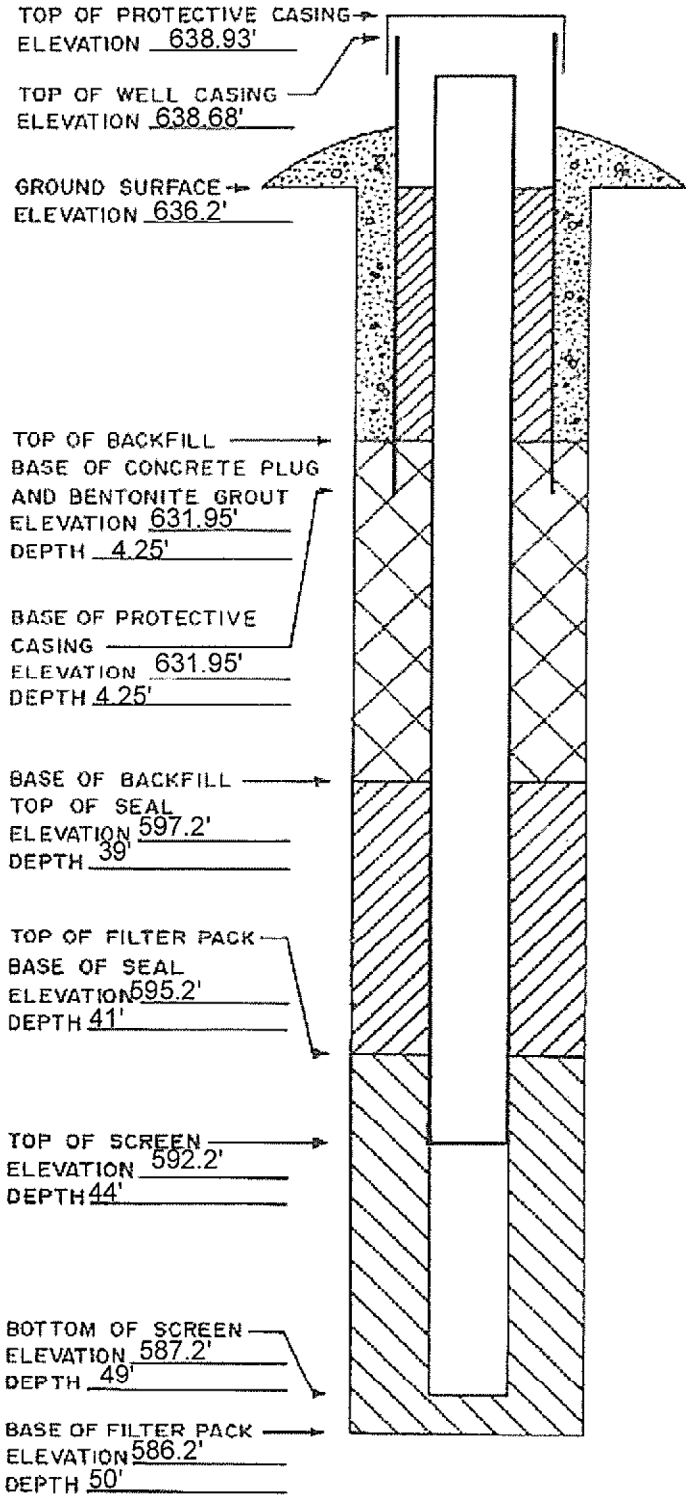
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	SILTY SAND, very dark gray (5Y 3/1).	SM									
			2											
S1	24	5 16 17 24	3	POORLY GRADED SAND, medium grained, dark grayish brown (10 YR 4/2).	SP					M				
			4											
S2	24	11 8 10	5							M				
			6											
			7	POORLY GRADED SAND , medium grained, grayish brown (2.5Y 5/2).										
S3	24	11 38 50	8							M				
			9											
S4	18	16 35 50	10		SP					M				
			11											
			12											
S5	16	27 50 50	13							M				
			14											
			15											

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

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

Boring Number B-303 Page 2 of 2

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S6	0	38 50	16	POORLY GRADED SAND , medium grained, grayish brown (2.5Y 5/2). *(continued)*						M				Rock in Spoon
			17		SP									
S7	18	17 25 40 47	18							S				Saturation @17 ft bgs.
			19											
			20	POORLY GRADED SAND, medium grained, very dark gray (5Y 3/1).										
S8	17	37 48 44	21							S				
			22											
S9	18	11 24 26 27	23		SP					S				
			24											
			25											
S10	24	37 50	26							S				
			27	End of Boring at 27 ft bgs.										

Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-303

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

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft):

Specify corner of site: NW

Distance & direction along boundary: 730' SE

Distance & direction from boundary to wall: 760' NE

Elevations (± 0.01 ft MSL):

Ground Surface: 653.85

Top of protective casing: 656.74

Top of well casing: 656.27

Benchmark elevation: 633.86, NAVD 1988 datum

Benchmark description: CP 300, iron rod in concrete

B. SOIL BORING INFORMATION

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

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: None

Bore Hole Diameter: 8"

Soil Sampling Method: Spoon

Depth of Boring: 27 feet

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 16

Outside casing diameter: 2.40"

Inside casing diameter: 2"

Casing joint type: threaded

Casing/screen joint type: threaded

Screen material: PVC

Screen opening size: .01"

Screen length: 10'

Depth of well: 26'

Filter Pack:

Material: Red Flint

Grain size: #40

Volume: 250 lbs

Seal (minimum 3 ft length above filter pack):

Material: 3/8" bentonite chips

Placement method: Gravity

Volume:

Backfill (if different from seal):

Material:

Placement method:

Volume:

Surface seal design:

Material of protective casing: Steel 6"

Material of grout between protective casing and well casing: sand

Protective cap:

Material: steel

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

Well Cap:

Material: PVC

Vented: ☐ Yes ☒ No

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

Water level: 16.35 Stabilization Time: < 1 hr.

Well development method: Surged and pumped to reduce turbidity

Average depth of frostline: 4'

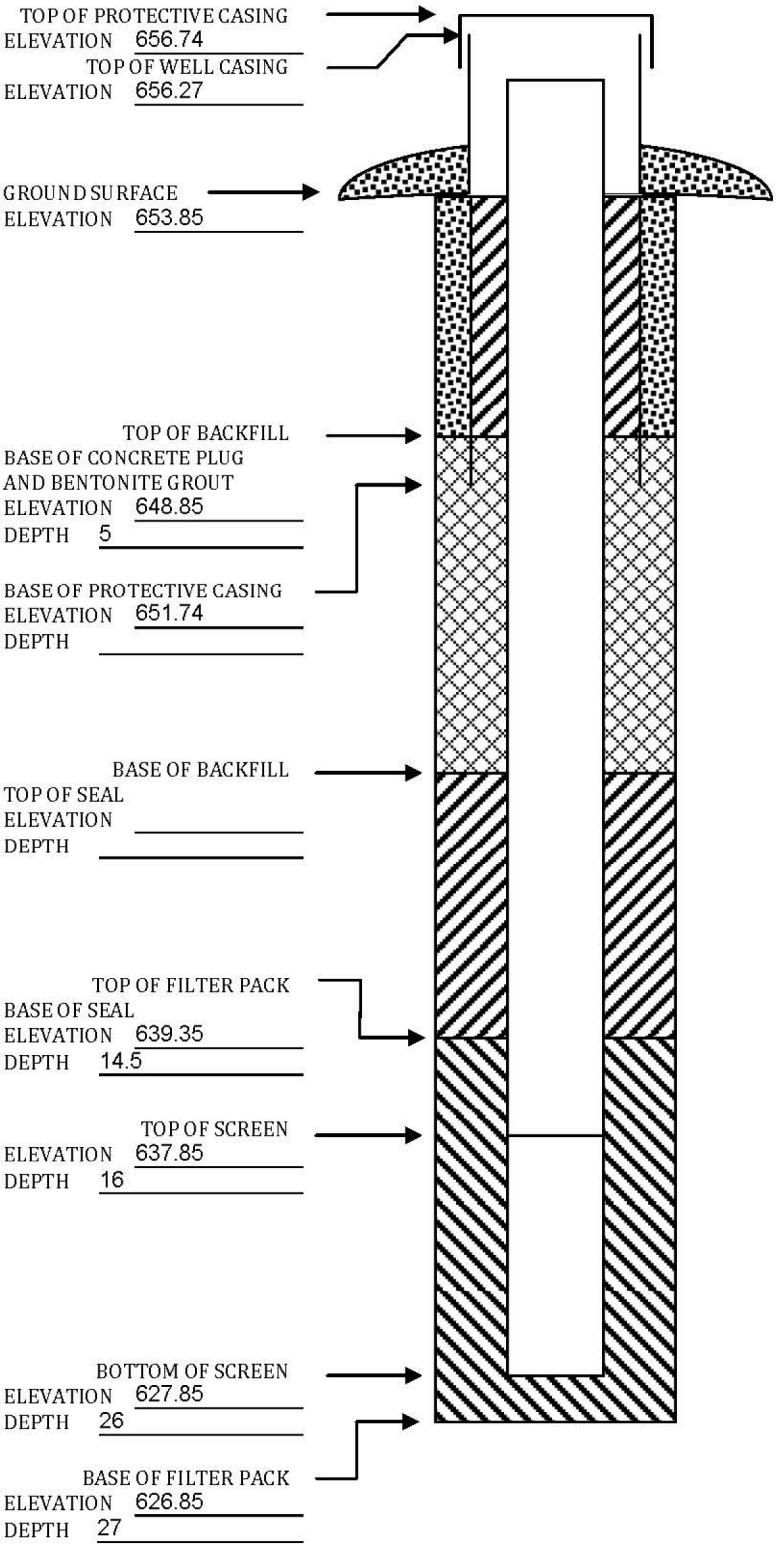
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Lansing SCS#: 25225228.00		MW-303R

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
John Weeks Cascade	9/17/2025	9/17/2025	rotosonic

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-303R	22.0 Feet	653.7 Feet	6.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 3,957,862 N, 5,541,621 E S / C / N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 20 ' 3.3 "
Long 91 ° 10 ' 5.2 "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

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

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5	SILTY SAND (SM), very dark brown (10YR 2/2), very fine to coarse sand, fine gravel, subrounded sand, angular gravel, organics (roots).	SM									
S1 S2	35		3.0	POORLY GRADED SAND (SP), dark yellowish brown (10YR 3/4), fine to medium sand, trace coarse sand, trace fine gravel, some silt, very loose, subrounded sand, subangular gravel.					-	M				
			4.5	pockets of clay and silt from 5-10'	SP									
			6.0											
S3	60		7.5						-	M				
			9.0	POORLY GRADED SAND (SP), brown (10YR 5/3), fine to medium sand, trace coarse sand, some silt, subrounded sand, very loose.										
			10.5	pocket of fine grained material - rock flour trace pockets of clay 11-15;'										
	53		12.0						-	M				
			13.5		SP									
			15.0											
			16.5											
	60		18.0						-	M				
			19.5											

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

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

Boring Number MW-303R

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
	60		21.0 22.5 24.0	POORLY GRADED SAND (SP), brown (10YR 5/3), fine to medium sand, trace coarse sand, some silt, subrounded sand, very loose. *(continued)* color change - olive brown (2.5Y 4/3)					-	M				
S4	60		25.5 27.0 28.5 30.0	color change - very dark grey (5Y 3/1) trace medium angular sand grain sized white shell fragments	SP				-	W				
S5	55		31.5 33.0 34.5	SILT (ML), dark grey (5Y 3/1)	ML				0.25	W				
				End of boring at 35'										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well/Piezometer No.: MW-303R Date Started: 9/17/2025 Date Completed: 9/19/2025

Applicable Requirements[1]: ☐ 567 IAC 113 ☐ 567 IAC 115 ☐ Site Permit ☐ 567 IAC 114 ☐ 567 IAC 139 ☐ Other:

A. SURVEYED LOCATION[2] AND ELEVATION OF POINT

Elevations (MSL): Ground Surface: 653.72 Top of Protective Casing: 656.78

Top of Well Casing: 656.12

Site Coordinates: Northing: 3957862.46 Easting: 5541620.72

World Coordinates: Latitude: 43°20'03.31098" Longitude: 91°10'05.18438"

Elevation and Coordinate Systems: IA North (4803) / NAVD '88 GEOID 18

B. SOIL BORING INFORMATION

Certified Well Contractor Cascade

Address 301 Alderson City, State, Zip Code Schofield, Wisconsin, 54476

Name of driller Paul Dickinson Cert No.

Drilling method Rotosonic Drilling fluid None Bore hole diameter 6"

Soil sampling method Bag Depth of boring 35'

C. MONITORING WELL INSTALLATION

Casing material: PCV Sch 40

Length of casing: 26.16

Casing diameter: 2"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PCV Sch 40

Screen opening size: 0.010"

Screen length: 10

Depth of Well: 34

Filter Pack:

Material: Red Flint Sand

Grain Size: #40

Quantity: 187.5#

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

Material: 3/8 Bentonite Chips

Placement method: Gravity

Quantity: 250#

Backfill (if different from seal): NA

Material: NA

Placement method: NA

Quantity: NA

Surface seal design: Concrete

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand and bentonite

Protective cap:

Material: Steel

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: aluminum with plastic cap

Vented?: ☐ Y ☒ N

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

Water level 25.04 Stabilization time <1 hour

Well development method purged 10 well volumes, surged periodically

Average depth of frost line 4'

[1] Refer to the site's permit to determine applicable requirements. Note that some sites may only be regulated by their permit versus current landfill chapters. If the permit and rule are silent regarding applicable requirements, then 567 IAC Chapter 39 shall apply, which requires use of the Well Log (Well Record) Form, not this form. If the applicable requirements have been modified and approved by the DNR, then note under Other.

[2] The location does not need to be surveyed by a licensed surveyor. A handheld GPS reading accurate to +/- 30 feet is acceptable when an aerial photograph showing the location (pin) is included with this form. The site coordinates should be the same coordinate system currently used for survey control and mapping of the site.

DRILLER'S CERTIFICATION

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

Signature _____ **Certification #** 9361 **Date** 10·21·25

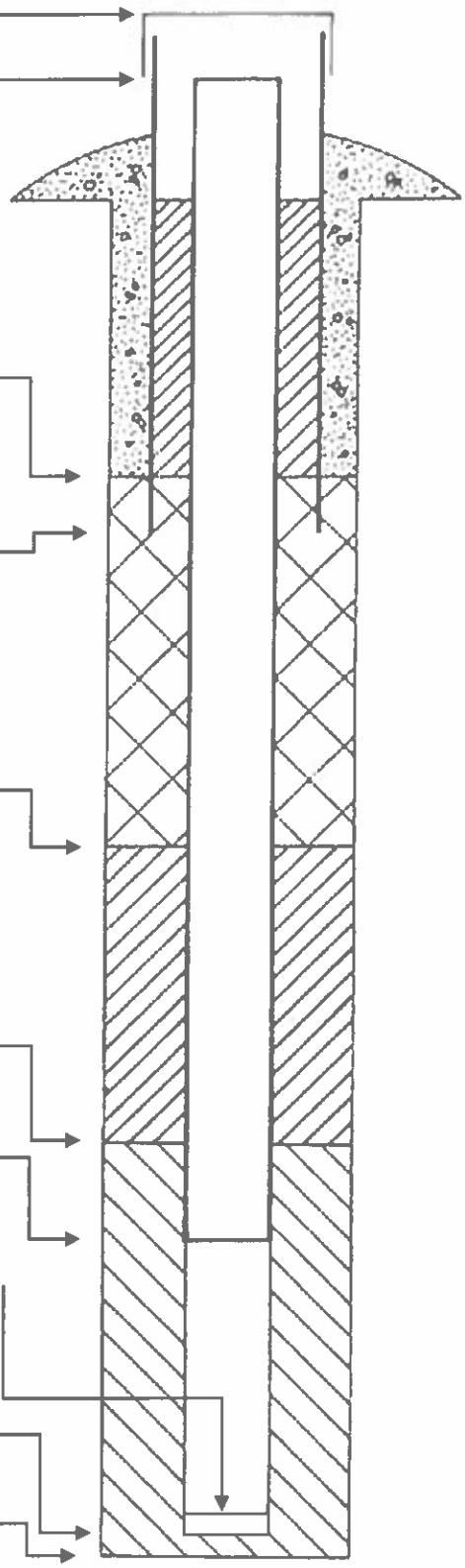
Note: Attach well log, boring log, and map showing new monitoring well/piezometer location in relation to existing wells or piezometers.

Complete one form for each well plugged and submit within 30 days to the local county agent, DNR project officer, and Erik Day with the DNR's Water Supply Section at erik.day@dnr.iowa.gov. DNR prefers that the forms be completed and submitted electronically.

Well and Boring Logs

Elevations: ±0.01 ft. MSL

Depths: ±0.1 ft from Ground Surface



Top of protective casing (TOP)
Elevation C 656.78
Top of Well Casing (TOC)
Elevation B 656.12
Ground surface (GS)
Elevation A 653.72
Depth Use 0

Top of backfill
Base of concrete plug and bentonite grout
Elevation A-W 649.72
Depth W 4

Base of Protective Casing
Elevation C-A = 649.78
Depth PC-C-A = 3.94

Base of Backfill, Top of Seal
Elevation A-X = 649.72
Depth X 4

Top of Filter Pack, Base of Seal
Elevation A-Y = 631.72
Depth Y 22

Top of Screen (TOS)
Elevation B-TD-S-WP = 629.96
Depth A-TOS^{elev} = 23.76

Bottom of Screen (BOS)
Elevation B-TD-WP = 619.96
Depth A-BOS^{elev} = 33.76

Bottom of Well
Elevation 619.71
Depth 34.01

Bottom of Filter Pack
Elevation A-Z = 618.72
Depth Z 35

Required Data:

- Elevations for A, B, and C shall be surveyed.
- Depths for W, X, Y, and Z shall be field measured following completion of each item.
- Lengths of the Protective Casing (PC), Screen (S), and Well Point (WP) shall be field measured prior to installation of each item.
- The total Depth (TD) from the Top of Well Casing to the Bottom of Well Point shall be field measured following installation.

PC: 7 S: 10
WP: 0.25 TD: 36.41

Questions? Call or Email: Brian Rath, 515-537-4051, brian.rath@dnr.iowa.gov

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	12	3 6 3 3	1–2	SILT, mottled, (10YR 3/2), some black coal looking material.	ML					M				
	18	1 2 2 1	3–4	LEAN CLAY, (10YR 4/3), soft, some organic material.	CL					W				
	12	2 2 3 2	5–6	SILT, (10YR 2/2), uniform, trace fine sand and clay.	ML					M				
	18	1 1 3 2	7–8							W				
	18	1 2 1 1	9–10	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial).						W				
	12	0 0 1 1	11–12		SP					W				
	12	0 0 1 1	13–14							W				
			15											

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

Signature for Zach Watson

Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718

Tel:
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW304 Page 2 of 2

Sample: Number and Type	Sample: Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
		0 0 1 1	16	POORLY GRADED SAND, fine to coarse, (10YR 3/4), (Alluvial). *(continued)*						W				
			17	Same as above but more coarse, (2.5YR 5/4), trace silt.	SP									
		2 5 6 6	18							W				
			19											
			20	End of Boring at 20 feet.										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL - Lansing Generating Station | Permit No.:
Well or Piezometer No.: MW304 | Dates Started: 5/15/2019 | Date Completed: 5/15/2019

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

Specify corner of site: NW | Distance and direction along boundary: 1,340 S
Distance and direction from boundary to surface monitoring well: 10 E
Elevation (+0.01 ft. MSL):
Ground Surface: 635.47 | Top of protective casing: 636.68
Top of well casing: 636.43 | Benchmark elevation: 653.26
Benchmark description: Brass cap in PCC walkway to weir structure on north side of entrance road

B. SOIL BORING INFORMATION

Construction Company Name: Roberts Environmental Drilling Inc.
Address: 1107 South Mulberry Street | City, State, Zip Code: Millstadt, IL, 62260
Name of driller: Eric Wetzel
Drilling method: 4 1/4" HSA | Drilling fluid: None | Bore Hole diameter: 8.5"
Soil sampling method: Split Spoon | Depth of boring: 22'

C. MONITORING WELL INSTALLATION

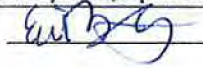
Casing material: PVC | Placement method: Gravity
Length of casing: 20.26' | Volume:
Outside casing diameter: 2.4" | Backfill (if different from seal):
Inside casing diameter: 2.0" | Material:
Casing joint type: Threaded | Placement method:
Casing/screen joint type: Threaded | Volume:
Screen material: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

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

Water level: 13.21' | **Stabilization time:** <1 hour
Well development method: Surged & pumped to reduce turbidity
Average depth of frost line: 4

DRILLER'S CERTIFICATION

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

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

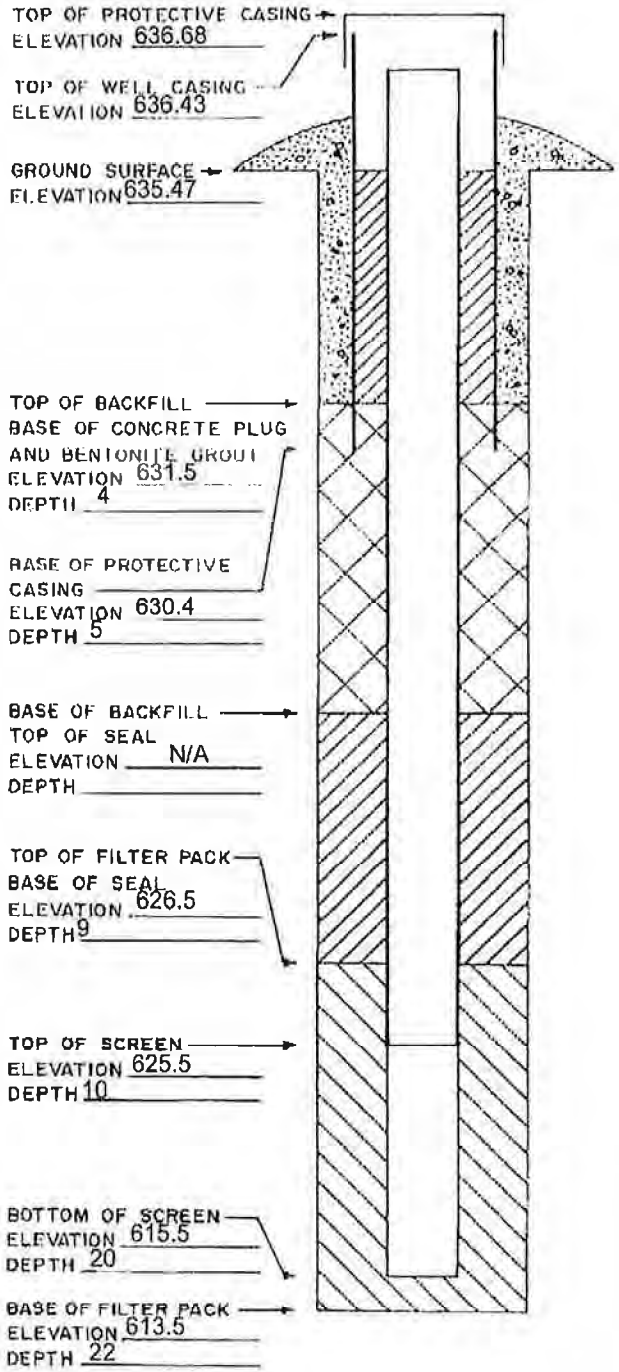
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovac to 9' to check for utilities.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	SILT, grayish brown, toots and sticks.	ML									
			11	POORLY GRADED SAND WITH SILT AND GRAVEL, fine to medium grained, reddish brown.										
S1	49"		12		SP-SM					W				
			13											
			14	POORLY GRADED SAND, reddish brown, fine to medium grained.										
			15		SP									
			16											

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

Signature Firm SCS Engineers Tel: Fax:

Boring Number MW-304A

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

Boring Number MW-304A

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

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

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

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

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

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

Elevation (+0.01 ft. MSL)

Ground Surface: 635.6 | Top of protective casing: 638.6

Top of well casing: 638.36 | Benchmark elevation: 653.26

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

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

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

Name of driller: Paul Dickinson

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

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

C. MONITORING WELL INSTALLATION

Casing material: Sch. 80 PVC

Length of casing: 52.45'

Outside casing diameter: 2.4"

Inside casing diameter: 1.939"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 5'

Depth of Well: 50'

Filter Pack:

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

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

- Material: Bentonite Chips

Placement method: Poured

Volume: 2 cu. ft.

Backfill (if different from seal):

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

Surface seal design: Protop

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand

Protective cap:

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

Well cap:

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

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

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

Well development method: Surged and pumped

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

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

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

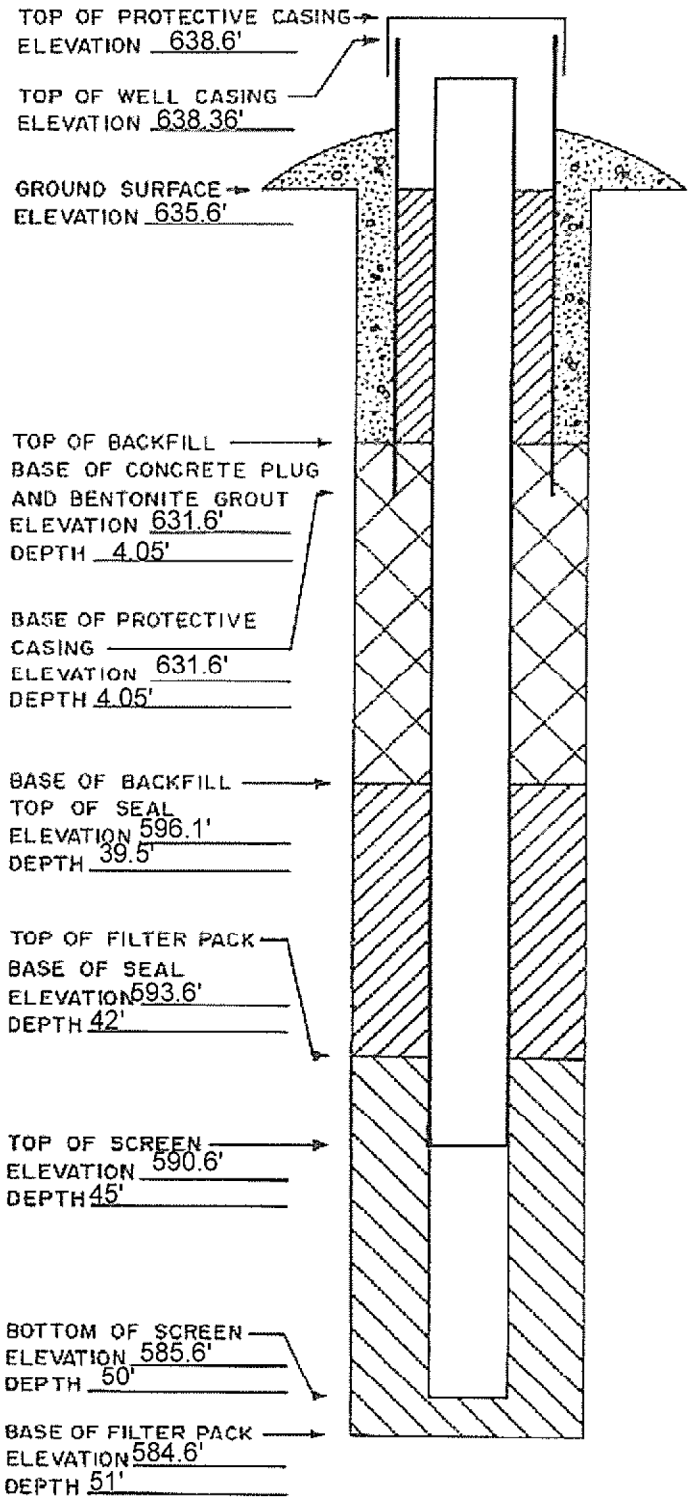
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



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Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 9.5 feet.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	FAT CLAY, dark greenish gray, (GLEY 13/10Y), soft, trace red sand, wood pieces and roots.										
	24	1 1 1 1	11							W				
			12		CH									
	24	0 0 0 2	13							W				
			14	Sand seams at 13.5 and 14.5 feet.										
			15											

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

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

Boring Number MW305 Page 2 of 2

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

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

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

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

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

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

Elevation (+0.01 ft. MSL):

Ground Surface: 631.75 | Top of protective casing: 634.32

Top of well casing: 633.87 | Benchmark elevation: 653.26

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

B. SOIL BORING INFORMATION

Construction Company Name: Roberts Environmental Drilling Inc.

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

Name of driller: Eric Wetzel

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

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

C. MONITORING WELL INSTALLATION

Casing material: PVC | Placement method: Gravity

Length of casing: 5' | Volume: 2.7 cubic ft

Outside casing diameter: 2.4" | Backfill (if different from seal):

Inside casing diameter: 2.0" | Material:

Casing joint type: Threaded | Placement method:

Casing/screen joint type: Threaded | Volume:

Screen material: PVC | Surface seal design: Concrete

Screen opening size: 0.01' | Material of protective casing: Steel

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

Screen length: 10'

Depth of Well: 14.5' | Protective cap:

Filter Pack: | Material: steel

Material: Filter Sand | Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Grain Size: | Well cap:

Volume: 23 bags | Material: Plastic

Seal (minimum 3 ft. length above filter pack): | Vented?: ☒ Y ☐ N

Material: Bentonite

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

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

Well development method: Surged and pumped to remove turbidity

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

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

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

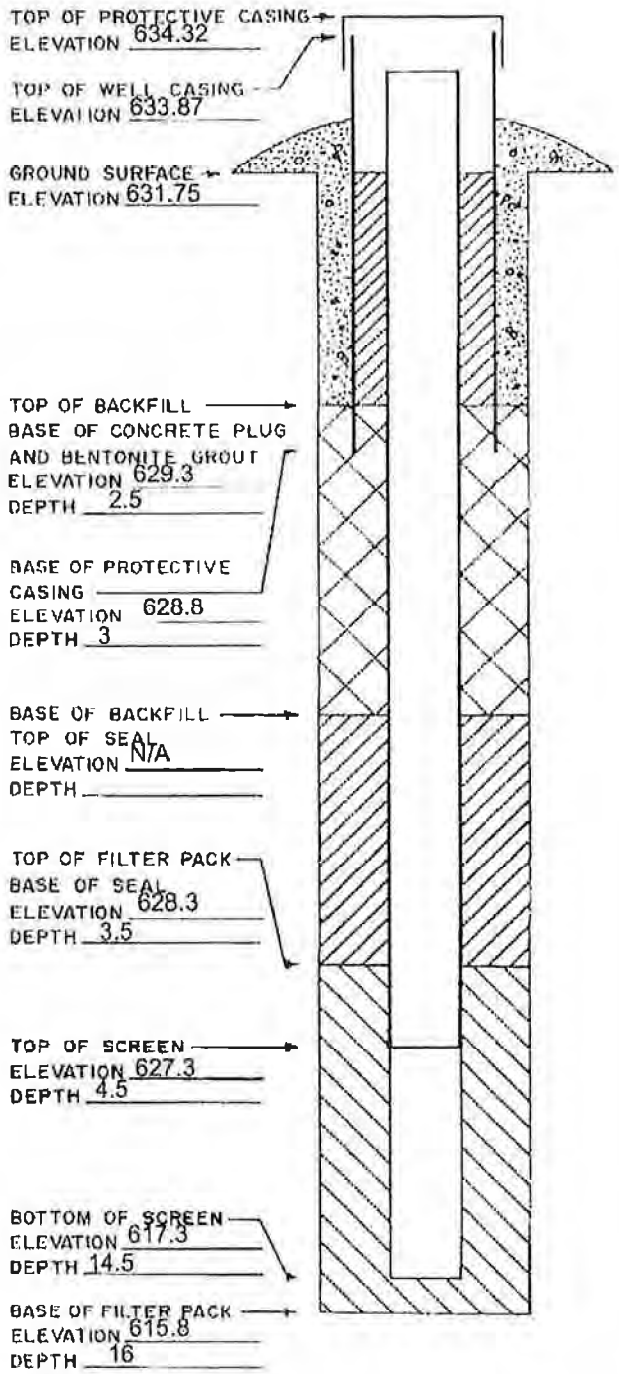
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 12 feet.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12	POORLY GRADED SAND, medium to coarse, rusty in color, (10YR 4/6), trace fine silt.										
	12	1 2 4 3	13		SP					W				
			14											
			15											

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

Signature for Buck Watson

Firm SCS Engineers
2830 Dairy Drive, Madison, WI 53718

Tel:
Fax:

Boring Number MW306 Page 2 of 2

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

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

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

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

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

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

Elevation (+0.01 ft. MSL):

Ground Surface: 636.74 | Top of protective casing: 637.71

Top of well casing: 637.48 | Benchmark elevation: 653.26

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

B. SOIL BORING INFORMATION

Construction Company Name: Roberts Environmental Drilling Inc.

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

Name of driller: Eric Wetzel

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

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

C. MONITORING WELL INSTALLATION

Casing material: PVC | Placement method: Gravity

Length of casing: 26' | Volume:

Outside casing diameter: 2.4" | Backfill (if different from seal):

Inside casing diameter: 2.0" | Material:

Casing joint type: Threaded | Placement method:

Casing/screen joint type: Threaded | Volume:

Screen material: PVC | Surface seal design: Concrete

Screen opening size: 0.01' | Material of protective casing: Steel

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

Screen length: 10'

Depth of Well: 25' | Protective cap:

Filter Pack: | Material: Steel

Material: Filter Sand | Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Grain Size: | Well cap:

Volume: 37 cubic feet | Material: Plastic

Seal (minimum 3 ft. length above filter pack): | Vented?: ☒ Y ☐ N

Material: Bentonite

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

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

Well development method: Surged and pumped to reduce turbidity

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

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

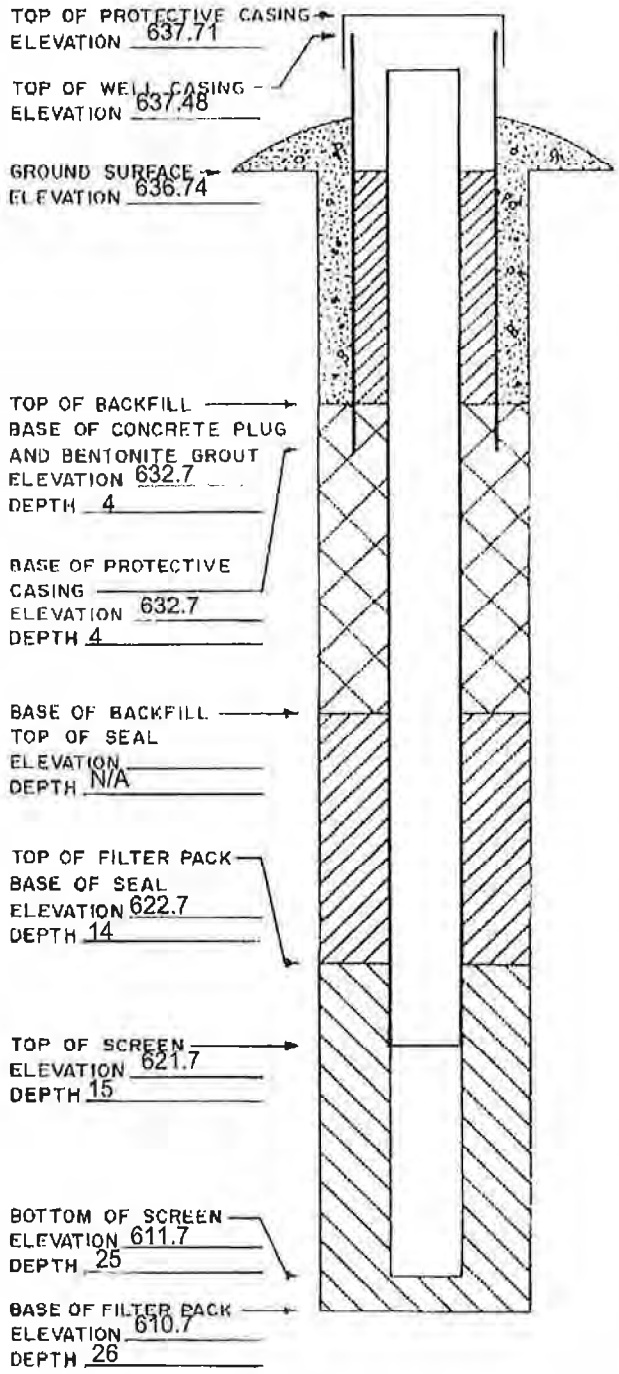
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½ inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovac to 9' to check for utilities.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	POORLY GRADED SAND, reddish brown, trace shells, medium grained.										
			11											
			12											
S1	52"		13		SP					W				
			14											
			15											
			16											

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

Signature Firm SCS Engineers Tel: Fax:

Boring Number MW-306A

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

Boring Number MW-306A

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

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

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

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

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

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

Elevation (+0.01 ft. MSL)

Ground Surface: 636.7 Top of protective casing: 639.56

Top of well casing: 639.33 Benchmark elevation: 653.26

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

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

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

Name of driller: Paul Dickinson

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

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

C. MONITORING WELL INSTALLATION

Casing material: Sch. 80 PVC

Length of casing: 58.06'

Outside casing diameter: 2.4"

Inside casing diameter: 1.939"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.01'

Screen length: 5'

Depth of Well: 55'

Filter Pack:

Material: Filter Sand

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

Volume: 1.5cu. ft.

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

Material: Bentonite Chips

Placement method: Poured

Volume: 2 cu. ft.

Backfill (if different from seal):

Material: Bentonite grout

Placement method: Pumped

Volume: 60 gal.

Surface seal design: Protop

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand

Protective cap: 6" Royer cap

Material: Aluminum

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic and rubber

Vented?: ☐ Y ☒ N

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

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

Well development method: Surged and pumped

Average depth of frost line: 4 ft

DRILLER'S CERTIFICATION

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

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

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

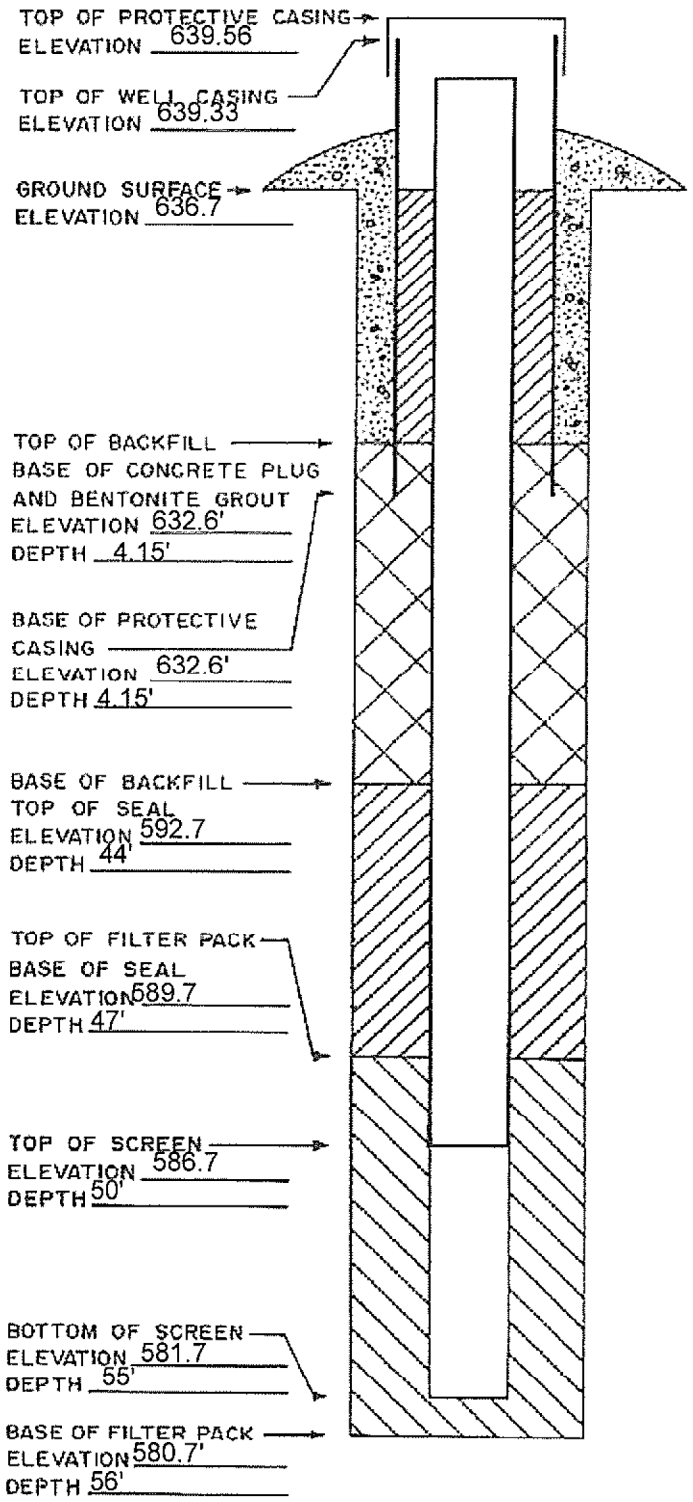
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 4" layer of gray sand (10YR 5/1), shells and subroundd gravel.										
S1	60		11		SP					W				
			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	Tel:
	SCS Engineers 2830 Dairy Drive, Madison, WI 53718	Fax:

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above , shells still present with more gray sand.	SP									
			17											
S2	60		18	SILT, dark gray to black (5Y 2.5/2), with trace very fine grained sand and gravel/cobbles.	ML				0.75	W/M				
			19											
			20	Same as above but gray (5Y 4/1).										
S3	12		21							W/M				
				End of boring at 21' below ground surface.										
				Well placed from 20' with 10' screen at 20 to 10'.										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Lansing Generating Station | Permit No.: 2217880

Well or Piezometer No.: MW-307 | Dates Started: 6/22/2021 | Date Completed: 6/22/2021

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

Specify corner of site: NW | Distance and direction along boundary: 1,500' S

Distance and direction from boundary to surface monitoring well: 420' E

Elevation (+0.01 ft. MSL)

Ground Surface: 640.7' | Top of protective casing: 643.37'

Top of well casing: 643.06' | Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

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

Name of driller: Paul Dickinson

Drilling method: Roto-Sonic | Drilling fluid: Water | Bore Hole diameter: 6"

Soil sampling method: Bagged | Depth of boring: 21'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC | Placement method: Poured

Length of casing: 12.7' | Volume: 4, 50 # bags

Outside casing diameter: 2.4" | Backfill (if different from seal):

Inside casing diameter: 2.05" | Material:

Casing joint type: Threaded | Placement method:

Casing/screen joint type: Threaded | Volume:

Screen material: Sch. 40 PVC | Surface seal design:

Screen opening size: O.01" | Material of protective casing: Steel

Material of grout between protective casing and well casing: Bentonite Chips/Sand

Screen length: 10'

Depth of Well: 20' | Protective cap:

Filter Pack: | Material: Aluminium

Material: Red Flint Sand | Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Grain Size: #40 | Well cap:

Volume: 1.5 ft^3 | Material: Plastic

Seal (minimum 3 ft. length above filter pack): | Vented?: ☐ Y ☒ N

Material: Bentonite Chips

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

Water level: 11.98 | **Stabilization time**: Immediate

Well development method: Purge and surge with pump

Average depth of frost line: 4.5'

DRILLER'S CERTIFICATION

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

Signature | **Certification #**: 9361 | **Date**: 6-22-2021

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

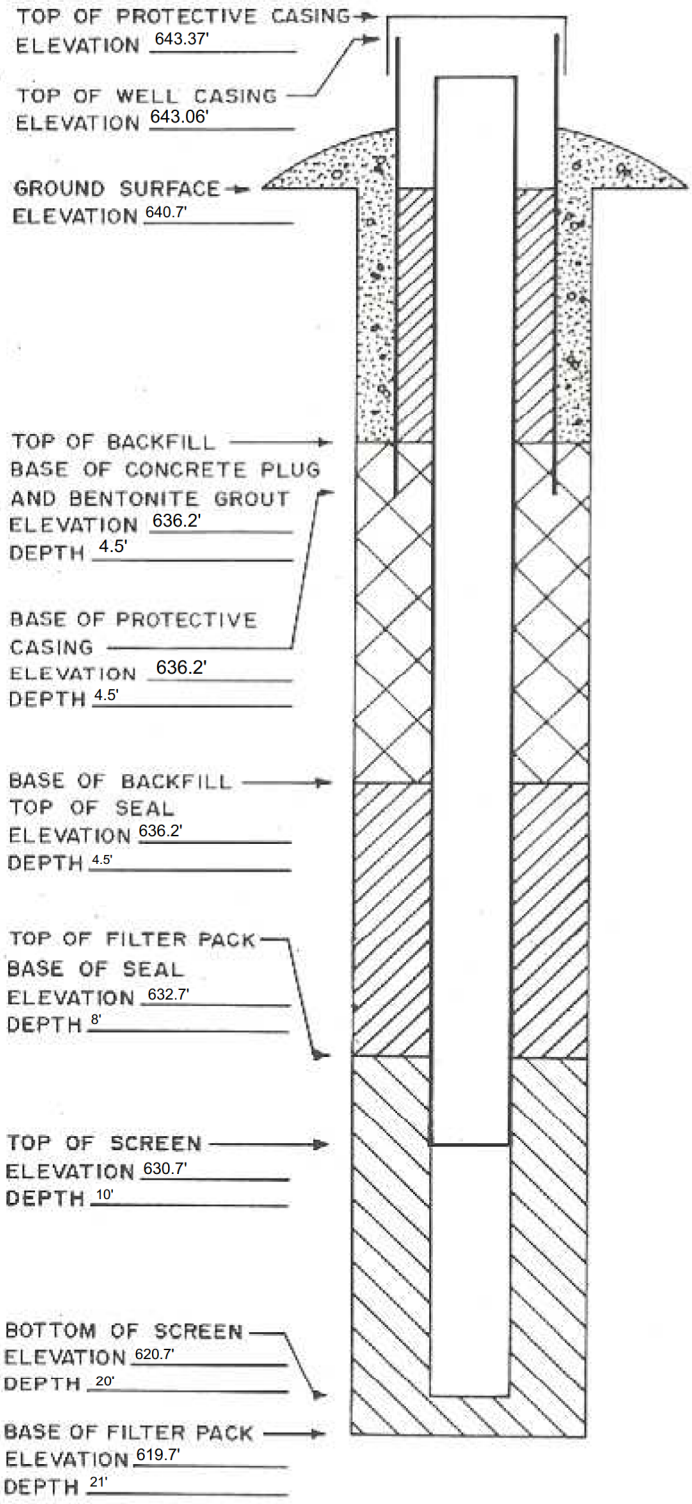
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SOIL BORING LOG INFORMATION

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

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

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

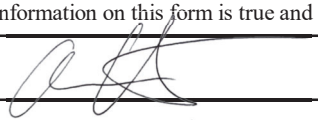
DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		622.8 Feet	640.60 Feet	6.0 in.

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–9	Hydrovaced to 12' below ground surface with some cave-in to about 10'.										
S1	60		10–15	POORLY GRADED SAND, medium grained, yellowish brown (10YR 5/4) with 8" layer of gray sand (10YR 5/1) with trace shells and sub-rounded gravel.	SP					M/W				

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

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

Boring Number MW-307A

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S2	48		16–20		SP					W				
			20	SILT, dark gray, dark gray to black, (5Y 2.5/2) with fine grained sand and trace gravel.										
S3	60		21–25		ML				1.5-2.5	M				
			25	LEAN CLAY, black (5Y 2.5/1), soft.										
S4	60		26–30						0.75	W				
			30	Same as above but very soft with trace fine to medium grained sand.	CL									
S5	60		31–35						0.0	M/W				
			35	POORLY GRADED GRAVEL WITH SAND, fine to coarse gravel, sub-rounded to sub-angular, sand is fine to coarse grained, dark brownish gray (2.5Y 4/2) with trace silt.										
S6	24		36–40		GP				0.0	W				

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-307A

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			41		GP									
			41	SILT, dark gray (5Y 3/1), with trace sand, gravel and cobbles.	ML									
			42	WELL GRADED SAND, fine to medium grained, yellow (2.Y 7/6) with gravel and pieces of shell.	SW									
S7	56		43	SILT, dark gray (5Y 4/1) and transitions to olive brown (2.5Y 4/4), very soft.	ML				0.0	W				
			44											
			45	POORLY GRADED SAND, fine to medium grained, light olive brown (2.5Y 5/4) with trace silt.	SP									
			46											
			47	SANDY SILT, light olive brown (2.5Y 5/3), very soft, sand is fine to medium grained.	ML									
			48	SILTY SAND, fine to coarse grained, olive yellow (2.5Y 6/8).	SM									
S8	70		49	POORLY GRADED GRAVEL WITH SAND AND SILT, coarse gravel, sand and silt are light olive brown (2.5Y 5/4), sand is fine to coarse grained.	GP-GM				0.0	W				
			50	SANDY SILT WITH GRAVEL, gray to dark gray (2.5Y 4/1), sand is fine to coarse grained, gravel is coarse, sub-rounded with trace cobbles, very soft.	ML									
			51											
			52	End of boring at 52' below ground surface.										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Lansing Generating Station | Permit No.: 2217881

Well or Piezometer No.: MW-307A | Dates Started: 6/22/2021 | Date Completed: 6/23/2021

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

Specify corner of site: NW | Distance and direction along boundary: 1,500' S

Distance and direction from boundary to surface monitoring well: 410' E

Elevation (+0.01 ft. MSL)

Ground Surface: 640.6' | Top of protective casing: 643.14'

Top of well casing: 642.96' | Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

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

Name of driller: Paul Dickinson

Drilling method: Roto-Sonic | Drilling fluid: Water | Bore Hole diameter: 6"

Soil sampling method: Bagged | Depth of boring: 52'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC | Placement method: Poured

Length of casing: 46.96' | Volume: 1, 50 # bags + 5, 50# bags after grout settled

Outside casing diameter: 2.4" | Backfill (if different from seal):

Inside casing diameter: 2.05" | Material: Bentonite grout

Casing joint type: Threaded | Placement method: Pumped

Casing/screen joint type: Threaded | Volume: 55 gallons

Screen material: Sch. 40 PVC | Surface seal design:

Screen opening size: O.01" | Material of protective casing: Steel

Material of grout between protective casing and well casing: Bentonite Chips/Sand

Screen length: 5'

Depth of Well: 50' | Protective cap:

Filter Pack: | Material: Aluminium

Material: Red Flint Sand | Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Grain Size: #40 | Well cap:

Volume: 1.25 ft^3 | Material: Plastic

Seal (minimum 3 ft. length above filter pack): | Vented?: ☐ Y ☒ N

Material: Bentonite Chips

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

Water level: 17.58' | **Stabilization time**: Immediate

Well development method: Purge and surge with pump

Average depth of frost line: 4.5'

DRILLER'S CERTIFICATION

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

Signature | **Certification #**: 9361 | **Date**: 6-23-2021

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

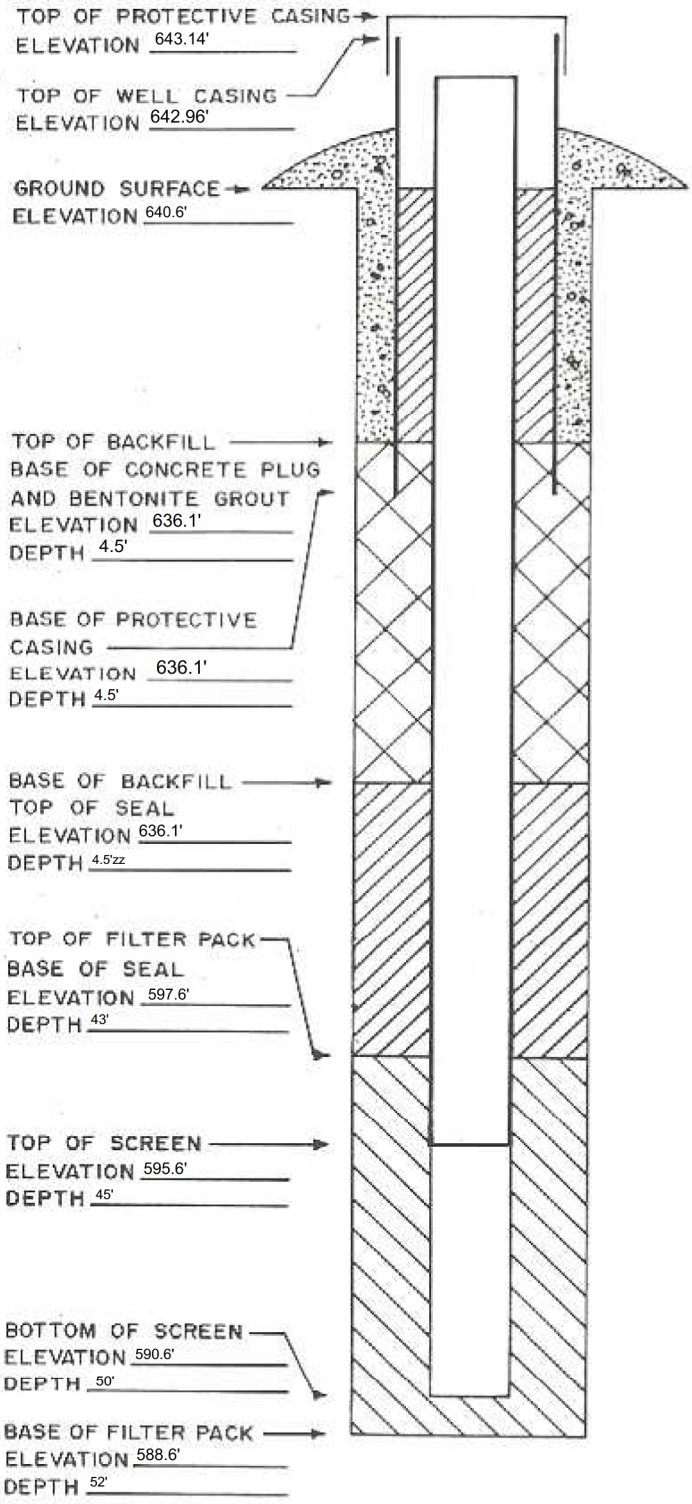
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			1	Hydrovaced to 8 feet below ground surface and blind drilled the from 8 to 10'.										Blind drilled 2 ft of slough from 8 to 10' bgs.
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10	WELL SORTED SAND, fine to coarse grained, very dark grayish brown (10YR 3/2).	SW									
			11	SILT, gray to dark gray (2.5Y 3/2) with sticks, roots, and trace sand throughout, very soft.										
			12											
S1	60		13		ML				0.0	W				
			14											
			15											

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

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

Boring Number MW-308

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	Same as above but with trace roots, no sticks, and pockets of sand, very sort.										
			17											
S2	60		18		ML				0.0	W				
			19											
			20	Same as above but very trace roots.										
S3	40		21	SANDY SILT, gray to dark gray, (2.5Y 3/2), no visible roots, very soft.	ML				0.0	W				slough in hole, actual recovery was ~2"
			22	End of boring at 22' below ground surface.										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Lansing Generating Station | Permit No.: 2217883

Well or Piezometer No.: MW-308 | Dates Started: 6/22/2021 | Date Completed: 6/23/2021

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

Specify corner of site: NW | Distance and direction along boundary: 950' S

Distance and direction from boundary to surface monitoring well: 550' E

Elevation (+0.01 ft. MSL)

Ground Surface: 635.7 | Top of protective casing: 638.11

Top of well casing: 637.89 | Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

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

Name of driller: Paul Dickinson

Drilling method: Roto-Sonic | Drilling fluid: Water | Bore Hole diameter: 6"

Soil sampling method: Bagged | Depth of boring: 22'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC | Placement method: Poured

Length of casing: 12.94' | Volume: 7, 50 # bags

Outside casing diameter: 2.4" | Backfill (if different from seal):

Inside casing diameter: 2.05" | Material:

Casing joint type: Threaded | Placement method:

Casing/screen joint type: Threaded | Volume:

Screen material: Sch. 40 PVC | Surface seal design:

Screen opening size: O.01" | Material of protective casing: Steel

Material of grout between protective casing and well casing: Bentonite Chips/Sand

Screen length: 10'

Depth of Well: 20' | Protective cap:

Filter Pack: | Material: Aluminium

Material: Red Flint Sand | Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Grain Size: #40 | Well cap:

Volume: 2 ft^3 | Material: Plastic

Seal (minimum 3 ft. length above filter pack): | Vented?: ☐ Y ☒ N

Material: Bentonite Chips

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

Water level: 16.98' | **Stabilization time**: 12 hours

Well development method: Purge and surge with pump

Average depth of frost line: 4.5'

DRILLER'S CERTIFICATION

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

Signature | **Certification #**: 9361 | **Date**: 6-23-2021

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

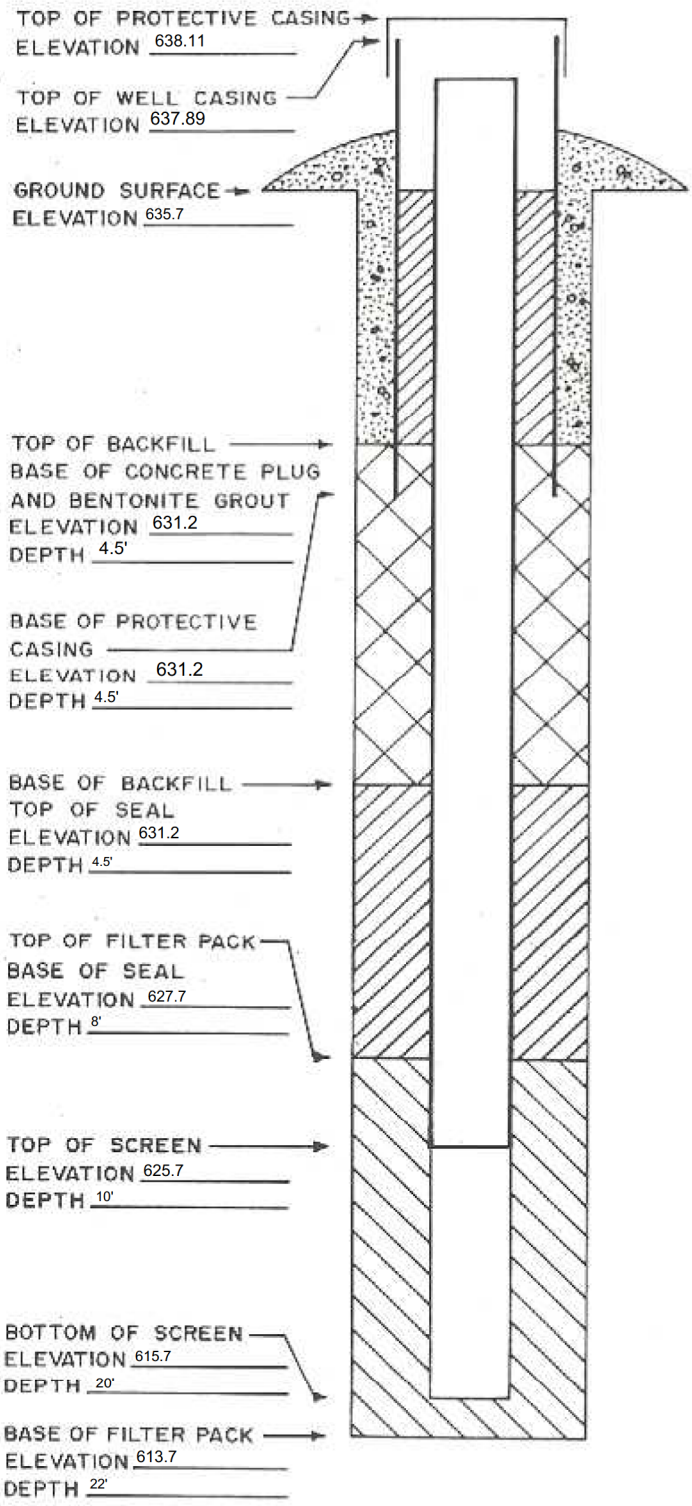
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SOIL BORING LOG INFORMATION

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

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

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

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

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

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

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Hydrovaced to 8' below ground surface.										
			1	Hole collapsed to 6' bgs.										
			2											
			3											
			4											
			5											
			6	WELL GRADED SAND, fine to coarse grained, grayish brown to brown (10YR 4/3) with trace coal (slough).										
S1	20		7											
			8		SP									Slough from 6 to 10 feet.
			9											
			10	SILT, dark gray to black (5Y 2.5/1) with trace roots, 4" layer of black organic soil with trace gravel and sticks.										
			11											
			12		ML-OL									
S2	60		13											
			14	SILTY SAND WITH GRAVEL, fine to coarse grained, gray to dark gray (5Y 4/1), gravel is										
			15		SM									

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

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

SOIL BORING LOG INFORMATION SUPPLEMENT

Boring Number MW-309

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			16	sub-rounded. SILT, dark gray (5Y 3/1), with roots and trace sticks, very soft.										
S3	60		17		ML									
			18											
			19											
			20	SANDY SILT, very dark gray (5Y 3/1) with roots, trace gravel and peices of limestone at bottom of sample, sand is fine to medium grain.										
			21											
S4	60		22		ML									
			23											
			24											
			25	End of boring at 25' below ground surface. Well placed from 22' with 10' screen at 22 to 12'.										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Lansing Generating Station | Permit No.: 2217882

Well or Piezometer No.: MW-309 | Dates Started: 6/23/2021 | Date Completed: 6/23/2021

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

Specify corner of site: NW | Distance and direction along boundary: 980' S

Distance and direction from boundary to surface monitoring well: 140' E

Elevation (+0.01 ft. MSL)

Ground Surface: 636.1' | Top of protective casing: 638.51'

Top of well casing: 638.27' | Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Cascade Drilling

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

Name of driller: Paul Dickinson

Drilling method: Roto-Sonic | Drilling fluid: None used | Bore Hole diameter: 6"

Soil sampling method: Bagged | Depth of boring: 25'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC | Placement method: Poured

Length of casing: 14.42' | Volume: 7, 50 # bags

Outside casing diameter: 2.4" | Backfill (if different from seal):

Inside casing diameter: 2.05" | Material:

Casing joint type: Threaded | Placement method:

Casing/screen joint type: Threaded | Volume:

Screen material: Sch. 40 PVC | Surface seal design:

Screen opening size: O.01" | Material of protective casing: Steel

Material of grout between protective casing and well casing: Bentonite Chips/Sand

Screen length: 10'

Depth of Well: 22' | Protective cap:

Filter Pack: | Material: Aluminium

Material: Red Flint Sand | Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Grain Size: #40 | Well cap:

Volume: 1.5 ft^3 | Material: Plastic

Seal (minimum 3 ft. length above filter pack): | Vented?: ☐ Y ☒ N

Material: Bentonite Chips

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

Water level: 16.96' | **Stabilization time**: 12 hours

Well development method: Purge and surge with pump

Average depth of frost line: 4.5'

DRILLER'S CERTIFICATION

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

Signature | **Certification #**: 9361 | **Date**: 6-23-2021

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

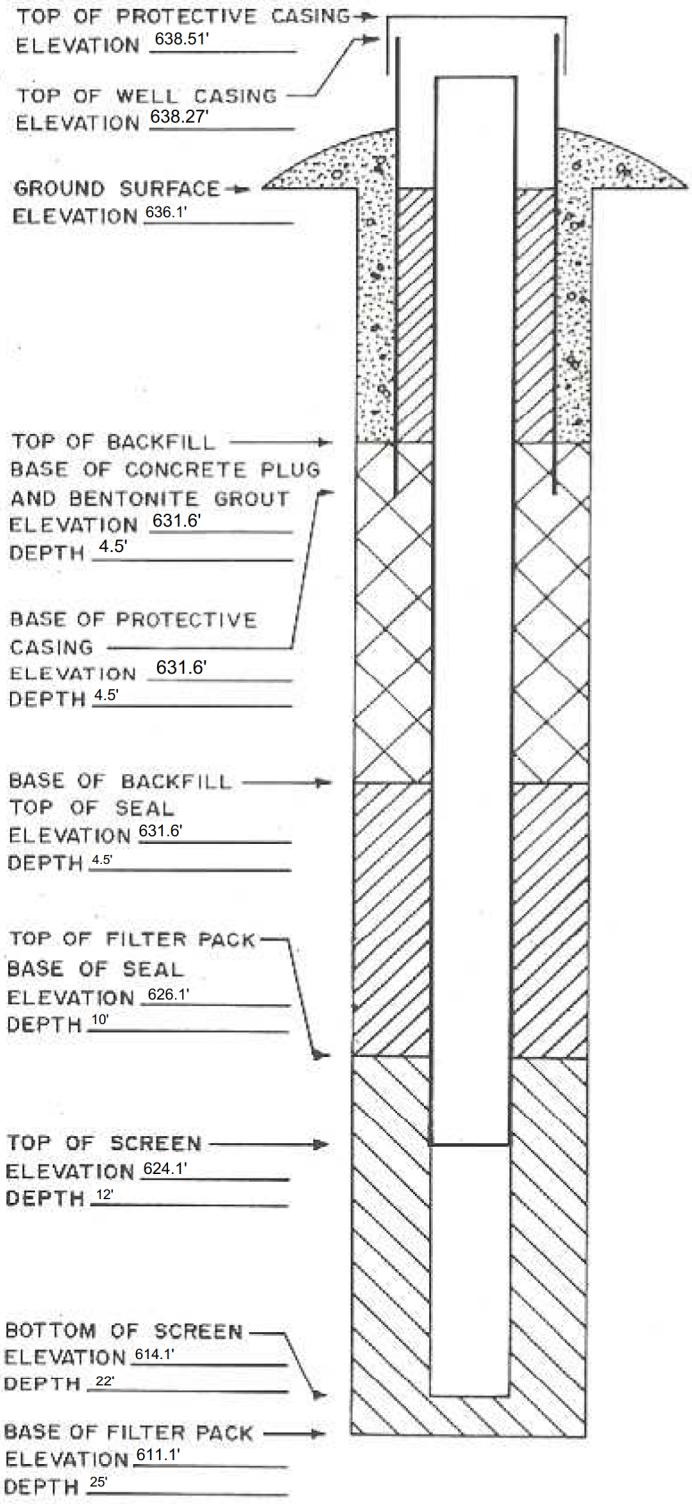
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Lansing SCS#: 25225228.00		OBS-1 (MW-310)

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
John Weeks Cascade	9/18/2025	9/18/2025	rotosonic

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-310	23.5 Feet	657.7 Feet	6.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 3,956,914 N, 5,541,509 E S / C / N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 19 ' 54.0 "
Long 91 ° 10 ' 7.1 "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

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

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	SILT (ML), brown (10YR 4/3), fine to medoum sand, subrounded sand, tan and orange mottled, organics (roots/grass).	ML									
			1.5	SILTY CLAY (CL-ML), dark yellowish brown (10YR 3/6), some fine to coarse sand, trace fine gravel, subrounded sand and gravel, organics (roots).	CL-ML									
S1 S2	53		3.0	SILTY SAND (SM), very dark brown (10YR 2/2), fine to coarse sand, some fine gravel, subrounded sand and gravel. color change - black (10YR 2/1)	SM				-	M				
			4.5	color change - very dark grayish brown (2.5Y 3/2)										
			6.0	POORLY GRADED SAND (SP), dark yellowish brown (10YR 4/4), fine to medium sand, trace coarse sand, trace silt, subrounded sand.	SP									
S3 S4	50		7.5						-	M+				
			9.0											
			10.5											
			12.0	SILT/CLAY/SAND lamination, very dark grey (5Y 3/1), organic odor										
S5 S6	60		13.5	SILT/CLAY/SAND lamination, very dark grey (5Y 3/1), organic odor					-	M+				
			15.0	SILT/CLAY/SAND lamination, very dark grey (5Y 3/1), organic odor										
			16.5	SILT/CLAY/SAND lamination, very dark grey (5Y 3/1), organic odor										
	60		18.0						-	M				
			19.5											

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

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

Boring Number OBS-1 (MW-310) Page 2 of 2

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			21.0	POORLY GRADED SAND (SP), dark yellowish brown (10YR 4/4), fine to medium sand, trace coarse sand, trace silt, subrounded sand. *(continued)*	SP									
S7	60		22.5	SILT/CLAY/SAND lamination, very dark grey (5Y 3/1), organic odor					-	M+ W				
			24.0	POORLY GRADED SAND (SP), dark grayish brown (2.5Y 4/2), fine to medium sand, trace coarse sand, subrounded sand, mostly medium sand.	SP									
			25.5	color change - very dark grey (5Y 3/1)										
S8 S9	55		27.0	SILTY SAND (SM), very dark grey (5Y 3/1), very fine to fine sand, subrounded sand, organic odor, trace roots, trace dark orangish brown mottled.	SM				- 3.75	W				
			28.5											
			30.0	CLAYEY SAND (SC), very dark grey (5Y 3/1), some fine to medium sand, trace coarse sand, some fine to coarse gravel, subrounded sand, subangular gravel.	SC									
			31.5	CLAYEY SAND (SC), black (5Y 2.5/1), fine to medium sand, trace coarse sand, fine to coarse gravel, subrounded sand, subangular gravel and coarse sand.	SC									
S10 S11	42		33.0	no more gravel POORLY GRADED GRAVEL (GP), olive grey (5Y /3), fine to coarse sand, fine to coarse gravel, trace cobbles, subrounded sand, subangular gravelm angular coarse sand.	GP				-	W				
			34.5											
			36.0	CLAYEY SILT (ML), black (5Y 2.5/1), trace very fine to fine sand, subrounded sand.	ML									
S12	57		37.5						0.25	W				
			39.0											
				End of boring at 40'										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well/Piezometer No.: MW-310 Date Started: 9/19/2025 Date Completed: 9/19/2025

Applicable Requirements[1]: ☐ 567 IAC 113 ☐ 567 IAC 115 ☒ Site Permit
☐ 567 IAC 114 ☐ 567 IAC 139 ☐ Other:

A. SURVEYED LOCATION[2] AND ELEVATION OF POINT

Elevations (MSL): Ground Surface: 657.68 Top of Protective Casing: 659.8

Top of Well Casing: 659.48

Site Coordinates: Northing: 3956914.3 Easting: 5541508.7

World Coordinates: Latitude: 43°19'53.98057" Longitude: 91°10'07.05307"

Elevation and Coordinate Systems: IA North (4803) / NAVD '88 GEOID 18

B. SOIL BORING INFORMATION

Certified Well Contractor Cascade

Address 301 Alderson City, State, Zip Code Schofield, Wisconsin, 54476

Name of driller Paul Dickinson Cert No.

Drilling method Rotosonic Drilling fluid None Bore hole diameter 6"

Soil sampling method Bag Depth of boring 40'

C. MONITORING WELL INSTALLATION

Casing material: PCV Sch 40

Length of casing: 23.95

Casing diameter: 2"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PCV Sch 40

Screen opening size: 0.010"

Screen length: 10

Depth of Well: 34.5

Filter Pack: 35-23.5

Material: Red Flint Sand

Grain Size: #40

Quantity: 250#

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

Material: 3/8 Bentonite Chips

Placement method: Gravity

Quantity: 300#

Backfill (if different from seal): NA

Material: NA

Placement method: NA

Quantity: NA

Surface seal design: Concrete

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand and bentonite

Protective cap:

Material: Steel

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic with rubber gasket

Vented?: ☐ Y ☒ N

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

Water level 25.66 Stabilization time < 1 hour

Well development method purged until clear, surged twice, purged 37 gallons

Average depth of frost line 4'

[1] Refer to the site's permit to determine applicable requirements. Note that some sites may only be regulated by their permit versus current landfill chapters. If the permit and rule are silent regarding applicable requirements, then 567 IAC Chapter 39 shall apply, which requires use of the Well Log (Well Record) Form, not this form. If the applicable requirements have been modified and approved by the DNR, then note under Other.

[2] The location does not need to be surveyed by a licensed surveyor. A handheld GPS reading accurate to +/- 30 feet is acceptable when an aerial photograph showing the location (pin) is included with this form. The site coordinates should be the same coordinate system currently used for survey control and mapping of the site.

DRILLER'S CERTIFICATION

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

Signature _____ **Certification #** 9361 **Date** 10·21·25

Note: Attach well log, boring log, and map showing new monitoring well/piezometer location in relation to existing wells or piezometers. Complete one form for each well plugged and submit within 30 days to the local county agent, DNR project officer, and Erik Day with the DNR's Water Supply Section at erik.day@dnr.iowa.gov. DNR prefers that the forms be completed and submitted electronically.

Well and Boring Logs

Elevations: ±0.01 ft. MSL

Depths: ±0.1 ft from Ground Surface

Top of protective casing (TOP)
Elevation C 659.8
Top of Well Casing (TOC)
Elevation B 659.48
Ground surface (GS)
Elevation A 657.68
Depth Use 0

Top of backfill
Base of concrete plug and bentonite grout
Elevation A-W 653.68
Depth W 4

Base of Protective Casing
Elevation C-A = 652.8
Depth PC-C-A = 4.88

Base of Backfill, Top of Seal
Elevation A-X = 653.68
Depth X 4

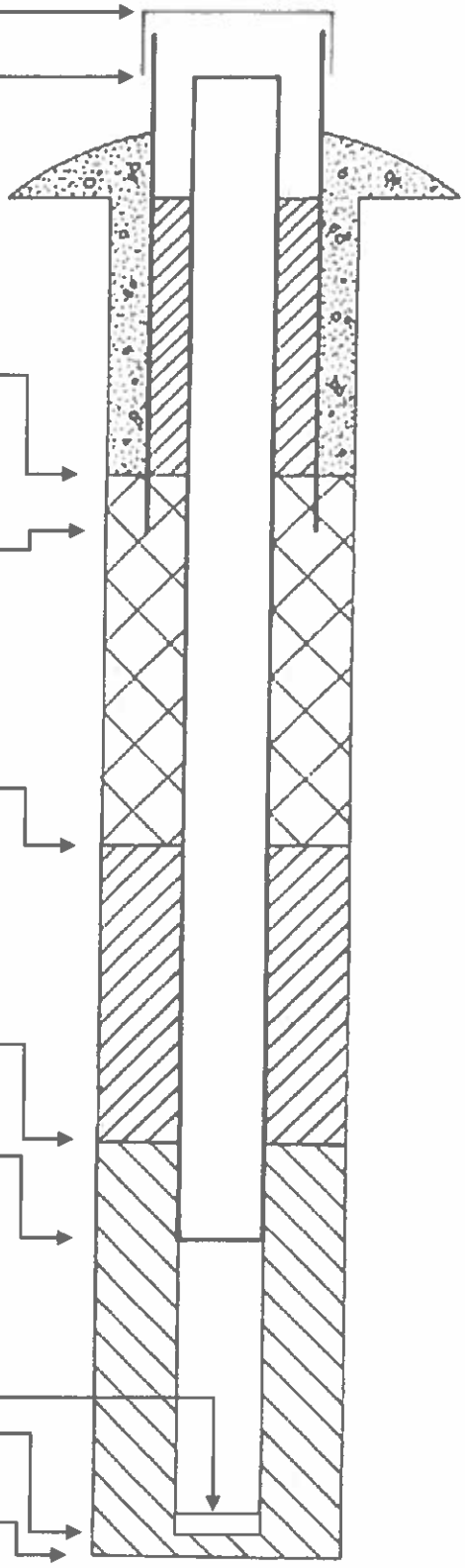
Top of Filter Pack, Base of Seal
Elevation A-Y = 634.18
Depth Y 23.5

Top of Screen (TOS)
Elevation B-TD-S-WP = 635.53
Depth A-TOS^{elev} = 22.15

Bottom of Screen (BOS)
Elevation B-TD-WP = 625.53
Depth A-BOS^{elev} = 32.15

Bottom of Well
Elevation 625.28
Depth 32.40

Bottom of Filter Pack
Elevation A-Z = 622.68
Depth Z 35



Required Data:

- Elevations for A, B, and C shall be surveyed.
- Depths for W, X, Y, and Z shall be field measured following completion of each item.
- Lengths of the Protective Casing (PC), Screen (S), and Well Point (WP) shall be field measured prior to installation of each item.
- The total Depth (TD) from the Top of Well Casing to the Bottom of Well Point shall be field measured following installation.

PC: 7 S: 10
WP: 0.25 TD: 34.20

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Lansing SCS#: 25225228.00		OBS-2B (MW-311)

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
John Weeks Cascade	9/23/2025	9/23/2025	rotosonic

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-311	17.0 Feet	657.8 Feet	6.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 3,956,348 N, 5,541,802 E S / C / N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 19 ' 48.3 "
Long 91 ° 10 ' 3.3 "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

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

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S1	60		1.5	SILTY SAND (SM), very dark grey (10YR 3/1), fine to medium sand, trace fine to coarse gravel, pockets of dark grey silt and clay, subrounded sand, subangular gravel, organics (root/grass), trace tan fly ash and other CCR material.	SM				-	M				hand augered 0-5'
			3.0											
			4.5	seam of dark grey (10YR 4/1) clay and silt.										
			6.0	SILTY SAND (SM), very dark grayish brown (10YR 3/2), very fine to medium sand, trace coarse sand, subrounded sand.	SM									
S2 S3	35		7.5	POORLY GRADED SAND (SP), dark yellowish brown (10YR 4/4), fine to medium sand, trace coarse sand, subrounded sand, very trace silt.					-	M				
			9.0	trace evidence of bentonite										
			10.5		SP									
S4	50		12.0	small chunk of wood					-	M				
			13.5											
			15.0	color change - dark grey (2.5Y 4/1)										
			16.5	POORLY GRADED GRAVEL (GP) with POORLY GRADED SAND (SP), dark grey (2.5Y 4/1), fine to coarse gravel, fine to coarse sand, silt, trace cobbles, clay, subrounded/angular gravel, subrounded sand.										
S5	52		18.0	sand content decreases with depth					-	M+				
			19.5											

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

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

Boring Number OBS-2B (MW-311) Page 2 of 2

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			21.0	high silt content 20-21'										
S6 S7	56		22.5	POORLY GRADED GRAVEL (GP), dark grey (2.5Y 4/1), fine to coarse gravel, fine to coarse sand, silt, trace cobbles, clay, subrounded/angular gravel, subrounded sand. thin seam of silty sand, very dark grayish brown (10YR 3/2)	GP				-	M+				
			24.0											
			25.5	EOB at 25'										
			27.0											
S8 S9	36		28.5	CLAYEY SAND (SC), dark grey (2.5Y 4/1), very fine to medium sand, subrouned very fine to fine sand, subangular medium sand.	SC				-	W				
			30.0											
S10	29		31.5	POORLY GRADED GRAVEL (GP), with POORLY GRADED SAND (SP), olive brown (2.5Y 4/3), fine to coarse gravel, fine to coarse sand, subrounded sand, subrounded/angular gravel, trace silt and clay.					-	W				
			33.0											
			34.5											
				End of boring at 35'										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well/Piezometer No.: MW-311 Date Started: 9/23/2025 Date Completed: 9/23/2025

Applicable Requirements[1]: ☐ 567 IAC 113 ☐ 567 IAC 115 ☐ Site Permit ☐ 567 IAC 114 ☐ 567 IAC 139 ☐ Other:

A. SURVEYED LOCATION[2] AND ELEVATION OF POINT

Elevations (MSL): Ground Surface: 657.78 Top of Protective Casing: 660.65

Top of Well Casing: 660.15

Site Coordinates: Northing: 3956347.52 Easting: 5541801.82

World Coordinates: Latitude: 43°19'48.30507" Longitude: 91°10'03.30044"

Elevation and Coordinate Systems: IA North (4803) / NAVD '88 GEOID 18

B. SOIL BORING INFORMATION

Certified Well Contractor Cascade

Address 301 Alderson City, State, Zip Code Schofield, Wisconsin, 54476

Name of driller Paul Dickinson Cert No.

Drilling method Rotosonic Drilling fluid None Bore hole diameter 6"

Soil sampling method Bag Depth of boring 35

C. MONITORING WELL INSTALLATION

Casing material: PCV Sch 40

Length of casing: 20.09

Casing diameter: 2"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PCV Sch 40

Screen opening size: 0.010"

Screen length: 10

Depth of Well: 28

Filter Pack:

Material: Red Flint Sand

Grain Size: #40

Quantity: 250#

Seal (minimum 3 ft. length above filter pack): 16-4

Material: 3/8 Bentonite Chips

Placement method: Gravity

Quantity: 250#

Backfill (if different from seal): NA

Material: NA

Placement method: NA

Quantity: NA

Surface seal design: Concrete

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand and bentonite

Protective cap:

Material: Steel

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic with rubber gasket

Vented?: ☐ Y ☒ N

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

Water level 19.82 Stabilization time < 1 hr

Well development method purged 10 well volumes, periodically surged

Average depth of frost line 4 ft

[1] Refer to the site's permit to determine applicable requirements. Note that some sites may only be regulated by their permit versus current landfill chapters. If the permit and rule are silent regarding applicable requirements, then 567 IAC Chapter 39 shall apply, which requires use of the Well Log (Well Record) Form, not this form. If the applicable requirements have been modified and approved by the DNR, then note under Other.

[2] The location does not need to be surveyed by a licensed surveyor. A handheld GPS reading accurate to +/- 30 feet is acceptable when an aerial photograph showing the location (pin) is included with this form. The site coordinates should be the same coordinate system currently used for survey control and mapping of the site.

DRILLER'S CERTIFICATION

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

Signature _____ **Certification #** 9361 **Date** 10·21·25

Note: Attach well log, boring log, and map showing new monitoring well/piezometer location in relation to existing wells or piezometers. Complete one form for each well plugged and submit within 30 days to the local county agent, DNR project officer, and Erik Day with the DNR's Water Supply Section at erik.day@dnr.iowa.gov. DNR prefers that the forms be completed and submitted electronically.

Well and Boring Logs

Elevations: ±0.01 ft. MSL

Depths: ±0.1 ft from Ground Surface

Top of protective casing (TOP)
Elevation C 660.65
Top of Well Casing (TOC)
Elevation B 660.15
Ground surface (GS)
Elevation A 657.78
Depth Use 0

Top of backfill
Base of concrete plug and bentonite grout
Elevation A-W 653.78
Depth W 4

Base of Protective Casing
Elevation C-A = 653.65
Depth PC-C-A = 4.13

Base of Backfill, Top of Seal
Elevation A-X = 653.78
Depth X 4

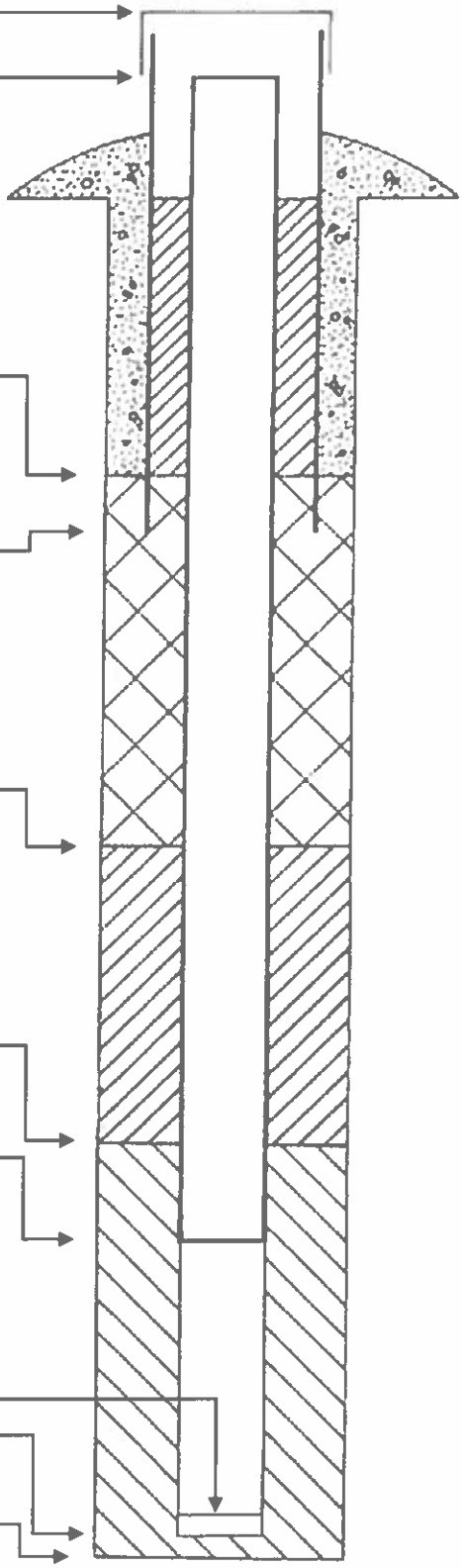
Top of Filter Pack, Base of Seal
Elevation A-Y = 641.78
Depth Y 16

Top of Screen (TOS)
Elevation B-TD-S-WP = 640.06
Depth A-TOS^{elev} = 17.72

Bottom of Screen (BOS)
Elevation B-TD-WP = 630.06
Depth A-BOS^{elev} = 27.72

Bottom of Well
Elevation 629.81
Depth 27.97

Bottom of Filter Pack
Elevation A-Z = 629.28
Depth Z 28.5



Required Data:

- Elevations for A, B, and C shall be surveyed.
- Depths for W, X, Y, and Z shall be field measured following completion of each item.
- Lengths of the Protective Casing (PC), Screen (S), and Well Point (WP) shall be field measured prior to installation of each item.
- The total Depth (TD) from the Top of Well Casing to the Bottom of Well Point shall be field measured following installation.

PC: 7 S: 10
WP: 0.25 TD: 30.34

Questions? Call or Email: Brian Rath, 515-537-4051, brian.rath@dnr.iowa.gov

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Lansing SCS#: 25225228.00		OBS-3 (MW-312)

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
John Weeks Cascade	9/18/2025	9/18/2025	rotosonic

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-312	34.2 Feet	666.6 Feet	6.0 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 3,956,449 N, 5,542,186 E S / C / N
NW 1/4 of SW 1/4 of Section 2, T 98 N, R 3 W
Lat 43 ° 19 ' 49.2 "
Long 91 ° 9 ' 58.1 "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

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

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S1 S2	27		1.5 3.0	SILT (ML), dark brown (10YR 3/3), some very fine to fine sand, trace coarse sand, subrounded sand, subangular coarse sand, organics (grass/roots), very hard from 2-3.5'.	ML				- 4.5+	M				
			4.5	CLAYEY SILT (ML), very dark grey (10YR 3/1), mixed with cemented materials (very fine grained), light yellowish brown (2.5Y 6/4), some very fine to medium sand, some coarse gravel, subrounded sand, angular gravel.	ML									
S3 S4	27		6.0 7.5						-	M				
			9.0	SILTY SAND (SM), black (10YR 2/1), fine to coarse sand, fine to coarse, gravel, mixed with SILTY SAND (SM), olive brown (2.5Y 4/3), fine to medium snad, high clay content, subrounded sand, angular gravel.	SM									
			10.5	SILTY SAND (SM), black (10YR 2/1), fine to medium sand, fine to coarse gravel, subrouned sand, subangular gravel, organic odor.	SM									
				POORLY GRADED SAND (SP), black (10YR 2/1), fine to medium sand, trace gravel, some silt, subrounded sand and gravel.	SP									
S5 S6	60		12.0	SILTY SAND (SM), black (10YR 2/1), fine to medium sand, fine to coarse gravel, subrouned sand, subangular gravel, organic odor.	SM				-	M+ M				
			13.5	SILTY SAND (SM), light olive brown (2.5Y 5/3), very fine to fine sand, some cementation.										
			15.0											
			16.5	color change - light yellowish brown (2.5Y 6/4)	SM									
S7 S8	46		18.0						-	M				
			19.5											

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

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

Boring Number OBS-3 (MW-312) Page 2 of 2

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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			21.0	SILTY SAND (SM), light olive brown (2.5Y 5/3), very fine to fine sand, some cementation. *(continued)*										
S9 S10	42		22.5	layer of black	SM				-	M W				
			24.0	color change - grayish brown (2.5Y 5/2), mottle with grey										
			25.5											
S11 S12	60		27.0	SILTY SAND (SM), yellowish brown (10YR 5/6), mixed with grayish green, very fine to fine sand, subrounded sand, some clay.					-	W				
			28.5	color change - olive green (5GY 4/4)										
			30.0											
S13 S14	60		31.5	trace tan mottling at 31'	SM				-	W				
			33.0											
			34.5	trace yellowish brown (10YR 5/6) mottled										
			36.0	decrease silt and clay content, variable colors, color change to very dark grayish brown (5GY 3/2) and tan mottled.										
S15 S16	40		37.5						- 2.75	M+				
			39.0											
				End of boring at 40'										

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well/Piezometer No.: MW-312 Date Started: 9/18/2025 Date Completed: 9/19/2025

Applicable Requirements[1]: ☐ 567 IAC 113 ☐ 567 IAC 115 ☒ Site Permit ☐ 567 IAC 114 ☐ 567 IAC 139 ☐ Other:

A. SURVEYED LOCATION[2] AND ELEVATION OF POINT

Elevations (MSL): Ground Surface: 666.57 Top of Protective Casing: 669.55

Top of Well Casing: 669.26

Site Coordinates: Northing: 3956448.54 Easting: 5542186.19

World Coordinates: Latitude: 43°19'49.19765" Longitude: 91°09'58.06444"

Elevation and Coordinate Systems: IA North (4803) / NAVD '88 GEOID 18

B. SOIL BORING INFORMATION

Certified Well Contractor Cascade

Address 301 Alderson City, State, Zip Code Schofield, Wisconsin, 54476

Name of driller Paul Dickinson Cert No.

Drilling method Rotosonic Drilling fluid None Bore hole diameter 6"

Soil sampling method Bag Depth of boring 40

C. MONITORING WELL INSTALLATION

Casing material: PCV Sch 40

Length of casing: 26.87

Casing diameter: 2"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PCV Sch 40

Screen opening size: 0.010"

Screen length: 15

Depth of Well: 39

Filter Pack:

Material: Red Flint Sand

Grain Size: #40

Quantity: 300#

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

Material: 3/8 Bentonite Chips

Placement method: Gravity

Quantity: 300#

Backfill (if different from seal): NA

Material: NA

Placement method: NA

Quantity: NA

Surface seal design: Concrete

Material of protective casing: Steel

Material of grout between protective casing and well casing: Sand and bentonite

Protective cap:

Material: Steel

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic with rubber gasket

Vented?: ☐ Y ☒ N

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

Water level 36.87 Stabilization time <1 hour

Well development method purged 10 well volumes, surged periodically

Average depth of frost line 4'

[1] Refer to the site's permit to determine applicable requirements. Note that some sites may only be regulated by their permit versus current landfill chapters. If the permit and rule are silent regarding applicable requirements, then 567 IAC Chapter 39 shall apply, which requires use of the Well Log (Well Record) Form, not this form. If the applicable requirements have been modified and approved by the DNR, then note under Other.

[2] The location does not need to be surveyed by a licensed surveyor. A handheld GPS reading accurate to +/- 30 feet is acceptable when an aerial photograph showing the location (pin) is included with this form. The site coordinates should be the same coordinate system currently used for survey control and mapping of the site.

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

Signature _____ **Certification #** 9361 **Date** 10·21·25

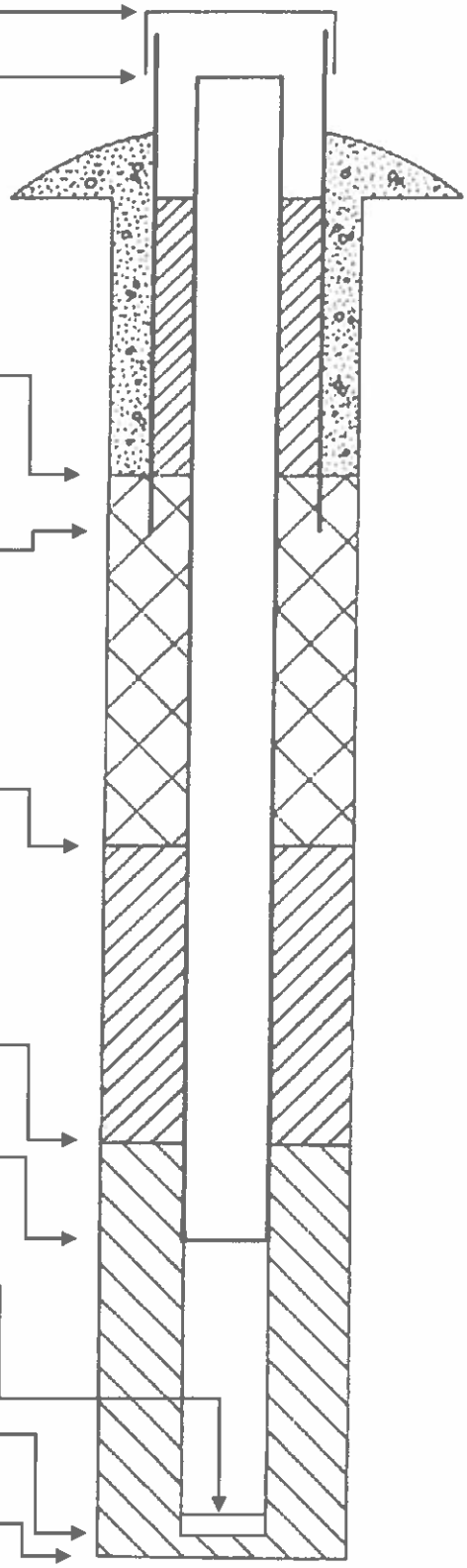
Note: Attach well log, boring log, and map showing new monitoring well/piezometer location in relation to existing wells or piezometers.

Complete one form for each well plugged and submit within 30 days to the local county agent, DNR project officer, and Erik Day with the DNR's Water Supply Section at erik.day@dnr.iowa.gov. DNR prefers that the forms be completed and submitted electronically.

Well and Boring Logs

Elevations: ±0.01 ft. MSL

Depths: ±0.1 ft from Ground Surface



Top of protective casing (TOP)
Elevation C 669.55
Top of Well Casing (TOC)
Elevation B 669.26
Ground surface (GS)
Elevation A 666.57
Depth Use 0

Top of backfill
Base of concrete plug and bentonite grout
Elevation A-W 662.57
Depth W 4

Base of Protective Casing
Elevation C-A = 662.55
Depth PC-C-A = 4.02

Base of Backfill, Top of Seal
Elevation A-X = 662.57
Depth X 4

Top of Filter Pack, Base of Seal
Elevation A-Y = 644.57
Depth Y 22

Top of Screen (TOS)
Elevation B-TD-S-WP = 642.39
Depth $A\text{-}TOS^{elev}$ = 24.18

Bottom of Screen (BOS)
Elevation B-TD-WP = 627.39
Depth $A\text{-}BOS^{elev}$ = 39.18

Bottom of Well
Elevation 627.14
Depth 39.43

Bottom of Filter Pack
Elevation A-Z = 626.57
Depth Z 40

Required Data:

- Elevations for A, B, and C shall be surveyed.
- Depths for W, X, Y, and Z shall be field measured following completion of each item.
- Lengths of the Protective Casing (PC), Screen (S), and Well Point (WP) shall be field measured prior to installation of each item.
- The total Depth (TD) from the Top of Well Casing to the Bottom of Well Point shall be field measured following installation.

PC: 7 S: 15
WP: 0.25 TD: 42.12

Appendix C

Laboratory Reports

C1 October 2024 Laboratory Report

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Generated 11/19/2024 7:59:00 PM

JOB DESCRIPTION

Lansing Generating Station

JOB NUMBER

310-293552-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Eurofins Cedar Falls

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Generated
11/19/2024 7:59:00 PM

Authorized for release by
Sandie Fredrick, Senior Project Manager
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

Table of Contents

Job ID: 310-293552-1 — Eurofins Cedar Falls

Job Narrative
310-293552-1

Receipt
The samples were received on 10/24/2024 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were -0.1º C and 3.1º C.

HPLC/IC
Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-293552-1), MW-307 (310-293552-9) and MW-6 (310-293552-11). 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.

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

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

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

Sample Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-293552-1	MW-301	Water	10/22/24 10:45	10/24/24 09:20
310-293552-2	MW-302	Water	10/21/24 16:00	10/24/24 09:20
310-293552-3	MW-302A	Water	10/21/24 16:05	10/24/24 09:20
310-293552-4	MW-304	Water	10/21/24 12:15	10/24/24 09:20
310-293552-5	MW-304A	Water	10/21/24 13:15	10/24/24 09:20
310-293552-6	MW-305	Water	10/22/24 14:05	10/24/24 09:20
310-293552-7	MW-306	Water	10/22/24 16:35	10/24/24 09:20
310-293552-8	MW-306A	Water	10/22/24 15:50	10/24/24 09:20
310-293552-9	MW-307	Water	10/21/24 14:10	10/24/24 09:20
310-293552-10	MW-307A	Water	10/21/24 14:30	10/24/24 09:20
310-293552-11	MW-6	Water	10/22/24 18:20	10/24/24 09:20
310-293552-12	Field Blank	Water	10/22/24 13:55	10/24/24 09:20

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-301 — Lab Sample ID: 310-293552-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	20		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	1.6	J	2.0	0.53	ug/L	1		6020B	Total/NA
Barium	140		2.0	0.66	ug/L	1		6020B	Total/NA
Boron	350		100	76	ug/L	1		6020B	Total/NA
Calcium	76		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	59	J	100	36	ug/L	1		6020B	Total/NA
Lithium	10		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	2.5		2.0	1.3	ug/L	1		6020B	Total/NA
Total Dissolved Solids	350		50	42	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	622.16				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	29.7				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.39				mg/L	1		Field Sampling	Total/NA
Field pH	7.45				SU	1		Field Sampling	Total/NA
Field Conductivity	598				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	13.8				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-293552-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	54		2.0	0.53	ug/L	1		6020B	Total/NA
Iron	35000		100	36	ug/L	1		6020B	Total/NA
Groundwater Elevation	625.89				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-154.8				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.17				mg/L	1		Field Sampling	Total/NA
Field pH	7.04				SU	1		Field Sampling	Total/NA
Field Conductivity	1125				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	16.6				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302A — Lab Sample ID: 310-293552-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Groundwater Elevation	622.41				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	82.6				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	5.48				mg/L	1		Field Sampling	Total/NA
Field pH	7.18				SU	1		Field Sampling	Total/NA
Field Conductivity	648.0				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	12.0				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	2.06				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304 — Lab Sample ID: 310-293552-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	48	J	100	36	ug/L	1		6020B	Total/NA
Groundwater Elevation	620.95				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	101.3				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	7.99				mg/L	1		Field Sampling	Total/NA
Field pH	7.29				SU	1		Field Sampling	Total/NA
Field Conductivity	604.5				umhos/cm	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-304 (Continued) — Lab Sample ID: 310-293552-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field Temperature	12.3				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	4.90				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A — Lab Sample ID: 310-293552-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Groundwater Elevation	623.22				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-132.9				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.42				mg/L	1		Field Sampling	Total/NA
Field pH	7.76				SU	1		Field Sampling	Total/NA
Field Conductivity	535				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	11.2				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	2.17				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305 — Lab Sample ID: 310-293552-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.5		2.0	0.53	ug/L	1		6020B	Total/NA
Iron	9500		100	36	ug/L	1		6020B	Total/NA
Groundwater Elevation	626.23				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-189.9				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.16				mg/L	1		Field Sampling	Total/NA
Field pH	7.10				SU	1		Field Sampling	Total/NA
Field Conductivity	818.0				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	15.8				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 310-293552-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.3		2.0	0.53	ug/L	1		6020B	Total/NA
Iron	41000		100	36	ug/L	1		6020B	Total/NA
Groundwater Elevation	619.92				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-152.5				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.07				mg/L	1		Field Sampling	Total/NA
Field pH	6.83				SU	1		Field Sampling	Total/NA
Field Conductivity	2074				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	16.5				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	11.07				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A — Lab Sample ID: 310-293552-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1300		100	36	ug/L	1		6020B	Total/NA
Groundwater Elevation	620.18				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-93.9				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.42				mg/L	1		Field Sampling	Total/NA
Field pH	7.20				SU	1		Field Sampling	Total/NA
Field Conductivity	668				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	14.6				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-307 — Lab Sample ID: 310-293552-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	34		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	2.4		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	310		2.0	0.66	ug/L	1		6020B	Total/NA
Boron	710		100	76	ug/L	1		6020B	Total/NA
Calcium	54		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	130		100	36	ug/L	1		6020B	Total/NA
Lithium	15		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	4.3		2.0	1.3	ug/L	1		6020B	Total/NA
Selenium	4.1	J	5.0	1.4	ug/L	1		6020B	Total/NA
Total Dissolved Solids	170		50	42	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	629.73				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-103.0				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.3				mg/L	1		Field Sampling	Total/NA
Field pH	7.95				SU	1		Field Sampling	Total/NA
Field Conductivity	454.1				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	14.6				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	1.22				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-293552-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.4		2.0	0.53	ug/L	1		6020B	Total/NA
Iron	1300		100	36	ug/L	1		6020B	Total/NA
Groundwater Elevation	624.59				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-55.9				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.29				mg/L	1		Field Sampling	Total/NA
Field pH	7.32				SU	1		Field Sampling	Total/NA
Field Conductivity	617				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	12.0				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	3.43				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 310-293552-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.6		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	20		5.0	2.1	mg/L	5		9056A	Total/NA
Barium	43		2.0	0.66	ug/L	1		6020B	Total/NA
Calcium	69		0.50	0.19	mg/L	1		6020B	Total/NA
Total Dissolved Solids	320		50	42	mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	664.87				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	91.3				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	7.72				mg/L	1		Field Sampling	Total/NA
Field pH	7.25				SU	1		Field Sampling	Total/NA
Field Conductivity	594				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	10.1				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.56				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: Field Blank

Lab Sample ID: 310-293552-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.9	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-301
Date Collected: 10/22/24 10:45
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-1
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10**		5.0	2.3	mg/L			11/02/24 15:32	5
Fluoride	<0.38		1.0	0.38	mg/L			11/02/24 15:32	5
Sulfate	**20**		5.0	2.1	mg/L			11/02/24 15:32	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/31/24 09:30	11/05/24 21:42	1
Arsenic	**1.6**	**J**	2.0	0.53	ug/L		10/31/24 09:30	11/05/24 21:42	1
Barium	**140**		2.0	0.66	ug/L		10/31/24 09:30	11/05/24 21:42	1
Beryllium	<0.33		1.0	0.33	ug/L		10/31/24 09:30	11/05/24 21:42	1
Boron	**350**		100	76	ug/L		10/31/24 09:30	11/05/24 21:42	1
Cadmium	<0.10		0.20	0.10	ug/L		10/31/24 09:30	11/05/24 21:42	1
Calcium	**76**		0.50	0.19	mg/L		10/31/24 09:30	11/05/24 21:42	1
Chromium	<1.2		5.0	1.2	ug/L		10/31/24 09:30	11/05/24 21:42	1
Cobalt	<0.17		0.50	0.17	ug/L		10/31/24 09:30	11/05/24 21:42	1
Iron	**59**	**J**	100	36	ug/L		10/31/24 09:30	11/05/24 21:42	1
Lead	<0.26		0.50	0.26	ug/L		10/31/24 09:30	11/05/24 21:42	1
Lithium	**10**		10	2.5	ug/L		10/31/24 09:30	11/05/24 21:42	1
Molybdenum	**2.5**		2.0	1.3	ug/L		10/31/24 09:30	11/05/24 21:42	1
Selenium	<1.4		5.0	1.4	ug/L		10/31/24 09:30	11/05/24 21:42	1
Thallium	<0.57		1.0	0.57	ug/L		10/31/24 09:30	11/05/24 21:42	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		10/30/24 15:40	10/31/24 11:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**350**		50	42	mg/L			10/28/24 22:52	1
pH (SM 4500 H+ B)	**7.7**	**HF**	1.0	1.0	SU			10/24/24 11:22	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0298	U	0.0918	0.0919	1.00	0.169	pCi/L	10/28/24 08:34	11/19/24 13:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*85.1*		*30 - 110*	*10/28/24 08:34*	*11/19/24 13:53*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.278	U	0.334	0.335	1.00	0.552	pCi/L	10/28/24 08:46	11/14/24 11:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*85.1*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:44*	*1*
Y Carrier	*78.1*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:44*	*1*

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-301

Date Collected: 10/22/24 10:45
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-1

Matrix: Water

Method: TAL-STL 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	0.308	U	0.346	0.347	5.00	0.552	pCi/L		11/19/24 13:12	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	622.16				ft			10/22/24 10:45	1
Oxidation Reduction Potential	29.7				mV			10/22/24 10:45	1
Oxygen, Dissolved	0.39				mg/L			10/22/24 10:45	1
Field pH	7.45				SU			10/22/24 10:45	1
Field Conductivity	598				umhos/cm			10/22/24 10:45	1
Field Temperature	13.8				Degrees C			10/22/24 10:45	1
Field Turbidity	0.00				NTU			10/22/24 10:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-302

Date Collected: 10/21/24 16:00
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-2

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	54		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 21:45	1
Iron	35000		100	36	ug/L		10/31/24 09:30	11/05/24 21:45	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	625.89				ft			10/21/24 16:00	1
Oxidation Reduction Potential	-154.8				mV			10/21/24 16:00	1
Oxygen, Dissolved	0.17				mg/L			10/21/24 16:00	1
Field pH	7.04				SU			10/21/24 16:00	1
Field Conductivity	1125				umhos/cm			10/21/24 16:00	1
Field Temperature	16.6				Degrees C			10/21/24 16:00	1
Field Turbidity	0.00				NTU			10/21/24 16:00	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-302A

Date Collected: 10/21/24 16:05
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-3

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.53		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 21:48	1
Iron	<36		100	36	ug/L		10/31/24 09:30	11/05/24 21:48	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	**622.41**				ft			10/21/24 16:05	1
Oxidation Reduction Potential	**82.6**				mV			10/21/24 16:05	1
Oxygen, Dissolved	**5.48**				mg/L			10/21/24 16:05	1
Field pH	**7.18**				SU			10/21/24 16:05	1
Field Conductivity	**648.0**				umhos/cm			10/21/24 16:05	1
Field Temperature	**12.0**				Degrees C			10/21/24 16:05	1
Field Turbidity	**2.06**				NTU			10/21/24 16:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-304

Date Collected: 10/21/24 12:15
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-4

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.53		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 21:51	1
Iron	**48**	**J**	100	36	ug/L		10/31/24 09:30	11/05/24 21:51	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	**620.95**				ft			10/21/24 12:15	1
Oxidation Reduction Potential	**101.3**				mV			10/21/24 12:15	1
Oxygen, Dissolved	**7.99**				mg/L			10/21/24 12:15	1
Field pH	**7.29**				SU			10/21/24 12:15	1
Field Conductivity	**604.5**				umhos/cm			10/21/24 12:15	1
Field Temperature	**12.3**				Degrees C			10/21/24 12:15	1
Field Turbidity	**4.90**				NTU			10/21/24 12:15	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-304A

Date Collected: 10/21/24 13:15
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-5

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.53		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 21:54	1
Iron	<36		100	36	ug/L		10/31/24 09:30	11/05/24 21:54	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	**623.22**				ft			10/21/24 13:15	1
Oxidation Reduction Potential	**-132.9**				mV			10/21/24 13:15	1
Oxygen, Dissolved	**0.42**				mg/L			10/21/24 13:15	1
Field pH	**7.76**				SU			10/21/24 13:15	1
Field Conductivity	**535**				umhos/cm			10/21/24 13:15	1
Field Temperature	**11.2**				Degrees C			10/21/24 13:15	1
Field Turbidity	**2.17**				NTU			10/21/24 13:15	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-305

Date Collected: 10/22/24 14:05
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-6

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 22:11	1
Iron	9500		100	36	ug/L		10/31/24 09:30	11/05/24 22:11	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	626.23				ft			10/22/24 14:05	1
Oxidation Reduction Potential	-189.9				mV			10/22/24 14:05	1
Oxygen, Dissolved	0.16				mg/L			10/22/24 14:05	1
Field pH	7.10				SU			10/22/24 14:05	1
Field Conductivity	818.0				umhos/cm			10/22/24 14:05	1
Field Temperature	15.8				Degrees C			10/22/24 14:05	1
Field Turbidity	0.00				NTU			10/22/24 14:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-306

Date Collected: 10/22/24 16:35
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-7

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.3		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 22:14	1
Iron	41000		100	36	ug/L		10/31/24 09:30	11/05/24 22:14	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	619.92				ft			10/22/24 16:35	1
Oxidation Reduction Potential	-152.5				mV			10/22/24 16:35	1
Oxygen, Dissolved	0.07				mg/L			10/22/24 16:35	1
Field pH	6.83				SU			10/22/24 16:35	1
Field Conductivity	2074				umhos/cm			10/22/24 16:35	1
Field Temperature	16.5				Degrees C			10/22/24 16:35	1
Field Turbidity	11.07				NTU			10/22/24 16:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-306A

Date Collected: 10/22/24 15:50
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-8

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.53		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 22:16	1
Iron	**1300**		100	36	ug/L		10/31/24 09:30	11/05/24 22:16	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	**620.18**				ft			10/22/24 15:50	1
Oxidation Reduction Potential	**-93.9**				mV			10/22/24 15:50	1
Oxygen, Dissolved	**1.42**				mg/L			10/22/24 15:50	1
Field pH	**7.20**				SU			10/22/24 15:50	1
Field Conductivity	**668**				umhos/cm			10/22/24 15:50	1
Field Temperature	**14.6**				Degrees C			10/22/24 15:50	1
Field Turbidity	**0.00**				NTU			10/22/24 15:50	1

Client Sample ID: MW-307

Date Collected: 10/21/24 14:10
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-9

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12**		5.0	2.3	mg/L			11/02/24 15:47	5
Fluoride	<0.38		1.0	0.38	mg/L			11/02/24 15:47	5
Sulfate	**34**		5.0	2.1	mg/L			11/02/24 15:47	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/31/24 09:30	11/05/24 22:19	1
Arsenic	**2.4**		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 22:19	1
Barium	**310**		2.0	0.66	ug/L		10/31/24 09:30	11/05/24 22:19	1
Beryllium	<0.33		1.0	0.33	ug/L		10/31/24 09:30	11/05/24 22:19	1
Boron	**710**		100	76	ug/L		10/31/24 09:30	11/05/24 22:19	1
Cadmium	<0.10		0.20	0.10	ug/L		10/31/24 09:30	11/05/24 22:19	1
Calcium	**54**		0.50	0.19	mg/L		10/31/24 09:30	11/05/24 22:19	1
Chromium	<1.2		5.0	1.2	ug/L		10/31/24 09:30	11/05/24 22:19	1
Cobalt	<0.17		0.50	0.17	ug/L		10/31/24 09:30	11/05/24 22:19	1
Iron	**130**		100	36	ug/L		10/31/24 09:30	11/05/24 22:19	1
Lead	<0.26		0.50	0.26	ug/L		10/31/24 09:30	11/05/24 22:19	1
Lithium	**15**		10	2.5	ug/L		10/31/24 09:30	11/05/24 22:19	1
Molybdenum	**4.3**		2.0	1.3	ug/L		10/31/24 09:30	11/05/24 22:19	1
Selenium	**4.1**	**J**	5.0	1.4	ug/L		10/31/24 09:30	11/05/24 22:19	1
Thallium	<0.57		1.0	0.57	ug/L		10/31/24 09:30	11/05/24 22:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		10/30/24 15:40	10/31/24 11:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**170**		50	42	mg/L			10/25/24 18:53	1
pH (SM 4500 H+ B)	**8.0**	**HF**	1.0	1.0	SU			10/24/24 11:24	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	**0.268**		0.129	0.131	1.00	0.155	pCi/L	10/28/24 08:34	11/19/24 13:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*80.9*		*30 - 110*	*10/28/24 08:34*	*11/19/24 13:53*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.274	U	0.351	0.352	1.00	0.584	pCi/L	10/28/24 08:46	11/14/24 11:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*80.9*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:45*	*1*
Y Carrier	*75.1*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:45*	*1*

Client Sample ID: MW-307

Date Collected: 10/21/24 14:10
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-9

Matrix: Water

Method: TAL-STL 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	0.542	U	0.374	0.376	5.00	0.584	pCi/L		11/19/24 13:12	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	629.73				ft			10/21/24 14:10	1
Oxidation Reduction Potential	-103.0				mV			10/21/24 14:10	1
Oxygen, Dissolved	0.3				mg/L			10/21/24 14:10	1
Field pH	7.95				SU			10/21/24 14:10	1
Field Conductivity	454.1				umhos/cm			10/21/24 14:10	1
Field Temperature	14.6				Degrees C			10/21/24 14:10	1
Field Turbidity	1.22				NTU			10/21/24 14:10	1

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-307A

Date Collected: 10/21/24 14:30
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-10

Matrix: Water

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.4		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 22:22	1
Iron	1300		100	36	ug/L		10/31/24 09:30	11/05/24 22:22	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	624.59				ft			10/21/24 14:30	1
Oxidation Reduction Potential	-55.9				mV			10/21/24 14:30	1
Oxygen, Dissolved	0.29				mg/L			10/21/24 14:30	1
Field pH	7.32				SU			10/21/24 14:30	1
Field Conductivity	617				umhos/cm			10/21/24 14:30	1
Field Temperature	12.0				Degrees C			10/21/24 14:30	1
Field Turbidity	3.43				NTU			10/21/24 14:30	1

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-6

Date Collected: 10/22/24 18:20
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-11

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.6**		5.0	2.3	mg/L			11/02/24 16:49	5
Fluoride	<0.38		1.0	0.38	mg/L			11/02/24 16:49	5
Sulfate	**20**		5.0	2.1	mg/L			11/02/24 16:49	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/31/24 09:30	11/05/24 22:25	1
Arsenic	<0.53		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 22:25	1
Barium	**43**		2.0	0.66	ug/L		10/31/24 09:30	11/05/24 22:25	1
Beryllium	<0.33		1.0	0.33	ug/L		10/31/24 09:30	11/05/24 22:25	1
Boron	<76		100	76	ug/L		10/31/24 09:30	11/05/24 22:25	1
Cadmium	<0.10		0.20	0.10	ug/L		10/31/24 09:30	11/05/24 22:25	1
Calcium	**69**		0.50	0.19	mg/L		10/31/24 09:30	11/05/24 22:25	1
Chromium	<1.2		5.0	1.2	ug/L		10/31/24 09:30	11/05/24 22:25	1
Cobalt	<0.17		0.50	0.17	ug/L		10/31/24 09:30	11/05/24 22:25	1
Iron	<36		100	36	ug/L		10/31/24 09:30	11/05/24 22:25	1
Lead	<0.26		0.50	0.26	ug/L		10/31/24 09:30	11/05/24 22:25	1
Lithium	<2.5		10	2.5	ug/L		10/31/24 09:30	11/05/24 22:25	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/31/24 09:30	11/05/24 22:25	1
Selenium	<1.4		5.0	1.4	ug/L		10/31/24 09:30	11/05/24 22:25	1
Thallium	<0.57		1.0	0.57	ug/L		10/31/24 09:30	11/05/24 22:25	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		10/30/24 15:40	10/31/24 11:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**320**		50	42	mg/L			10/28/24 22:52	1
pH (SM 4500 H+ B)	**7.6**	**HF**	1.0	1.0	SU			10/24/24 11:18	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	**0.130**		0.0934	0.0941	1.00	0.129	pCi/L	10/28/24 08:34	11/19/24 13:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*84.4*		*30 - 110*	*10/28/24 08:34*	*11/19/24 13:57*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	**0.826**		0.398	0.405	1.00	0.527	pCi/L	10/28/24 08:46	11/14/24 11:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*84.4*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:45*	*1*
Y Carrier	*79.3*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:45*	*1*

Client Sample ID: MW-6

Date Collected: 10/22/24 18:20
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-11

Matrix: Water

Method: TAL-STL 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	0.956		0.409	0.416	5.00	0.527	pCi/L		11/19/24 13:12	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	664.87				ft			10/22/24 18:20	1
Oxidation Reduction Potential	91.3				mV			10/22/24 18:20	1
Oxygen, Dissolved	7.72				mg/L			10/22/24 18:20	1
Field pH	7.25				SU			10/22/24 18:20	1
Field Conductivity	594				umhos/cm			10/22/24 18:20	1
Field Temperature	10.1				Degrees C			10/22/24 18:20	1
Field Turbidity	0.56				NTU			10/22/24 18:20	1

Client Sample ID: Field Blank

Date Collected: 10/22/24 13:55
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-12

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			11/02/24 17:05	1
Fluoride	<0.075		0.20	0.075	mg/L			11/02/24 17:05	1
Sulfate	<0.42		1.0	0.42	mg/L			11/02/24 17:05	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/31/24 09:30	11/05/24 22:28	1
Arsenic	<0.53		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 22:28	1
Barium	<0.66		2.0	0.66	ug/L		10/31/24 09:30	11/05/24 22:28	1
Beryllium	<0.33		1.0	0.33	ug/L		10/31/24 09:30	11/05/24 22:28	1
Boron	<76		100	76	ug/L		10/31/24 09:30	11/05/24 22:28	1
Cadmium	<0.10		0.20	0.10	ug/L		10/31/24 09:30	11/05/24 22:28	1
Calcium	<0.19		0.50	0.19	mg/L		10/31/24 09:30	11/05/24 22:28	1
Chromium	<1.2		5.0	1.2	ug/L		10/31/24 09:30	11/05/24 22:28	1
Cobalt	<0.17		0.50	0.17	ug/L		10/31/24 09:30	11/05/24 22:28	1
Lead	<0.26		0.50	0.26	ug/L		10/31/24 09:30	11/05/24 22:28	1
Lithium	<2.5		10	2.5	ug/L		10/31/24 09:30	11/05/24 22:28	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/31/24 09:30	11/05/24 22:28	1
Selenium	<1.4		5.0	1.4	ug/L		10/31/24 09:30	11/05/24 22:28	1
Thallium	<0.57		1.0	0.57	ug/L		10/31/24 09:30	11/05/24 22:28	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		10/30/24 15:40	10/31/24 11:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<42		50	42	mg/L			10/28/24 22:52	1
pH (SM 4500 H+ B)	**5.9**	**HF**	1.0	1.0	SU			10/24/24 11:19	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0592	U	0.0689	0.0691	1.00	0.111	pCi/L	10/28/24 08:34	11/19/24 13:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*92.7*		*30 - 110*	*10/28/24 08:34*	*11/19/24 13:57*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	**0.733**		0.387	0.393	1.00	0.547	pCi/L	10/28/24 08:46	11/14/24 11:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*92.7*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:51*	*1*
Y Carrier	*80.0*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:51*	*1*

Client Sample Results

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: Field Blank

Date Collected: 10/22/24 13:55
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-12

Matrix: Water

Method: TAL-STL 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	0.792		0.393	0.399	5.00	0.547	pCi/L		11/19/24 13:12	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.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

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

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-438503/3
Matrix: Water
Analysis Batch: 438503

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			11/02/24 10:51	1
Fluoride	<0.075		0.20	0.075	mg/L			11/02/24 10:51	1
Sulfate	<0.42		1.0	0.42	mg/L			11/02/24 10:51	1

Lab Sample ID: LCS 310-438503/4
Matrix: Water
Analysis Batch: 438503

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	9.16		mg/L		92	90 - 110
Fluoride	2.00	1.96		mg/L		98	90 - 110
Sulfate	10.0	9.81		mg/L		98	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-438111/1-A
Matrix: Water
Analysis Batch: 438811

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 438111

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/31/24 09:30	11/05/24 20:57	1
Arsenic	<0.53		2.0	0.53	ug/L		10/31/24 09:30	11/05/24 20:57	1
Barium	<0.66		2.0	0.66	ug/L		10/31/24 09:30	11/05/24 20:57	1
Beryllium	<0.33		1.0	0.33	ug/L		10/31/24 09:30	11/05/24 20:57	1
Boron	<76		100	76	ug/L		10/31/24 09:30	11/05/24 20:57	1
Cadmium	<0.10		0.20	0.10	ug/L		10/31/24 09:30	11/05/24 20:57	1
Calcium	<0.19		0.50	0.19	mg/L		10/31/24 09:30	11/05/24 20:57	1
Chromium	<1.2		5.0	1.2	ug/L		10/31/24 09:30	11/05/24 20:57	1
Cobalt	<0.17		0.50	0.17	ug/L		10/31/24 09:30	11/05/24 20:57	1
Iron	<36		100	36	ug/L		10/31/24 09:30	11/05/24 20:57	1
Lead	<0.26		0.50	0.26	ug/L		10/31/24 09:30	11/05/24 20:57	1
Lithium	<2.5		10	2.5	ug/L		10/31/24 09:30	11/05/24 20:57	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/31/24 09:30	11/05/24 20:57	1
Selenium	<1.4		5.0	1.4	ug/L		10/31/24 09:30	11/05/24 20:57	1
Thallium	<0.57		1.0	0.57	ug/L		10/31/24 09:30	11/05/24 20:57	1

Lab Sample ID: LCS 310-438111/2-A
Matrix: Water
Analysis Batch: 438811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 438111

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	200	189		ug/L		94	80 - 120
Arsenic	200	203		ug/L		101	80 - 120
Barium	100	96.0		ug/L		96	80 - 120
Beryllium	100	97.1		ug/L		97	80 - 120
Boron	200	202		ug/L		101	80 - 120
Cadmium	100	94.0		ug/L		94	80 - 120
Calcium	2.00	2.07		mg/L		103	80 - 120
Chromium	100	105		ug/L		105	80 - 120

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

Lab Sample ID: LCS 310-438111/2-A
Matrix: Water
Analysis Batch: 438811

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 438111

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	100	102		ug/L		102	80 - 120
Iron	200	177		ug/L		89	80 - 120
Lead	200	204		ug/L		102	80 - 120
Lithium	200	205		ug/L		103	80 - 120
Molybdenum	200	188		ug/L		94	80 - 120
Selenium	400	384		ug/L		96	80 - 120
Thallium	100	108		ug/L		108	80 - 120

Lab Sample ID: 310-293552-5 DU
Matrix: Water
Analysis Batch: 438811

Client Sample ID: MW-304A
Prep Type: Total/NA
Prep Batch: 438111

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.0		<1.0		ug/L		NC	20
Arsenic	<0.53		<0.53		ug/L		NC	20
Barium	24		24.2		ug/L		1	20
Beryllium	<0.33		<0.33		ug/L		NC	20
Boron	1200		1130		ug/L		3	20
Cadmium	<0.10		<0.10		ug/L		NC	20
Calcium	34000		34.7	F3	mg/L		200	20
Chromium	<1.2		<1.2		ug/L		NC	20
Cobalt	<0.17		<0.17		ug/L		NC	20
Iron	<36		<36		ug/L		NC	20
Lead	<0.26		<0.26		ug/L		NC	20
Lithium	<2.5		<2.5		ug/L		NC	20
Molybdenum	120		115		ug/L		0.7	20
Selenium	<1.4		<1.4		ug/L		NC	20
Thallium	<0.57		<0.57		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-438094/1-A
Matrix: Water
Analysis Batch: 438253

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 438094

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		10/30/24 15:40	10/31/24 10:45	1

Lab Sample ID: LCS 310-438094/2-A
Matrix: Water
Analysis Batch: 438253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 438094

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

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

Lab Sample ID: MB 310-437636/1
Matrix: Water
Analysis Batch: 437636

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	<42		50	42	mg/L			10/25/24 18:53	1

Lab Sample ID: LCS 310-437636/2
Matrix: Water
Analysis Batch: 437636

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	940		mg/L		94	88 - 110

Lab Sample ID: MB 310-437845/1
Matrix: Water
Analysis Batch: 437845

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	<42		50	42	mg/L			10/28/24 22:52	1

Lab Sample ID: LCS 310-437845/2
Matrix: Water
Analysis Batch: 437845

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	1020		mg/L		102	88 - 110

Lab Sample ID: 310-293552-12 DU
Matrix: Water
Analysis Batch: 437845

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	<42		<42		mg/L		NC	16

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-437382/27
Matrix: Water
Analysis Batch: 437382

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: LCS 310-437382/52
Matrix: Water
Analysis Batch: 437382

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-293552-1 DU
Matrix: Water
Analysis Batch: 437382

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.7		SU		0.1	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-685400/1-A
Matrix: Water
Analysis Batch: 689274

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 685400

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.05351	U	0.0674	0.0675	1.00	0.160	pCi/L	10/28/24 08:34	11/19/24 11:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*87.5*		*30 - 110*	*10/28/24 08:34*	*11/19/24 11:35*	*1*

Lab Sample ID: LCS 160-685400/2-A
Matrix: Water
Analysis Batch: 689274

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 685400

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium 226	9.58	9.420		1.03	1.00	0.118	pCi/L	98	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*93.2*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-685405/1-A
Matrix: Water
Analysis Batch: 688429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 685405

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.1536	U	0.338	0.338	1.00	0.590	pCi/L	10/28/24 08:46	11/14/24 11:44	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*87.5*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:44*	*1*
Y Carrier	*78.9*		*30 - 110*	*10/28/24 08:46*	*11/14/24 11:44*	*1*

Lab Sample ID: LCS 160-685405/2-A
Matrix: Water
Analysis Batch: 688429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 685405

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium 228	8.34	9.573		1.28	1.00	0.460	pCi/L	115	75 - 125

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

Lab Sample ID: LCS 160-685405/2-A
Matrix: Water
Analysis Batch: 688429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 685405

Carrier	LCS %Yield	LCS Qualifier	Limits
Barium	93.2		30 - 110
Y Carrier	81.9		30 - 110

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

HPLC/IC

Analysis Batch: 438503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	9056A	
310-293552-9	MW-307	Total/NA	Water	9056A	
310-293552-11	MW-6	Total/NA	Water	9056A	
310-293552-12	Field Blank	Total/NA	Water	9056A	
MB 310-438503/3	Method Blank	Total/NA	Water	9056A	
LCS 310-438503/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 438094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	7470A	
310-293552-9	MW-307	Total/NA	Water	7470A	
310-293552-11	MW-6	Total/NA	Water	7470A	
310-293552-12	Field Blank	Total/NA	Water	7470A	
MB 310-438094/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-438094/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 438111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	3005A	
310-293552-2	MW-302	Total/NA	Water	3005A	
310-293552-3	MW-302A	Total/NA	Water	3005A	
310-293552-4	MW-304	Total/NA	Water	3005A	
310-293552-5	MW-304A	Total/NA	Water	3005A	
310-293552-6	MW-305	Total/NA	Water	3005A	
310-293552-7	MW-306	Total/NA	Water	3005A	
310-293552-8	MW-306A	Total/NA	Water	3005A	
310-293552-9	MW-307	Total/NA	Water	3005A	
310-293552-10	MW-307A	Total/NA	Water	3005A	
310-293552-11	MW-6	Total/NA	Water	3005A	
310-293552-12	Field Blank	Total/NA	Water	3005A	
MB 310-438111/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-438111/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-293552-5 DU	MW-304A	Total/NA	Water	3005A	

Analysis Batch: 438253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	7470A	438094
310-293552-9	MW-307	Total/NA	Water	7470A	438094
310-293552-11	MW-6	Total/NA	Water	7470A	438094
310-293552-12	Field Blank	Total/NA	Water	7470A	438094
MB 310-438094/1-A	Method Blank	Total/NA	Water	7470A	438094
LCS 310-438094/2-A	Lab Control Sample	Total/NA	Water	7470A	438094

Analysis Batch: 438811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	6020B	438111
310-293552-2	MW-302	Total/NA	Water	6020B	438111
310-293552-3	MW-302A	Total/NA	Water	6020B	438111
310-293552-4	MW-304	Total/NA	Water	6020B	438111

Metals (Continued)

Analysis Batch: 438811 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-5	MW-304A	Total/NA	Water	6020B	438111
310-293552-6	MW-305	Total/NA	Water	6020B	438111
310-293552-7	MW-306	Total/NA	Water	6020B	438111
310-293552-8	MW-306A	Total/NA	Water	6020B	438111
310-293552-9	MW-307	Total/NA	Water	6020B	438111
310-293552-10	MW-307A	Total/NA	Water	6020B	438111
310-293552-11	MW-6	Total/NA	Water	6020B	438111
310-293552-12	Field Blank	Total/NA	Water	6020B	438111
MB 310-438111/1-A	Method Blank	Total/NA	Water	6020B	438111
LCS 310-438111/2-A	Lab Control Sample	Total/NA	Water	6020B	438111
310-293552-5 DU	MW-304A	Total/NA	Water	6020B	438111

General Chemistry

Analysis Batch: 437382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-293552-9	MW-307	Total/NA	Water	SM 4500 H+ B	
310-293552-11	MW-6	Total/NA	Water	SM 4500 H+ B	
310-293552-12	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-437382/27	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCS 310-437382/52	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-293552-1 DU	MW-301	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 437636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-9	MW-307	Total/NA	Water	SM 2540C	
MB 310-437636/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-437636/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 437845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	SM 2540C	
310-293552-11	MW-6	Total/NA	Water	SM 2540C	
310-293552-12	Field Blank	Total/NA	Water	SM 2540C	
MB 310-437845/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-437845/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-293552-12 DU	Field Blank	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 685400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	PrecSep-21	
310-293552-9	MW-307	Total/NA	Water	PrecSep-21	
310-293552-11	MW-6	Total/NA	Water	PrecSep-21	
310-293552-12	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-685400/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-685400/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Rad

Prep Batch: 685405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	PrecSep_0	
310-293552-9	MW-307	Total/NA	Water	PrecSep_0	
310-293552-11	MW-6	Total/NA	Water	PrecSep_0	
310-293552-12	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-685405/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-685405/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 437790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-293552-1	MW-301	Total/NA	Water	Field Sampling	
310-293552-2	MW-302	Total/NA	Water	Field Sampling	
310-293552-3	MW-302A	Total/NA	Water	Field Sampling	
310-293552-4	MW-304	Total/NA	Water	Field Sampling	
310-293552-5	MW-304A	Total/NA	Water	Field Sampling	
310-293552-6	MW-305	Total/NA	Water	Field Sampling	
310-293552-7	MW-306	Total/NA	Water	Field Sampling	
310-293552-8	MW-306A	Total/NA	Water	Field Sampling	
310-293552-9	MW-307	Total/NA	Water	Field Sampling	
310-293552-10	MW-307A	Total/NA	Water	Field Sampling	
310-293552-11	MW-6	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-301
Date Collected: 10/22/24 10:45
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	438503	WZC8	EET CF	11/02/24 15:32
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 21:42
Total/NA	Prep	7470A			438094	QTZ5	EET CF	10/30/24 15:40
Total/NA	Analysis	7470A		1	438253	QTZ5	EET CF	10/31/24 11:24
Total/NA	Analysis	SM 2540C		1	437845	MDU9	EET CF	10/28/24 22:52
Total/NA	Analysis	SM 4500 H+ B		1	437382	W9YR	EET CF	10/24/24 11:22
Total/NA	Prep	PrecSep-21			685400	BCE	EET SL	10/28/24 08:34
Total/NA	Analysis	903.0		1	689274	SCB	EET SL	11/19/24 13:53
Total/NA	Prep	PrecSep_0			685405	BCE	EET SL	10/28/24 08:46
Total/NA	Analysis	904.0		1	688429	SCB	EET SL	11/14/24 11:44
Total/NA	Analysis	Ra226_Ra228 Pos		1	689322	SCB	EET SL	11/19/24 13:12
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/22/24 10:45

Client Sample ID: MW-302
Date Collected: 10/21/24 16:00
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 21:45
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/21/24 16:00

Client Sample ID: MW-302A
Date Collected: 10/21/24 16:05
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 21:48
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/21/24 16:05

Client Sample ID: MW-304
Date Collected: 10/21/24 12:15
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 21:51
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/21/24 12:15

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-304A
Date Collected: 10/21/24 13:15
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 21:54
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/21/24 13:15

Client Sample ID: MW-305
Date Collected: 10/22/24 14:05
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 22:11
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/22/24 14:05

Client Sample ID: MW-306
Date Collected: 10/22/24 16:35
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 22:14
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/22/24 16:35

Client Sample ID: MW-306A
Date Collected: 10/22/24 15:50
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 22:16
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/22/24 15:50

Client Sample ID: MW-307
Date Collected: 10/21/24 14:10
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	438503	WZC8	EET CF	11/02/24 15:47
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 22:19
Total/NA	Prep	7470A			438094	QTZ5	EET CF	10/30/24 15:40
Total/NA	Analysis	7470A		1	438253	QTZ5	EET CF	10/31/24 11:26
Total/NA	Analysis	SM 2540C		1	437636	MDU9	EET CF	10/25/24 18:53
Total/NA	Analysis	SM 4500 H+ B		1	437382	W9YR	EET CF	10/24/24 11:24
Total/NA	Prep	PrecSep-21			685400	BCE	EET SL	10/28/24 08:34
Total/NA	Analysis	903.0		1	689274	SCB	EET SL	11/19/24 13:53

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: MW-307
Date Collected: 10/21/24 14:10
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			685405	BCE	EET SL	10/28/24 08:46
Total/NA	Analysis	904.0		1	688429	SCB	EET SL	11/14/24 11:45
Total/NA	Analysis	Ra226_Ra228 Pos		1	689322	SCB	EET SL	11/19/24 13:12
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/21/24 14:10

Client Sample ID: MW-307A
Date Collected: 10/21/24 14:30
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 22:22
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/21/24 14:30

Client Sample ID: MW-6
Date Collected: 10/22/24 18:20
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	438503	WZC8	EET CF	11/02/24 16:49
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 22:25
Total/NA	Prep	7470A			438094	QTZ5	EET CF	10/30/24 15:40
Total/NA	Analysis	7470A		1	438253	QTZ5	EET CF	10/31/24 11:28
Total/NA	Analysis	SM 2540C		1	437845	MDU9	EET CF	10/28/24 22:52
Total/NA	Analysis	SM 4500 H+ B		1	437382	W9YR	EET CF	10/24/24 11:18
Total/NA	Prep	PrecSep-21			685400	BCE	EET SL	10/28/24 08:34
Total/NA	Analysis	903.0		1	689264	SCB	EET SL	11/19/24 13:57
Total/NA	Prep	PrecSep_0			685405	BCE	EET SL	10/28/24 08:46
Total/NA	Analysis	904.0		1	688429	SCB	EET SL	11/14/24 11:45
Total/NA	Analysis	Ra226_Ra228 Pos		1	689322	SCB	EET SL	11/19/24 13:12
Total/NA	Analysis	Field Sampling		1	437790	BJ0R	EET CF	10/22/24 18:20

Client Sample ID: Field Blank
Date Collected: 10/22/24 13:55
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	438503	WZC8	EET CF	11/02/24 17:05
Total/NA	Prep	3005A			438111	F5MW	EET CF	10/31/24 09:30
Total/NA	Analysis	6020B		1	438811	A6US	EET CF	11/05/24 22:28
Total/NA	Prep	7470A			438094	QTZ5	EET CF	10/30/24 15:40
Total/NA	Analysis	7470A		1	438253	QTZ5	EET CF	10/31/24 11:30
Total/NA	Analysis	SM 2540C		1	437845	MDU9	EET CF	10/28/24 22:52

Lab Chronicle

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Client Sample ID: Field Blank

Date Collected: 10/22/24 13:55
Date Received: 10/24/24 09:20

Lab Sample ID: 310-293552-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	437382	W9YR	EET CF	10/24/24 11:19
Total/NA	Prep	PrecSep-21			685400	BCE	EET SL	10/28/24 08:34
Total/NA	Analysis	903.0		1	689264	SCB	EET SL	11/19/24 13:57
Total/NA	Prep	PrecSep_0			685405	BCE	EET SL	10/28/24 08:46
Total/NA	Analysis	904.0		1	688561	SCB	EET SL	11/14/24 11:51
Total/NA	Analysis	Ra226_Ra228 Pos		1	689322	SCB	EET SL	11/19/24 13:12

Laboratory References:

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

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

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-293552-1
Project/Site: Lansing Generating Station

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Laboratory: Eurofins 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	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-24
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-24
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-24
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-24
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	12-31-24
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

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

Method Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station

Job ID: 310-293552-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
Pos Field Sampling	Field Sampling	EPA	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

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

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

eurofins | Environment Testing America

310-293552 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Eng

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 6/24/24 TIME 0920 | Received By: J. W

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

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 1 of 2

Cooler Custody Seals Present? ☑ Yes ☐ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☑ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

MW-6, MW-3+301

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: ☐ NONE

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

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

Uncorrected Temp (°C): -0.1 | Corrected Temp (°C): -0.1

• **Sample Container Temperature**

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Eng

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10/24/24 | TIME 0420 | Received By: J W

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

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 2 of 3

Cooler Custody Seals Present? ☑ Yes ☐ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☑ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

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

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

Uncorrected Temp (°C): 3.1 | Corrected Temp (°C): 3.1

• **Sample Container Temperature**

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

Missing Sample MW-303

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

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Bri Salome	Lab PM: Sandie Fredrick	Carrier Tracking No(s):	COC No.
Client Contact: Meghan Blodgett	Phone	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin	Page: Page 1 of 2
Company: SCS Engineers	PWSID:	Analysis Requested		Job #:
Address: 2830 Dairy Drive	Due Date Requested:			Preservation Codes. A HCL M Hexane; B NaOH N None; C Zn Acetate O AsNaO2; D Nitric Acid P - Na2O4S; E NaHSO4 Q Na2SO3; F - MeOH R Na2S2O3; G - Amchlor S H2SO4; H Ascorbic Acid T TSP Dodecahydrate; I Ice U - Acetone; J DI Water V MCAA; K EDTA W pH 4-5; L EDA Z - other (specify); Other:
City: Madison	TAT Requested (days):			
State, Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25224070			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Lansing Generating Station 25224070	Project #: 25224070			
Site: Lansing IA	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 Metals total (Sb, As, Ba, Be, B, Ca, Cd, Cr, Co, Fe, Pb, Li, Mo, Se, Tl)	6020 Metals (As, Fe only)	7470 Mercury total	TDS and pH	Chloride, Fluoride, Sulfate	EPA 903/904 Radium 226 + 228							Total Number of containers	Special Instructions/Note
Preservation Code:							D	D	D	I	I	D								
MW-301	10/22/24	1045	G	W	N		X		X	X	X	X								
MW-302	10/21/24	1600	G	W	N			X												
MW-302A	10/21/24	1605	G	W	N			X												
MW-303	DRY	DRY	G	W	N		X		X	X	X	X								
MW-304	10/21/24	1215	G	W	N			X												
MW-304A	10/21/24	1315	G	W	N			X												
MW-305	10/22/24	1405	G	W	N			X												
MW-306	10/22/24	1635	G	W	N			X												
MW-306A	10/22/24	1550	G	W	N			X												
MW-307	10/21/24	1410	G	W	N		X		X	X	X	X								
MW-307A	10/21/24	1430	G	W	N			X												

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements.

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

Relinquished by	Date/Time	Company	Received by	Date/Time:	Company
Bri Salome	10/23/24 1200	SCS			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
				10/24/24 900	

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

Ver: 01/16/2019

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

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Bri Salome	Lab PM: Sandie Fredrick	Carrier Tracking No(s):	COC No
Client Contact: Meghan Blodgett	Phone:	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin	Page: Page 2 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25224070			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Lansing Generating Station 25224070	Project #: 25224070			
Site: Lansing IA	SSOW#:			

Analysis Requested

Preservation Codes:

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 Metals, total (Sb, As, Ba, Be, B, Ca Cd, Cr Co, Fe Pb, Li, Mo, Se Tl)	6020 Metals (As, Fe only)	7470 Mercury total	TDS and pH	Chloride Fluoride Sulfate	EPA 903/904 Radium 226 + 228	Total Number of containers	Special Instructions/Note
			Preservation Code:				D	D	I	I	I	D		
MW-6	10/22/24	1820	G	W	N		X		X	X	X	X		
Field Blank	10/22/24	1355	G	W	N		X		X	X	X	X		

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Bri Salome	10/23/24 1200	SCS			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company

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

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Fredrick, Sandie	Carrier Tracking No(s): N/A	COC No: 310-77685.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Iowa		Job #: 310-293552-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/3/2024			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Lansing Generating Station	Project #: 31011020			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226 (GFPC)	904.0/PrecSep_0 Radium-228 (GFPC)	Ra226_228GFPC_P/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-301 (310-293552-1)	10/22/24	10:45 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-307 (310-293552-9)	10/21/24	14:10 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-6 (310-293552-11)	10/22/24	18:20 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
Field Blank (310-293552-12)	10/22/24	13:55 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/22/24 1410			10/25/24 0850	ETA-STL
Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-293552-1

Login Number: 293552
List Number: 1
Creator: Hirsch, Preston

List Source: Eurofins Cedar Falls

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-293552-1

Login Number: 293552
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 10/25/24 04:34 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
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").	N/A	
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 Generating Station

Job ID: 310-293552-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
310-293552-1	MW-301	85.1
310-293552-9	MW-307	80.9
310-293552-11	MW-6	84.4
310-293552-12	Field Blank	92.7
LCS 160-685400/2-A	Lab Control Sample	93.2
MB 160-685400/1-A	Method Blank	87.5

Tracer/Carrier Legend

Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-293552-1	MW-301	85.1	78.1
310-293552-9	MW-307	80.9	75.1
310-293552-11	MW-6	84.4	79.3
310-293552-12	Field Blank	92.7	80.0
LCS 160-685405/2-A	Lab Control Sample	93.2	81.9
MB 160-685405/1-A	Method Blank	87.5	78.9

Tracer/Carrier Legend

Ba = Barium
Y = Y Carrier

Groundwater Monitoring Results - Field Parameters
Lansing Generating Station / SCS Engineers Project #25224070.00
October 2024

Sample	Sample Date/Time	Groundwater Elevation (ft AMSL)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)
MW-6	10/22/2024 1820	664.87	10.1	7.25	7.72	594	91.3	0.56
MW-301	10/22/2024 1045	622.16	13.8	7.45	0.39	598	29.7	0.00
MW-302	10/21/2024 1600	625.89	16.6	7.04	0.17	1125	-154.8	0.00
MW-302A	10/21/2024 1605	622.41	12.0	7.18	5.48	648.0	82.6	2.06
MW-304	10/21/2024 1215	620.95	12.3	7.29	7.99	604.5	101.3	4.90
MW-304A	10/21/2024 1315	623.22	11.2	7.76	0.42	535	-132.9	2.17
MW-305	10/22/2024 1405	626.23	15.8	7.10	0.16	818.0	-189.9	0.00
MW-306	10/22/2024 1635	619.92	16.5	6.83	0.07	2074	-152.5	11.07
MW-306A	10/22/2024 1550	620.18	14.6	7.20	1.42	668	-93.9	0.00
MW-307	10/21/2024 1410	629.73	14.6	7.95	0.3	454.1	-103.0	1.22
MW-307A	10/21/2024 1430	624.59	12.0	7.32	0.29	617	-55.9	3.43

Abbreviations:
ft amsl = feet above mean sea level
µmhos/cm = micromhos per centimeter
mg/L = milligrams per liter
mV = millivolts
ORP = Oxidation Reduction (REDOX)
NTU = Nephelometric Turbidity Units

Created by: EMS Date: 04/13/23
Last revision by: BAS Date: 10/25/24
Checked by: KMV Date: 10/25/24

C2 April 2025 Laboratory Reports

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ANALYTICAL REPORT

PREPARED FOR

Attn: Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Generated 5/7/2025 5:21:17 PM

JOB DESCRIPTION

Lansing Generating Station 25225070 - CCR

JOB NUMBER

310-303608-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Eurofins Cedar Falls

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Generated
5/7/2025 5:21:17 PM

Authorized for release by
Sandie Fredrick, Senior Project Manager
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

Table of Contents

Job ID: 310-303608-1 Eurofins Cedar Falls

Job Narrative
310-303608-1

Receipt
The samples were received on 4/7/2025 12:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.6º C and 0.6º C.

HPLC/IC
Method 9056A: The following sample was diluted due to the nature of the sample matrix: MW-301 (310-303608-1). Elevated reporting limits (RLs) are provided.

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

RAD
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
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-303608-1	MW-301	Water	04/01/25 16:25	04/07/25 12:10
310-303608-2	MW-307	Water	04/02/25 11:00	04/07/25 12:10
310-303608-4	MW-302	Water	04/02/25 09:32	04/07/25 12:10
310-303608-5	MW-302A	Water	04/02/25 10:01	04/07/25 12:10
310-303608-6	MW-304	Water	04/01/25 13:46	04/07/25 12:10
310-303608-7	MW-304A	Water	04/01/25 14:41	04/07/25 12:10
310-303608-8	MW-305	Water	04/02/25 13:20	04/07/25 12:10
310-303608-9	MW-306	Water	04/02/25 14:20	04/07/25 12:10
310-303608-11	MW-307A	Water	04/01/25 17:15	04/07/25 12:10
310-303608-12	Field Blank	Water	04/01/25 16:30	04/07/25 12:10

Detection Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-301 — Lab Sample ID: 310-303608-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	33		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	1.1	J	2.0	0.53	ug/L	1		6020B	Total/NA
Barium	150		2.0	0.66	ug/L	1		6020B	Total/NA
Boron	320		100	82	ug/L	1		6020B	Total/NA
Calcium	75		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	100		100	50	ug/L	1		6020B	Total/NA
Lithium	7.6	J	10	2.9	ug/L	1		6020B	Total/NA
Molybdenum	4.2		2.0	1.3	ug/L	1		6020B	Total/NA
Total Dissolved Solids	330		50	36	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	622.21				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	75				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.39				mg/L	1		Field Sampling	Total/NA
Field pH	7.59				SU	1		Field Sampling	Total/NA
Field Conductivity	614				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	9.2				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-303608-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.53	J	1.0	0.38	mg/L	5		9056A	Total/NA
Sulfate	42		5.0	2.1	mg/L	5		9056A	Total/NA
Antimony	1.3	J	2.0	1.0	ug/L	1		6020B	Total/NA
Arsenic	2.0		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	340		2.0	0.66	ug/L	1		6020B	Total/NA
Boron	640		100	82	ug/L	1		6020B	Total/NA
Calcium	57		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	83	J	100	50	ug/L	1		6020B	Total/NA
Lithium	14		10	2.9	ug/L	1		6020B	Total/NA
Molybdenum	5.0		2.0	1.3	ug/L	1		6020B	Total/NA
Selenium	2.2	J	5.0	1.4	ug/L	1		6020B	Total/NA
Thallium	0.65	J	1.0	0.57	ug/L	1		6020B	Total/NA
Total Dissolved Solids	250		50	36	mg/L	1		SM 2540C	Total/NA
pH	8.1	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	629.31				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-179				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.17				mg/L	1		Field Sampling	Total/NA
Field pH	8.23				SU	1		Field Sampling	Total/NA
Field Conductivity	452				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	8.4				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.71				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-303608-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	37		2.0	0.53	ug/L	1		6020B	Total/NA
Iron	39000		100	50	ug/L	1		6020B	Total/NA
Groundwater Elevation	627.32				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-177				mV	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-302 (Continued) — Lab Sample ID: 310-303608-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxygen, Dissolved	0.44				mg/L	1		Field Sampling	Total/NA
Field pH	6.91				SU	1		Field Sampling	Total/NA
Field Conductivity	1063				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	6.7				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302A — Lab Sample ID: 310-303608-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Groundwater Elevation	622.68				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	51				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	5.92				mg/L	1		Field Sampling	Total/NA
Field pH	7.14				SU	1		Field Sampling	Total/NA
Field Conductivity	591				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	11.1				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304 — Lab Sample ID: 310-303608-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Groundwater Elevation	620.80				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	180				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	7.10				mg/L	1		Field Sampling	Total/NA
Field pH	7.22				SU	1		Field Sampling	Total/NA
Field Conductivity	530				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	9.3				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	0.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304A — Lab Sample ID: 310-303608-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.62	J	2.0	0.53	ug/L	1		6020B	Total/NA
Iron	690		100	50	ug/L	1		6020B	Total/NA
Groundwater Elevation	623.18				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	98				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.09				mg/L	1		Field Sampling	Total/NA
Field pH	7.85				SU	1		Field Sampling	Total/NA
Field Conductivity	516				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	10.4				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	29.71				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305 — Lab Sample ID: 310-303608-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.67	J	2.0	0.53	ug/L	1		6020B	Total/NA
Iron	1700		100	50	ug/L	1		6020B	Total/NA
Groundwater Elevation	626.92				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-68				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	3.29				mg/L	1		Field Sampling	Total/NA
Field pH	7.11				SU	1		Field Sampling	Total/NA
Field Conductivity	547				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	5.9				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	4.66				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-306 — Lab Sample ID: 310-303608-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.8		2.0	0.53	ug/L	1		6020B	Total/NA
Iron	49000		100	50	ug/L	1		6020B	Total/NA
Groundwater Elevation	619.95				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-97				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.19				mg/L	1		Field Sampling	Total/NA
Field pH	6.96				SU	1		Field Sampling	Total/NA
Field Conductivity	1806				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	11.4				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	2.13				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307A — Lab Sample ID: 310-303608-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10		2.0	0.53	ug/L	1		6020B	Total/NA
Iron	3200		100	50	ug/L	1		6020B	Total/NA
Groundwater Elevation	624.57				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-26				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.14				mg/L	1		Field Sampling	Total/NA
Field pH	7.56				SU	1		Field Sampling	Total/NA
Field Conductivity	549				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	10.6				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	2.25				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-303608-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.9	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-301
Date Collected: 04/01/25 16:25
Date Received: 04/07/25 12:10

Lab Sample ID: 310-303608-1
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**		5.0	2.3	mg/L			04/15/25 20:42	5
Fluoride	<0.38		1.0	0.38	mg/L			04/15/25 20:42	5
Sulfate	**33**		5.0	2.1	mg/L			04/15/25 20:42	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/09/25 09:00	04/11/25 16:39	1
Arsenic	**1.1**	**J**	2.0	0.53	ug/L		04/09/25 09:00	04/11/25 16:39	1
Barium	**150**		2.0	0.66	ug/L		04/09/25 09:00	04/11/25 16:39	1
Beryllium	<0.33		1.0	0.33	ug/L		04/09/25 09:00	04/11/25 16:39	1
Boron	**320**		100	82	ug/L		04/09/25 09:00	04/11/25 16:39	1
Cadmium	<0.10		0.20	0.10	ug/L		04/09/25 09:00	04/11/25 16:39	1
Calcium	**75**		0.50	0.19	mg/L		04/09/25 09:00	04/11/25 16:39	1
Chromium	<1.8		5.0	1.8	ug/L		04/09/25 09:00	04/11/25 16:39	1
Cobalt	<0.17		0.50	0.17	ug/L		04/09/25 09:00	04/11/25 16:39	1
Iron	**100**		100	50	ug/L		04/09/25 09:00	04/11/25 16:39	1
Lead	<0.33		0.50	0.33	ug/L		04/09/25 09:00	04/11/25 16:39	1
Lithium	**7.6**	**J**	10	2.9	ug/L		04/09/25 09:00	04/11/25 16:39	1
Molybdenum	**4.2**		2.0	1.3	ug/L		04/09/25 09:00	04/11/25 16:39	1
Selenium	<1.4		5.0	1.4	ug/L		04/09/25 09:00	04/11/25 16:39	1
Thallium	<0.57		1.0	0.57	ug/L		04/09/25 09:00	04/11/25 16:39	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/14/25 13:13	04/15/25 11:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**330**		50	36	mg/L			04/08/25 16:50	1
pH (SM 4500 H+ B)	**8.0**	**HF**	1.0	1.0	SU			04/07/25 20:49	1

Method: EPA 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	0.202	0.203	1.00	0.355	pCi/L	04/10/25 07:39	05/07/25 13:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.7*		*30 - 110*	*04/10/25 07:39*	*05/07/25 13:25*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.373	U	0.317	0.319	1.00	0.492	pCi/L	04/10/25 07:43	05/07/25 09:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.7*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*
Y Carrier	*75.1*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-301
Lab Sample ID: 310-303608-1
Date Collected: 04/01/25 16:25
Matrix: Water
Date Received: 04/07/25 12:10

Method: TAL-STL 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	0.490	U	0.376	0.378	5.00	0.492	pCi/L		05/07/25 12:30	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	622.21				ft			04/01/25 16:25	1
Oxidation Reduction Potential	75				mV			04/01/25 16:25	1
Oxygen, Dissolved	0.39				mg/L			04/01/25 16:25	1
Field pH	7.59				SU			04/01/25 16:25	1
Field Conductivity	614				umhos/cm			04/01/25 16:25	1
Field Temperature	9.2				Degrees C			04/01/25 16:25	1
Field Turbidity	0.00				NTU			04/01/25 16:25	1

Client Sample ID: MW-307
Date Collected: 04/02/25 11:00
Date Received: 04/07/25 12:10

Lab Sample ID: 310-303608-2
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		5.0	2.3	mg/L			04/15/25 20:57	5
Fluoride	0.53	J	1.0	0.38	mg/L			04/15/25 20:57	5
Sulfate	42		5.0	2.1	mg/L			04/15/25 20:57	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.3	J	2.0	1.0	ug/L		04/09/25 09:00	04/11/25 16:49	1
Arsenic	2.0		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 16:49	1
Barium	340		2.0	0.66	ug/L		04/09/25 09:00	04/11/25 16:49	1
Beryllium	<0.33		1.0	0.33	ug/L		04/09/25 09:00	04/11/25 16:49	1
Boron	640		100	82	ug/L		04/09/25 09:00	04/11/25 16:49	1
Cadmium	<0.10		0.20	0.10	ug/L		04/09/25 09:00	04/11/25 16:49	1
Calcium	57		0.50	0.19	mg/L		04/09/25 09:00	04/11/25 16:49	1
Chromium	<1.8		5.0	1.8	ug/L		04/09/25 09:00	04/11/25 16:49	1
Cobalt	<0.17		0.50	0.17	ug/L		04/09/25 09:00	04/11/25 16:49	1
Iron	83	J	100	50	ug/L		04/09/25 09:00	04/11/25 16:49	1
Lead	<0.33		0.50	0.33	ug/L		04/09/25 09:00	04/11/25 16:49	1
Lithium	14		10	2.9	ug/L		04/09/25 09:00	04/11/25 16:49	1
Molybdenum	5.0		2.0	1.3	ug/L		04/09/25 09:00	04/11/25 16:49	1
Selenium	2.2	J	5.0	1.4	ug/L		04/09/25 09:00	04/11/25 16:49	1
Thallium	0.65	J	1.0	0.57	ug/L		04/09/25 09:00	04/11/25 16:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/14/25 13:13	04/15/25 11:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	250		50	36	mg/L			04/08/25 15:30	1
pH (SM 4500 H+ B)	8.1	HF	1.0	1.0	SU			04/07/25 20:58	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.153	U	0.191	0.191	1.00	0.315	pCi/L	04/10/25 07:39	05/07/25 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*85.6*		*30 - 110*	*04/10/25 07:39*	*05/07/25 13:23*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.358	U	0.415	0.416	1.00	0.683	pCi/L	04/10/25 07:43	05/07/25 09:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*85.6*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*
Y Carrier	*75.9*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-307
Lab Sample ID: 310-303608-2
Date Collected: 04/02/25 11:00
Matrix: Water
Date Received: 04/07/25 12:10

Method: TAL-STL 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	0.511	U	0.457	0.458	5.00	0.683	pCi/L		05/07/25 12:30	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	629.31				ft			04/02/25 11:00	1
Oxidation Reduction Potential	-179				mV			04/02/25 11:00	1
Oxygen, Dissolved	0.17				mg/L			04/02/25 11:00	1
Field pH	8.23				SU			04/02/25 11:00	1
Field Conductivity	452				umhos/cm			04/02/25 11:00	1
Field Temperature	8.4				Degrees C			04/02/25 11:00	1
Field Turbidity	0.71				NTU			04/02/25 11:00	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-302
Lab Sample ID: 310-303608-4
Date Collected: 04/02/25 09:32
Matrix: Water
Date Received: 04/07/25 12:10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 16:54	1
Iron	39000		100	50	ug/L		04/09/25 09:00	04/11/25 16:54	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	627.32				ft			04/02/25 09:32	1
Oxidation Reduction Potential	-177				mV			04/02/25 09:32	1
Oxygen, Dissolved	0.44				mg/L			04/02/25 09:32	1
Field pH	6.91				SU			04/02/25 09:32	1
Field Conductivity	1063				umhos/cm			04/02/25 09:32	1
Field Temperature	6.7				Degrees C			04/02/25 09:32	1
Field Turbidity	0.00				NTU			04/02/25 09:32	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-302A
Lab Sample ID: 310-303608-5
Date Collected: 04/02/25 10:01
Matrix: Water
Date Received: 04/07/25 12:10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.53		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 16:56	1
Iron	<50		100	50	ug/L		04/09/25 09:00	04/11/25 16:56	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	**622.68**				ft			04/02/25 10:01	1
Oxidation Reduction Potential	**51**				mV			04/02/25 10:01	1
Oxygen, Dissolved	**5.92**				mg/L			04/02/25 10:01	1
Field pH	**7.14**				SU			04/02/25 10:01	1
Field Conductivity	**591**				umhos/cm			04/02/25 10:01	1
Field Temperature	**11.1**				Degrees C			04/02/25 10:01	1
Field Turbidity	**0.00**				NTU			04/02/25 10:01	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-304
Lab Sample ID: 310-303608-6
Date Collected: 04/01/25 13:46
Matrix: Water
Date Received: 04/07/25 12:10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.53		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 16:59	1
Iron	<50		100	50	ug/L		04/09/25 09:00	04/11/25 16:59	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	620.80				ft			04/01/25 13:46	1
Oxidation Reduction Potential	180				mV			04/01/25 13:46	1
Oxygen, Dissolved	7.10				mg/L			04/01/25 13:46	1
Field pH	7.22				SU			04/01/25 13:46	1
Field Conductivity	530				umhos/cm			04/01/25 13:46	1
Field Temperature	9.3				Degrees C			04/01/25 13:46	1
Field Turbidity	0.00				NTU			04/01/25 13:46	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-304A
Lab Sample ID: 310-303608-7
Date Collected: 04/01/25 14:41
Matrix: Water
Date Received: 04/07/25 12:10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.62	J	2.0	0.53	ug/L		04/09/25 09:00	04/11/25 17:01	1
Iron	690		100	50	ug/L		04/09/25 09:00	04/11/25 17:01	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	623.18				ft			04/01/25 14:41	1
Oxidation Reduction Potential	98				mV			04/01/25 14:41	1
Oxygen, Dissolved	0.09				mg/L			04/01/25 14:41	1
Field pH	7.85				SU			04/01/25 14:41	1
Field Conductivity	516				umhos/cm			04/01/25 14:41	1
Field Temperature	10.4				Degrees C			04/01/25 14:41	1
Field Turbidity	29.71				NTU			04/01/25 14:41	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-305
Lab Sample ID: 310-303608-8
Date Collected: 04/02/25 13:20
Matrix: Water
Date Received: 04/07/25 12:10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.67	J	2.0	0.53	ug/L		04/09/25 09:00	04/11/25 17:10	1
Iron	1700		100	50	ug/L		04/09/25 09:00	04/11/25 17:10	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	626.92				ft			04/02/25 13:20	1
Oxidation Reduction Potential	-68				mV			04/02/25 13:20	1
Oxygen, Dissolved	3.29				mg/L			04/02/25 13:20	1
Field pH	7.11				SU			04/02/25 13:20	1
Field Conductivity	547				umhos/cm			04/02/25 13:20	1
Field Temperature	5.9				Degrees C			04/02/25 13:20	1
Field Turbidity	4.66				NTU			04/02/25 13:20	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-306
Lab Sample ID: 310-303608-9
Date Collected: 04/02/25 14:20
Matrix: Water
Date Received: 04/07/25 12:10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.8		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 17:13	1
Iron	49000		100	50	ug/L		04/09/25 09:00	04/11/25 17:13	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	619.95				ft			04/02/25 14:20	1
Oxidation Reduction Potential	-97				mV			04/02/25 14:20	1
Oxygen, Dissolved	0.19				mg/L			04/02/25 14:20	1
Field pH	6.96				SU			04/02/25 14:20	1
Field Conductivity	1806				umhos/cm			04/02/25 14:20	1
Field Temperature	11.4				Degrees C			04/02/25 14:20	1
Field Turbidity	2.13				NTU			04/02/25 14:20	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-307A
Lab Sample ID: 310-303608-11
Date Collected: 04/01/25 17:15
Matrix: Water
Date Received: 04/07/25 12:10

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 17:18	1
Iron	3200		100	50	ug/L		04/09/25 09:00	04/11/25 17:18	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	624.57				ft			04/01/25 17:15	1
Oxidation Reduction Potential	-26				mV			04/01/25 17:15	1
Oxygen, Dissolved	0.14				mg/L			04/01/25 17:15	1
Field pH	7.56				SU			04/01/25 17:15	1
Field Conductivity	549				umhos/cm			04/01/25 17:15	1
Field Temperature	10.6				Degrees C			04/01/25 17:15	1
Field Turbidity	2.25				NTU			04/01/25 17:15	1

Client Sample ID: Field Blank
Lab Sample ID: 310-303608-12

Date Collected: 04/01/25 16:30
Matrix: Water

Date Received: 04/07/25 12:10

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			04/15/25 21:13	1
Fluoride	<0.075		0.20	0.075	mg/L			04/15/25 21:13	1
Sulfate	<0.42		1.0	0.42	mg/L			04/15/25 21:13	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/09/25 09:00	04/11/25 17:22	1
Arsenic	<0.53		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 17:22	1
Barium	<0.66		2.0	0.66	ug/L		04/09/25 09:00	04/11/25 17:22	1
Beryllium	<0.33		1.0	0.33	ug/L		04/09/25 09:00	04/11/25 17:22	1
Boron	<82		100	82	ug/L		04/09/25 09:00	04/11/25 17:22	1
Cadmium	<0.10		0.20	0.10	ug/L		04/09/25 09:00	04/11/25 17:22	1
Calcium	<0.19		0.50	0.19	mg/L		04/09/25 09:00	04/11/25 17:22	1
Chromium	<1.8		5.0	1.8	ug/L		04/09/25 09:00	04/11/25 17:22	1
Cobalt	<0.17		0.50	0.17	ug/L		04/09/25 09:00	04/11/25 17:22	1
Iron	<50		100	50	ug/L		04/09/25 09:00	04/11/25 17:22	1
Lead	<0.33		0.50	0.33	ug/L		04/09/25 09:00	04/11/25 17:22	1
Lithium	<2.9		10	2.9	ug/L		04/09/25 09:00	04/11/25 17:22	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/09/25 09:00	04/11/25 17:22	1
Selenium	<1.4		5.0	1.4	ug/L		04/09/25 09:00	04/11/25 17:22	1
Thallium	<0.57		1.0	0.57	ug/L		04/09/25 09:00	04/11/25 17:22	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/14/25 13:13	04/15/25 11:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<36		50	36	mg/L			04/08/25 16:50	1
pH (SM 4500 H+ B)	**7.9**	**HF**	1.0	1.0	SU			04/07/25 21:06	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0154	U	0.208	0.208	1.00	0.413	pCi/L	04/10/25 07:39	05/07/25 13:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*80.6*		*30 - 110*	*04/10/25 07:39*	*05/07/25 13:34*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.307	U	0.400	0.401	1.00	0.667	pCi/L	04/10/25 07:43	05/07/25 09:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*80.6*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*
Y Carrier	*74.0*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: Field Blank
Lab Sample ID: 310-303608-12
Date Collected: 04/01/25 16:30
Matrix: Water
Date Received: 04/07/25 12:10

Method: TAL-STL 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	0.323	U	0.451	0.452	5.00	0.667	pCi/L		05/07/25 12:30	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

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
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.
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.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

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

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-451765/3
Matrix: Water
Analysis Batch: 451765

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			04/15/25 16:48	1
Fluoride	<0.075		0.20	0.075	mg/L			04/15/25 16:48	1
Sulfate	<0.42		1.0	0.42	mg/L			04/15/25 16:48	1

Lab Sample ID: LCS 310-451765/4
Matrix: Water
Analysis Batch: 451765

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	9.99		mg/L		100	90 - 110
Fluoride	2.00	2.07		mg/L		104	90 - 110
Sulfate	10.0	9.78		mg/L		98	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-450996/1-A
Matrix: Water
Analysis Batch: 451461

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/09/25 09:00	04/11/25 16:27	1
Arsenic	<0.53		2.0	0.53	ug/L		04/09/25 09:00	04/11/25 16:27	1
Barium	<0.66		2.0	0.66	ug/L		04/09/25 09:00	04/11/25 16:27	1
Beryllium	<0.33		1.0	0.33	ug/L		04/09/25 09:00	04/11/25 16:27	1
Boron	<82		100	82	ug/L		04/09/25 09:00	04/11/25 16:27	1
Cadmium	<0.10		0.20	0.10	ug/L		04/09/25 09:00	04/11/25 16:27	1
Calcium	<0.19		0.50	0.19	mg/L		04/09/25 09:00	04/11/25 16:27	1
Chromium	<1.8		5.0	1.8	ug/L		04/09/25 09:00	04/11/25 16:27	1
Cobalt	<0.17		0.50	0.17	ug/L		04/09/25 09:00	04/11/25 16:27	1
Iron	<50		100	50	ug/L		04/09/25 09:00	04/11/25 16:27	1
Lead	<0.33		0.50	0.33	ug/L		04/09/25 09:00	04/11/25 16:27	1
Lithium	<2.9		10	2.9	ug/L		04/09/25 09:00	04/11/25 16:27	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/09/25 09:00	04/11/25 16:27	1
Selenium	<1.4		5.0	1.4	ug/L		04/09/25 09:00	04/11/25 16:27	1
Thallium	<0.57		1.0	0.57	ug/L		04/09/25 09:00	04/11/25 16:27	1

Lab Sample ID: LCS 310-450996/2-A
Matrix: Water
Analysis Batch: 451461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	200	213		ug/L		106	80 - 120
Arsenic	200	200		ug/L		100	80 - 120
Barium	100	102		ug/L		102	80 - 120
Beryllium	100	91.3		ug/L		91	80 - 120
Boron	200	206		ug/L		103	80 - 120
Cadmium	100	101		ug/L		101	80 - 120
Calcium	2.00	1.82		mg/L		91	80 - 120
Chromium	100	98.4		ug/L		98	80 - 120

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

Lab Sample ID: LCS 310-450996/2-A
Matrix: Water
Analysis Batch: 451461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	100	100		ug/L		100	80 - 120
Iron	200	212		ug/L		106	80 - 120
Lead	200	206		ug/L		103	80 - 120
Lithium	200	195		ug/L		98	80 - 120
Molybdenum	200	198		ug/L		99	80 - 120
Selenium	400	370		ug/L		92	80 - 120
Thallium	100	86.6		ug/L		87	80 - 120

Lab Sample ID: 310-303608-1 MS
Matrix: Water
Analysis Batch: 451461

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 450996

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.0		200	226		ug/L		113	75 - 125
Arsenic	1.1	J	200	210		ug/L		105	75 - 125
Barium	150		100	255		ug/L		102	75 - 125
Beryllium	<0.33		100	99.9		ug/L		100	75 - 125
Boron	320		200	501		ug/L		92	75 - 125
Cadmium	<0.10		100	102		ug/L		102	75 - 125
Calcium	75		2.00	76.4	4	mg/L		60	75 - 125
Chromium	<1.8		100	101		ug/L		101	75 - 125
Cobalt	<0.17		100	100		ug/L		100	75 - 125
Iron	100		200	319		ug/L		108	75 - 125
Lead	<0.33		200	205		ug/L		102	75 - 125
Lithium	7.6	J	200	214		ug/L		103	75 - 125
Molybdenum	4.2		200	216		ug/L		106	75 - 125
Selenium	<1.4		400	390		ug/L		97	75 - 125
Thallium	<0.57		100	78.7		ug/L		79	75 - 125

Lab Sample ID: 310-303608-1 MSD
Matrix: Water
Analysis Batch: 451461

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 450996

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.0		200	222		ug/L		111	75 - 125	2	20
Arsenic	1.1	J	200	207		ug/L		103	75 - 125	2	20
Barium	150		100	257		ug/L		104	75 - 125	1	20
Beryllium	<0.33		100	99.4		ug/L		99	75 - 125	0	20
Boron	320		200	514		ug/L		98	75 - 125	2	20
Cadmium	<0.10		100	99.5		ug/L		99	75 - 125	3	20
Calcium	75		2.00	77.0	4	mg/L		93	75 - 125	1	20
Chromium	<1.8		100	99.2		ug/L		99	75 - 125	1	20
Cobalt	<0.17		100	98.3		ug/L		98	75 - 125	2	20
Iron	100		200	321		ug/L		109	75 - 125	1	20
Lead	<0.33		200	202		ug/L		101	75 - 125	2	20
Lithium	7.6	J	200	213		ug/L		102	75 - 125	1	20
Molybdenum	4.2		200	216		ug/L		106	75 - 125	0	20
Selenium	<1.4		400	385		ug/L		96	75 - 125	1	20
Thallium	<0.57		100	87.1		ug/L		87	75 - 125	10	20

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

Lab Sample ID: 310-303608-11 DU
Matrix: Water
Analysis Batch: 451461

Client Sample ID: MW-307A
Prep Type: Total/NA
Prep Batch: 450996

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.0		<1.0		ug/L		NC	20
Arsenic	10		10.3		ug/L		2	20
Barium	140		137		ug/L		1	20
Beryllium	<0.33		<0.33		ug/L		NC	20
Boron	360		374		ug/L		3	20
Cadmium	<0.10		<0.10		ug/L		NC	20
Calcium	62000		63.7	F3	mg/L		200	20
Chromium	<1.8		<1.8		ug/L		NC	20
Cobalt	0.84		0.861		ug/L		2	20
Iron	3200		3330		ug/L		3	20
Lead	<0.33		<0.33		ug/L		NC	20
Lithium	<2.9		<2.9		ug/L		NC	20
Molybdenum	5.9		6.08		ug/L		4	20
Selenium	<1.4		<1.4		ug/L		NC	20
Thallium	<0.57		<0.57		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-451394/1-A
Matrix: Water
Analysis Batch: 451657

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451394

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/14/25 13:13	04/15/25 10:28	1

Lab Sample ID: LCS 310-451394/2-A
Matrix: Water
Analysis Batch: 451657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451394

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.73		ug/L		104	80 - 120

Lab Sample ID: MB 310-451395/1-A
Matrix: Water
Analysis Batch: 451657

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/14/25 13:13	04/15/25 11:28	1

Lab Sample ID: LCS 310-451395/2-A
Matrix: Water
Analysis Batch: 451657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.71		ug/L		103	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 310-303608-12 MS
Matrix: Water
Analysis Batch: 451657

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 451395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.11		1.67	1.73		ug/L		104	80 - 120

Lab Sample ID: 310-303608-12 MSD
Matrix: Water
Analysis Batch: 451657

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 451395

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.11		1.67	1.73		ug/L		104	80 - 120	0	20

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

Lab Sample ID: MB 310-451008/1
Matrix: Water
Analysis Batch: 451008

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	<36		50	36	mg/L			04/08/25 15:30	1

Lab Sample ID: LCS 310-451008/2
Matrix: Water
Analysis Batch: 451008

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	88 - 110

Lab Sample ID: MB 310-451017/1
Matrix: Water
Analysis Batch: 451017

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	<36		50	36	mg/L			04/08/25 16:50	1

Lab Sample ID: LCS 310-451017/2
Matrix: Water
Analysis Batch: 451017

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	950		mg/L		95	88 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-450902/1
Matrix: Water
Analysis Batch: 450902

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		101	98 - 102

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-303608-1 DU
Matrix: Water
Analysis Batch: 450902

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.0	HF	8.0		SU		0.2	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-711789/1-A
Matrix: Water
Analysis Batch: 716365

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 711789

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.2519	U	0.244	0.245	1.00	0.381	pCi/L	04/10/25 07:39	05/07/25 13:25	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*81.1*		*30 - 110*	*04/10/25 07:39*	*05/07/25 13:25*	*1*

Lab Sample ID: LCS 160-711789/2-A
Matrix: Water
Analysis Batch: 716365

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 711789

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium 226	9.58	9.450		1.29	1.00	0.424	pCi/L	99	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*87.4*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-711790/1-A
Matrix: Water
Analysis Batch: 716365

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 711790

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.3322	U	0.418	0.419	1.00	0.694	pCi/L	04/10/25 07:43	05/07/25 09:42	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*81.1*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*
Y Carrier	*75.9*		*30 - 110*	*04/10/25 07:43*	*05/07/25 09:42*	*1*

Lab Sample ID: LCS 160-711790/2-A
Matrix: Water
Analysis Batch: 716365

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 711790

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium 228	9.47	10.19		1.39	1.00	0.551	pCi/L	108	75 - 125

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

Lab Sample ID: LCS 160-711790/2-A
Matrix: Water
Analysis Batch: 716365

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 711790

Carrier	LCS %Yield	LCS Qualifier	Limits
Barium	87.4		30 - 110
Y Carrier	77.0		30 - 110

QC Association Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

HPLC/IC

Analysis Batch: 451765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	9056A	
310-303608-2	MW-307	Total/NA	Water	9056A	
310-303608-12	Field Blank	Total/NA	Water	9056A	
MB 310-451765/3	Method Blank	Total/NA	Water	9056A	
LCS 310-451765/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 450996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	3005A	
310-303608-2	MW-307	Total/NA	Water	3005A	
310-303608-4	MW-302	Total/NA	Water	3005A	
310-303608-5	MW-302A	Total/NA	Water	3005A	
310-303608-6	MW-304	Total/NA	Water	3005A	
310-303608-7	MW-304A	Total/NA	Water	3005A	
310-303608-8	MW-305	Total/NA	Water	3005A	
310-303608-9	MW-306	Total/NA	Water	3005A	
310-303608-11	MW-307A	Total/NA	Water	3005A	
310-303608-12	Field Blank	Total/NA	Water	3005A	
MB 310-450996/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-450996/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-303608-1 MS	MW-301	Total/NA	Water	3005A	
310-303608-1 MSD	MW-301	Total/NA	Water	3005A	
310-303608-11 DU	MW-307A	Total/NA	Water	3005A	

Prep Batch: 451394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	7470A	
310-303608-2	MW-307	Total/NA	Water	7470A	
MB 310-451394/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-451394/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 451395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-12	Field Blank	Total/NA	Water	7470A	
MB 310-451395/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-451395/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-303608-12 MS	Field Blank	Total/NA	Water	7470A	
310-303608-12 MSD	Field Blank	Total/NA	Water	7470A	

Analysis Batch: 451461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	6020B	450996
310-303608-2	MW-307	Total/NA	Water	6020B	450996
310-303608-4	MW-302	Total/NA	Water	6020B	450996
310-303608-5	MW-302A	Total/NA	Water	6020B	450996
310-303608-6	MW-304	Total/NA	Water	6020B	450996
310-303608-7	MW-304A	Total/NA	Water	6020B	450996
310-303608-8	MW-305	Total/NA	Water	6020B	450996
310-303608-9	MW-306	Total/NA	Water	6020B	450996

Metals (Continued)

Analysis Batch: 451461 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-11	MW-307A	Total/NA	Water	6020B	450996
310-303608-12	Field Blank	Total/NA	Water	6020B	450996
MB 310-450996/1-A	Method Blank	Total/NA	Water	6020B	450996
LCS 310-450996/2-A	Lab Control Sample	Total/NA	Water	6020B	450996
310-303608-1 MS	MW-301	Total/NA	Water	6020B	450996
310-303608-1 MSD	MW-301	Total/NA	Water	6020B	450996
310-303608-11 DU	MW-307A	Total/NA	Water	6020B	450996

Analysis Batch: 451657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	7470A	451394
310-303608-2	MW-307	Total/NA	Water	7470A	451394
310-303608-12	Field Blank	Total/NA	Water	7470A	451395
MB 310-451394/1-A	Method Blank	Total/NA	Water	7470A	451394
MB 310-451395/1-A	Method Blank	Total/NA	Water	7470A	451395
LCS 310-451394/2-A	Lab Control Sample	Total/NA	Water	7470A	451394
LCS 310-451395/2-A	Lab Control Sample	Total/NA	Water	7470A	451395
310-303608-12 MS	Field Blank	Total/NA	Water	7470A	451395
310-303608-12 MSD	Field Blank	Total/NA	Water	7470A	451395

General Chemistry

Analysis Batch: 450902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-303608-2	MW-307	Total/NA	Water	SM 4500 H+ B	
310-303608-12	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-450902/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-303608-1 DU	MW-301	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 451008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-2	MW-307	Total/NA	Water	SM 2540C	
MB 310-451008/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-451008/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 451017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	SM 2540C	
310-303608-12	Field Blank	Total/NA	Water	SM 2540C	
MB 310-451017/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-451017/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 711789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	PrecSep-21	
310-303608-2	MW-307	Total/NA	Water	PrecSep-21	
310-303608-12	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-711789/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-711789/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

QC Association Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Rad

Prep Batch: 711790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	PrecSep_0	
310-303608-2	MW-307	Total/NA	Water	PrecSep_0	
310-303608-12	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-711790/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-711790/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 451468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-303608-1	MW-301	Total/NA	Water	Field Sampling	
310-303608-2	MW-307	Total/NA	Water	Field Sampling	
310-303608-4	MW-302	Total/NA	Water	Field Sampling	
310-303608-5	MW-302A	Total/NA	Water	Field Sampling	
310-303608-6	MW-304	Total/NA	Water	Field Sampling	
310-303608-7	MW-304A	Total/NA	Water	Field Sampling	
310-303608-8	MW-305	Total/NA	Water	Field Sampling	
310-303608-9	MW-306	Total/NA	Water	Field Sampling	
310-303608-11	MW-307A	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-301
Lab Sample ID: 310-303608-1
Date Collected: 04/01/25 16:25
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	451765	WZC8	EET CF	04/15/25 20:42
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 16:39
Total/NA	Prep	7470A			451394	F5MW	EET CF	04/14/25 13:13
Total/NA	Analysis	7470A		1	451657	F5MW	EET CF	04/15/25 11:24
Total/NA	Analysis	SM 2540C		1	451017	XJ7V	EET CF	04/08/25 16:50
Total/NA	Analysis	SM 4500 H+ B		1	450902	ZJX4	EET CF	04/07/25 20:49
Total/NA	Prep	PrecSep-21			711789	OGC	EET SL	04/10/25 07:39
Total/NA	Analysis	903.0		1	716365	SWS	EET SL	05/07/25 13:25
Total/NA	Prep	PrecSep_0			711790	OGC	EET SL	04/10/25 07:43
Total/NA	Analysis	904.0		1	716365	SWS	EET SL	05/07/25 09:42
Total/NA	Analysis	Ra226_Ra228 Pos		1	715742	SCB	EET SL	05/07/25 12:30
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/01/25 16:25

Client Sample ID: MW-307
Lab Sample ID: 310-303608-2
Date Collected: 04/02/25 11:00
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	451765	WZC8	EET CF	04/15/25 20:57
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 16:49
Total/NA	Prep	7470A			451394	F5MW	EET CF	04/14/25 13:13
Total/NA	Analysis	7470A		1	451657	F5MW	EET CF	04/15/25 11:26
Total/NA	Analysis	SM 2540C		1	451008	XJ7V	EET CF	04/08/25 15:30
Total/NA	Analysis	SM 4500 H+ B		1	450902	ZJX4	EET CF	04/07/25 20:58
Total/NA	Prep	PrecSep-21			711789	OGC	EET SL	04/10/25 07:39
Total/NA	Analysis	903.0		1	716362	SWS	EET SL	05/07/25 13:23
Total/NA	Prep	PrecSep_0			711790	OGC	EET SL	04/10/25 07:43
Total/NA	Analysis	904.0		1	716365	SWS	EET SL	05/07/25 09:42
Total/NA	Analysis	Ra226_Ra228 Pos		1	715742	SCB	EET SL	05/07/25 12:30
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/02/25 11:00

Client Sample ID: MW-302
Lab Sample ID: 310-303608-4
Date Collected: 04/02/25 09:32
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 16:54
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/02/25 09:32

Lab Chronicle

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-302A
Lab Sample ID: 310-303608-5
Date Collected: 04/02/25 10:01
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 16:56
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/02/25 10:01

Client Sample ID: MW-304
Lab Sample ID: 310-303608-6
Date Collected: 04/01/25 13:46
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 16:59
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/01/25 13:46

Client Sample ID: MW-304A
Lab Sample ID: 310-303608-7
Date Collected: 04/01/25 14:41
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 17:01
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/01/25 14:41

Client Sample ID: MW-305
Lab Sample ID: 310-303608-8
Date Collected: 04/02/25 13:20
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 17:10
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/02/25 13:20

Client Sample ID: MW-306
Lab Sample ID: 310-303608-9
Date Collected: 04/02/25 14:20
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 17:13
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/02/25 14:20

Lab Chronicle

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Client Sample ID: MW-307A
Lab Sample ID: 310-303608-11
Date Collected: 04/01/25 17:15
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 17:18
Total/NA	Analysis	Field Sampling		1	451468	FQT6	EET CF	04/01/25 17:15

Client Sample ID: Field Blank
Lab Sample ID: 310-303608-12
Date Collected: 04/01/25 16:30
Matrix: Water
Date Received: 04/07/25 12:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	451765	WZC8	EET CF	04/15/25 21:13
Total/NA	Prep	3005A			450996	F5MW	EET CF	04/09/25 09:00
Total/NA	Analysis	6020B		1	451461	NFT2	EET CF	04/11/25 17:22
Total/NA	Prep	7470A			451395	F5MW	EET CF	04/14/25 13:13
Total/NA	Analysis	7470A		1	451657	F5MW	EET CF	04/15/25 11:32
Total/NA	Analysis	SM 2540C		1	451017	XJ7V	EET CF	04/08/25 16:50
Total/NA	Analysis	SM 4500 H+ B		1	450902	ZJX4	EET CF	04/07/25 21:06
Total/NA	Prep	PrecSep-21			711789	OGC	EET SL	04/10/25 07:39
Total/NA	Analysis	903.0		1	716364	SWS	EET SL	05/07/25 13:34
Total/NA	Prep	PrecSep_0			711790	OGC	EET SL	04/10/25 07:43
Total/NA	Analysis	904.0		1	716365	SWS	EET SL	05/07/25 09:42
Total/NA	Analysis	Ra226_Ra228 Pos		1	715742	SCB	EET SL	05/07/25 12:30

Laboratory References:

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

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

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Laboratory: Eurofins 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
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	06-30-25
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

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

Method Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
Pos Field Sampling	Field Sampling	EPA	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

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

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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310-303608 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Madison | STATE WI | Project:

Receipt Information

Date/Time Received: DATE 4/7/25 | TIME 1210 | Received By BP

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 1 of 3 (2 cbc)
Cooler Custody Seals Present? No	☒ Yes	☐ No	*If yes* Cooler custody seals intact? ☒ Yes ☐
Sample Custody Seals Present? No	☐ Yes	☒ No	*If yes* Sample custody seals intact? ☐ Yes ☐
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: P | Correction Factor (°C). 0

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

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

• **Sample Container Temperature**

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g , bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

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Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS Engineers

City/State: CITY Madison | STATE WI | Project:

Receipt Information

Date/Time Received: DATE 4/7/25 | TIME 1210 | Received By: BP

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID 9 | Correction Factor (°C): 0

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

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

• **Sample Container Temperature**

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

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

Chain of Custody Record

TestAme ca Des nes SC

eurofins |

Client Information	Sampler: Bri Salome	Lab PM: Fredrick, Sandie	Carrier Tracking No(s)	COC No: 310-105012-22478 1
Client Contact: Meghan Blodgett	Phone:	E-Mail: Sandra Fredrick@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
Company: SCS Engineers	PWSID:	Analysis Requested		Job #:
Address: 2830 Dairy Drive	Due Date Requested:			Preservation Codes: D - HNO3, N - None
City: Madison	TAT Requested (days): Standard			
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25225070			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Lansing Generating Station 25225070 - CCR	Project #: 31011020			Other:
Site: Lansing, IA	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0 - Radium-226+228 (GFPC)	904.0 - Radium-228+226(GFPC)	6020B, 7470A	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	6020B - Metals (As, Fe)	903.0 - Radium-226 (GFPC)	904.0 - Radium-228 (GFPC)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	D	N	N	N	N		
MW-301	4/1/25	1625	G	Water	N		X	X	X	X					
MW-303	DRY	-		Water											NO SAMPLE
MW-307	4/2/25	1100	G	Water	N		X	X	X	X					
MW-6	4/1/25	1230	G	Water	N		X	X	X	X					
				Water	N										
MW-302	4/2/25	932	G	Water	N						X				
MW-302A	4/2/25	1001	G	Water	N						X				
MW-304	4/1/25	1346	G	Water	N						X				
MW-304A	4/1/25	1441	G	Water	N						X				
MW-305	4/2/25	1320	G	Water	N						X				
MW-306	4/2/25	1420	G	Water	N						X				

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

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

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

Special Instructions/QC Requirements.

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Bri Salome	4/3/25 1000	SCS	CGL	4.7.25 1210	Eurofins
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver 10/10/2024

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

Chain of Custody Record

Client Information	Sampler: Bri Salome	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-105012-22478 2
Client Contact: Meghan Blodgett	Phone:	E-Mail: Sandra Fredrick@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days): Standard			
State, Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25225070			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Lansing Generating Station 25225070 - CCR	Project #: 31011020			
Site: Lansing, IA	SSOW#:			

Analysis Requested

Preservation Codes: D - HNO3; N - None; Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0 - Radium-226+228 (GFPC)	904.0 - Radium-228+228(GFPC)	6020B, 7470A	2540C_Calcd, 9056A_ORGFM_28D, SM4500_H+	6020B - Metals (As, Fe)	903.0 - Radium-226 (GFPC)	904.0 - Radium-228 (GFPC)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	D	N	N	N	N		
MW-306A	4/2/25	1445	G	Water	N						X				
MW-307A	4/1/25	1715	G	Water	N						X				
Field Blank	4/1/25	1630	G	Water	N				X	X		X	X		

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

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

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

Special Instructions/QC Requirements.

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Bri Salome	4/3/25 1000	SCS	C Gee	4.7.25 1210	Eurofins
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver 10/10/2024

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Fredrick, Sandie	Carrier Tracking No(s): N/A	COC No: 310-81858.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Iowa		Job #: 310-303608-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 4/21/2025			Preservation Codes: -
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Lansing Generating Station 25225070 - CCR	Project #: 31011020			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226 (GFPC)	904.0/PrecSep_0 Radium-228 (GFPC)	Ra226_228GFPC_P/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-301 (310-303608-1)	4/1/25	16:25 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-307 (310-303608-2)	4/2/25	11:00 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-6 (310-303608-3)	4/1/25	12:30 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
Field Blank (310-303608-12)	4/1/25	16:30 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time: 4/25 1325	Company	Received by:	Date/Time: 0815 APR 09 2025	Company
Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-303608-1

Login Number: 303608
List Number: 1
Creator: Collins, Charlotte G

List Source: Eurofins Cedar Falls

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-303608-1

Login Number: 303608
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 04/09/25 10:56 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: SCS Engineers
Job ID: 310-303608-1
Project/Site: Lansing Generating Station 25225070 - CCR

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
310-303608-1	MW-301	90.7
310-303608-2	MW-307	85.6
310-303608-12	Field Blank	80.6
LCS 160-711789/2-A	Lab Control Sample	87.4
MB 160-711789/1-A	Method Blank	81.1

Tracer/Carrier Legend

Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
310-303608-1	MW-301	90.7	75.1
310-303608-2	MW-307	85.6	75.9
310-303608-12	Field Blank	80.6	74.0
LCS 160-711790/2-A	Lab Control Sample	87.4	77.0
MB 160-711790/1-A	Method Blank	81.1	75.9

Tracer/Carrier Legend

Ba = Barium
Y = Y Carrier

Groundwater Monitoring Results - Field Parameters
Lansing Generating Station / SCS Engineers Project #25225070.00
April 2025

Sample	Sample Date/Time	Groundwater Elevation (ft AMSL)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)
MW-301	4/1/25 16:25	622.21	9.2	7.59	0.39	614	75	0.00
MW-302	4/2/25 9:32	627.32	6.7	6.91	0.44	1063	-177	0.00
MW-302A	4/2/25 10:01	622.68	11.1	7.14	5.92	591	51	0.00
MW-304	4/1/25 13:46	620.80	9.3	7.22	7.10	530	180	0.00
MW-304A	4/1/25 14:41	623.18	10.4	7.85	0.09	516	98	29.71
MW-305	4/2/25 13:20	626.92	5.9	7.11	3.29	547	-68	4.66
MW-306	4/2/25 14:20	619.95	11.4	6.96	0.19	1806	-97	2.13
MW-307	4/1/25 11:00	629.31	8.4	8.23	0.17	452	-179	0.71
MW-307A	4/1/25 17:15	624.57	10.6	7.56	0.14	549	-26	2.25

Abbreviations:
ft amsl = feet above mean sea level
µmhos/cm = micromhos per centimeter
mg/L = milligrams per liter
mV = millivolts
ORP = Oxidation Reduction (REDOX)
NTU = Nephelometric Turbidity Units

Created by: EMS Date: 4/13/2023
Last revision by: BAS Date: 4/8/2025
Checked by: RM Date: 4/11/2025

C:\Users\hld0\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\PRLI83CC\[April 2025_Lansing_CCR_Field.xlsx]Data

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ANALYTICAL REPORT

PREPARED FOR

Attn: Meghan Blodgett
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Generated 5/20/2025 4:02:59 PM Revision 1

JOB DESCRIPTION

Lansing Generating Station 25225070

JOB NUMBER

310-304418-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Eurofins Cedar Falls

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Revision 1

Authorized for release by
Sandie Fredrick, Senior Project Manager
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

Table of Contents

Job ID: 310-304418-1 Eurofins Cedar Falls

Job Narrative
310-304418-1

Revision
The report being provided is a revision of the original report sent on 5/15/2025. The report (revision 1) is being revised due to: Field data corrections needed.

Receipt
The samples were received on 4/17/2025 9:05 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2º C.

HPLC/IC
Method 9056A: The following sample was diluted due to the nature of the sample matrix: MW-6 (310-304418-2). Elevated reporting limits (RLs) are provided.

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

RAD
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
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-304418-1	MW-306A	Water	04/16/25 13:15	04/17/25 09:05
310-304418-2	MW-6	Water	04/16/25 14:40	04/17/25 09:05
310-304418-3	Field Blank	Water	04/16/25 14:10	04/17/25 09:05

Detection Summary

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Client Sample ID: MW-306A — Lab Sample ID: 310-304418-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1200		100	50	ug/L	1		6020B	Total/NA
Groundwater Elevation	619.88				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-65.5				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.03				mg/L	1		Field Sampling	Total/NA
Field pH	7.21				SU	1		Field Sampling	Total/NA
Field Conductivity	647				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	13.2				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	4.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 310-304418-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.6		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	23		5.0	2.1	mg/L	5		9056A	Total/NA
Barium	47		2.0	0.66	ug/L	1		6020B	Total/NA
Calcium	75		0.50	0.19	mg/L	1		6020B	Total/NA
Total Dissolved Solids	330		50	36	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	664.43				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	86.5				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.06				mg/L	1		Field Sampling	Total/NA
Field pH	7.19				SU	1		Field Sampling	Total/NA
Field Conductivity	58.8				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	10.0				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	4.88				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-304418-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.24	J	0.50	0.19	mg/L	1		6020B	Total/NA
pH	7.3	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Client Sample ID: MW-306A
Lab Sample ID: 310-304418-1
Date Collected: 04/16/25 13:15
Matrix: Water
Date Received: 04/17/25 09:05

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.53		2.0	0.53	ug/L		04/18/25 12:37	04/22/25 14:35	1
Iron	**1200**		100	50	ug/L		04/18/25 12:37	04/22/25 14:35	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	**619.88**				ft			04/16/25 13:15	1
Oxidation Reduction Potential	**-65.5**				mV			04/16/25 13:15	1
Oxygen, Dissolved	**0.03**				mg/L			04/16/25 13:15	1
Field pH	**7.21**				SU			04/16/25 13:15	1
Field Conductivity	**647**				umhos/cm			04/16/25 13:15	1
Field Temperature	**13.2**				Degrees C			04/16/25 13:15	1
Field Turbidity	**4.00**				NTU			04/16/25 13:15	1

Client: SCS Engineers
Project/Site: Lansing Generating Station 25225070

Job ID: 310-304418-1

Client Sample ID: MW-6
Date Collected: 04/16/25 14:40
Date Received: 04/17/25 09:05

Lab Sample ID: 310-304418-2
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.6**		5.0	2.3	mg/L			04/22/25 14:52	5
Fluoride	<0.38		1.0	0.38	mg/L			04/22/25 14:52	5
Sulfate	**23**		5.0	2.1	mg/L			04/22/25 14:52	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/18/25 12:37	04/22/25 14:06	1
Arsenic	<0.53		2.0	0.53	ug/L		04/18/25 12:37	04/22/25 14:06	1
Barium	**47**		2.0	0.66	ug/L		04/18/25 12:37	04/22/25 14:06	1
Beryllium	<0.33		1.0	0.33	ug/L		04/18/25 12:37	04/22/25 14:06	1
Boron	<82		100	82	ug/L		04/18/25 12:37	04/22/25 14:06	1
Cadmium	<0.10		0.20	0.10	ug/L		04/18/25 12:37	04/22/25 14:06	1
Calcium	**75**		0.50	0.19	mg/L		04/18/25 12:37	04/22/25 14:06	1
Chromium	<1.8		5.0	1.8	ug/L		04/18/25 12:37	04/22/25 14:06	1
Cobalt	<0.17		0.50	0.17	ug/L		04/18/25 12:37	04/22/25 14:06	1
Iron	<50		100	50	ug/L		04/18/25 12:37	04/22/25 14:06	1
Lead	<0.33		0.50	0.33	ug/L		04/18/25 12:37	04/22/25 14:06	1
Lithium	<2.9		10	2.9	ug/L		04/18/25 12:37	04/22/25 14:06	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/18/25 12:37	04/22/25 14:06	1
Selenium	<1.4		5.0	1.4	ug/L		04/18/25 12:37	04/22/25 14:06	1
Thallium	<0.57		1.0	0.57	ug/L		04/18/25 12:37	04/22/25 14:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/24/25 12:56	04/25/25 10:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**330**		50	36	mg/L			04/21/25 19:14	1
pH (SM 4500 H+ B)	**7.4**	**HF**	1.0	1.0	SU			04/17/25 12:28	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.103	U	0.140	0.140	1.00	0.234	pCi/L	04/21/25 07:39	05/14/25 18:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*88.0*		*30 - 110*	*04/21/25 07:39*	*05/14/25 18:11*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.288	U	0.353	0.354	1.00	0.584	pCi/L	04/21/25 07:42	05/14/25 11:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*88.0*		*30 - 110*	*04/21/25 07:42*	*05/14/25 11:41*	*1*
Y Carrier	*79.3*		*30 - 110*	*04/21/25 07:42*	*05/14/25 11:41*	*1*

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Client Sample ID: MW-6
Lab Sample ID: 310-304418-2
Date Collected: 04/16/25 14:40
Matrix: Water
Date Received: 04/17/25 09:05

Method: TAL-STL 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	0.392	U	0.380	0.381	5.00	0.584	pCi/L		05/15/25 13:13	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	664.43				ft			04/16/25 14:40	1
Oxidation Reduction Potential	86.5				mV			04/16/25 14:40	1
Oxygen, Dissolved	0.06				mg/L			04/16/25 14:40	1
Field pH	7.19				SU			04/16/25 14:40	1
Field Conductivity	58.8				umhos/cm			04/16/25 14:40	1
Field Temperature	10.0				Degrees C			04/16/25 14:40	1
Field Turbidity	4.88				NTU			04/16/25 14:40	1

Client Sample ID: Field Blank
Lab Sample ID: 310-304418-3

Date Collected: 04/16/25 14:10
Matrix: Water
Date Received: 04/17/25 09:05

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			04/22/25 15:05	1
Fluoride	<0.075		0.20	0.075	mg/L			04/22/25 15:05	1
Sulfate	<0.42		1.0	0.42	mg/L			04/22/25 15:05	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/18/25 12:37	04/22/25 14:32	1
Arsenic	<0.53		2.0	0.53	ug/L		04/18/25 12:37	04/22/25 14:32	1
Barium	<0.66		2.0	0.66	ug/L		04/18/25 12:37	04/22/25 14:32	1
Beryllium	<0.33		1.0	0.33	ug/L		04/18/25 12:37	04/22/25 14:32	1
Boron	<82		100	82	ug/L		04/18/25 12:37	04/22/25 14:32	1
Cadmium	<0.10		0.20	0.10	ug/L		04/18/25 12:37	04/22/25 14:32	1
Calcium	**0.24**	**J**	0.50	0.19	mg/L		04/18/25 12:37	04/22/25 14:32	1
Chromium	<1.8		5.0	1.8	ug/L		04/18/25 12:37	04/22/25 14:32	1
Cobalt	<0.17		0.50	0.17	ug/L		04/18/25 12:37	04/22/25 14:32	1
Lead	<0.33		0.50	0.33	ug/L		04/18/25 12:37	04/22/25 14:32	1
Lithium	<2.9		10	2.9	ug/L		04/18/25 12:37	04/22/25 14:32	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/18/25 12:37	04/22/25 14:32	1
Selenium	<1.4		5.0	1.4	ug/L		04/18/25 12:37	04/22/25 14:32	1
Thallium	<0.57		1.0	0.57	ug/L		04/18/25 12:37	04/22/25 14:32	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/24/25 12:56	04/25/25 10:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<36		50	36	mg/L			04/22/25 14:38	1
pH (SM 4500 H+ B)	**7.3**	**HF**	1.0	1.0	SU			04/17/25 12:27	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.168	U	0.215	0.216	1.00	0.358	pCi/L	04/21/25 07:39	05/14/25 18:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*76.2*		*30 - 110*	*04/21/25 07:39*	*05/14/25 18:11*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	-0.202	U	0.313	0.313	1.00	0.649	pCi/L	04/21/25 07:42	05/14/25 11:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*76.2*		*30 - 110*	*04/21/25 07:42*	*05/14/25 11:41*	*1*
Y Carrier	*80.4*		*30 - 110*	*04/21/25 07:42*	*05/14/25 11:41*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Client Sample ID: Field Blank
Lab Sample ID: 310-304418-3
Date Collected: 04/16/25 14:10
Matrix: Water
Date Received: 04/17/25 09:05

Method: TAL-STL 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	0.168	U	0.380	0.380	5.00	0.649	pCi/L		05/15/25 13:13	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

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	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

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

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-452649/3
Matrix: Water
Analysis Batch: 452649

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			04/22/25 14:00	1
Fluoride	<0.075		0.20	0.075	mg/L			04/22/25 14:00	1
Sulfate	<0.42		1.0	0.42	mg/L			04/22/25 14:00	1

Lab Sample ID: LCS 310-452649/4
Matrix: Water
Analysis Batch: 452649

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	10.2		mg/L		102	90 - 110
Fluoride	2.00	2.05		mg/L		103	90 - 110
Sulfate	10.0	10.4		mg/L		104	90 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-452056/1-A
Matrix: Water
Analysis Batch: 452401

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 452056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/18/25 12:37	04/22/25 13:38	1
Arsenic	<0.53		2.0	0.53	ug/L		04/18/25 12:37	04/22/25 13:38	1
Barium	<0.66		2.0	0.66	ug/L		04/18/25 12:37	04/22/25 13:38	1
Beryllium	<0.33		1.0	0.33	ug/L		04/18/25 12:37	04/22/25 13:38	1
Boron	<82		100	82	ug/L		04/18/25 12:37	04/22/25 13:38	1
Cadmium	<0.10		0.20	0.10	ug/L		04/18/25 12:37	04/22/25 13:38	1
Chromium	<1.8		5.0	1.8	ug/L		04/18/25 12:37	04/22/25 13:38	1
Cobalt	<0.17		0.50	0.17	ug/L		04/18/25 12:37	04/22/25 13:38	1
Iron	<50		100	50	ug/L		04/18/25 12:37	04/22/25 13:38	1
Lead	<0.33		0.50	0.33	ug/L		04/18/25 12:37	04/22/25 13:38	1
Lithium	<2.9		10	2.9	ug/L		04/18/25 12:37	04/22/25 13:38	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/18/25 12:37	04/22/25 13:38	1
Selenium	<1.4		5.0	1.4	ug/L		04/18/25 12:37	04/22/25 13:38	1
Thallium	<0.57		1.0	0.57	ug/L		04/18/25 12:37	04/22/25 13:38	1

Lab Sample ID: MB 310-452056/1-A
Matrix: Water
Analysis Batch: 452481

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 452056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.19		0.50	0.19	mg/L		04/18/25 12:37	04/23/25 12:35	1

Lab Sample ID: LCS 310-452056/2-A
Matrix: Water
Analysis Batch: 452401

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 452056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	200	175		ug/L		88	80 - 120
Arsenic	200	174		ug/L		87	80 - 120
Barium	100	88.8		ug/L		89	80 - 120

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

Lab Sample ID: LCS 310-452056/2-A
Matrix: Water
Analysis Batch: 452401

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 452056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	100	82.8		ug/L		83	80 - 120
Boron	200	178		ug/L		89	80 - 120
Cadmium	100	85.4		ug/L		85	80 - 120
Chromium	100	85.8		ug/L		86	80 - 120
Cobalt	100	88.8		ug/L		89	80 - 120
Iron	200	178		ug/L		89	80 - 120
Lead	200	175		ug/L		88	80 - 120
Lithium	200	166		ug/L		83	80 - 120
Molybdenum	200	168		ug/L		84	80 - 120
Selenium	400	328		ug/L		82	80 - 120
Thallium	100	90.6		ug/L		91	80 - 120

Lab Sample ID: LCS 310-452056/2-A
Matrix: Water
Analysis Batch: 452481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 452056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	2.00	1.60		mg/L		80	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-452501/1-A
Matrix: Water
Analysis Batch: 452733

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 452501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		04/24/25 12:56	04/25/25 10:40	1

Lab Sample ID: LCS 310-452501/2-A
Matrix: Water
Analysis Batch: 452733

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 452501

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.72		ug/L		103	80 - 120

Lab Sample ID: 310-304418-2 MS
Matrix: Water
Analysis Batch: 452733

Client Sample ID: MW-6
Prep Type: Total/NA
Prep Batch: 452501

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.11		1.67	1.74		ug/L		104	80 - 120

Lab Sample ID: 310-304418-2 MSD
Matrix: Water
Analysis Batch: 452733

Client Sample ID: MW-6
Prep Type: Total/NA
Prep Batch: 452501

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.11		1.67	1.74		ug/L		104	80 - 120	0	20

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

Lab Sample ID: MB 310-452248/1
Matrix: Water
Analysis Batch: 452248

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	<36		50	36	mg/L			04/21/25 19:14	1

Lab Sample ID: LCS 310-452248/2
Matrix: Water
Analysis Batch: 452248

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	982		mg/L		98	88 - 110

Lab Sample ID: MB 310-452347/1
Matrix: Water
Analysis Batch: 452347

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	<36		50	36	mg/L			04/22/25 14:38	1

Lab Sample ID: LCS 310-452347/2
Matrix: Water
Analysis Batch: 452347

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	974		mg/L		97	88 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-451851/1
Matrix: Water
Analysis Batch: 451851

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-713488/1-A
Matrix: Water
Analysis Batch: 717539

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 713488

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.07705	U	0.126	0.126	1.00	0.308	pCi/L	04/21/25 07:39	05/14/25 18:09	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*94.1*		*30 - 110*	*04/21/25 07:39*	*05/14/25 18:09*	*1*

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

Lab Sample ID: LCS 160-713488/2-A
Matrix: Water
Analysis Batch: 717539

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 713488

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium 226			9.58	8.408		1.16	1.00	0.415	pCi/L	88	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*92.1*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-713490/1-A
Matrix: Water
Analysis Batch: 717539

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 713490

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.3085	U	0.309	0.310	1.00	0.497	pCi/L	04/21/25 07:42	05/14/25 11:40	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*94.1*		*30 - 110*	*04/21/25 07:42*	*05/14/25 11:40*	*1*
Y Carrier	*84.1*		*30 - 110*	*04/21/25 07:42*	*05/14/25 11:40*	*1*

Lab Sample ID: LCS 160-713490/2-A
Matrix: Water
Analysis Batch: 717539

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 713490

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium 228			9.45	9.951		1.38	1.00	0.666	pCi/L	105	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*92.1*		*30 - 110*
Y Carrier	*77.8*		*30 - 110*

QC Association Summary

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

HPLC/IC

Analysis Batch: 452649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-2	MW-6	Total/NA	Water	9056A	
310-304418-3	Field Blank	Total/NA	Water	9056A	
MB 310-452649/3	Method Blank	Total/NA	Water	9056A	
LCS 310-452649/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 452056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-1	MW-306A	Total/NA	Water	3005A	
310-304418-2	MW-6	Total/NA	Water	3005A	
310-304418-3	Field Blank	Total/NA	Water	3005A	
MB 310-452056/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-452056/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 452401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-1	MW-306A	Total/NA	Water	6020B	452056
310-304418-2	MW-6	Total/NA	Water	6020B	452056
310-304418-3	Field Blank	Total/NA	Water	6020B	452056
MB 310-452056/1-A	Method Blank	Total/NA	Water	6020B	452056
LCS 310-452056/2-A	Lab Control Sample	Total/NA	Water	6020B	452056

Analysis Batch: 452481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-452056/1-A	Method Blank	Total/NA	Water	6020B	452056
LCS 310-452056/2-A	Lab Control Sample	Total/NA	Water	6020B	452056

Prep Batch: 452501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-2	MW-6	Total/NA	Water	7470A	
310-304418-3	Field Blank	Total/NA	Water	7470A	
MB 310-452501/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-452501/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-304418-2 MS	MW-6	Total/NA	Water	7470A	
310-304418-2 MSD	MW-6	Total/NA	Water	7470A	

Analysis Batch: 452733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-2	MW-6	Total/NA	Water	7470A	452501
310-304418-3	Field Blank	Total/NA	Water	7470A	452501
MB 310-452501/1-A	Method Blank	Total/NA	Water	7470A	452501
LCS 310-452501/2-A	Lab Control Sample	Total/NA	Water	7470A	452501
310-304418-2 MS	MW-6	Total/NA	Water	7470A	452501
310-304418-2 MSD	MW-6	Total/NA	Water	7470A	452501

General Chemistry

Analysis Batch: 451851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-2	MW-6	Total/NA	Water	SM 4500 H+ B	
310-304418-3	Field Blank	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station 25225070

Job ID: 310-304418-1

General Chemistry (Continued)

Analysis Batch: 451851 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-451851/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 452248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-2	MW-6	Total/NA	Water	SM 2540C	
MB 310-452248/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-452248/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 452347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-3	Field Blank	Total/NA	Water	SM 2540C	
MB 310-452347/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-452347/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 713488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-2	MW-6	Total/NA	Water	PrecSep-21	
310-304418-3	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-713488/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-713488/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 713490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-2	MW-6	Total/NA	Water	PrecSep_0	
310-304418-3	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-713490/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-713490/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 452990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-304418-1	MW-306A	Total/NA	Water	Field Sampling	
310-304418-2	MW-6	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Client Sample ID: MW-306A
Lab Sample ID: 310-304418-1
Date Collected: 04/16/25 13:15
Matrix: Water
Date Received: 04/17/25 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			452056	QTZ5	EET CF	04/18/25 12:37
Total/NA	Analysis	6020B		1	452401	NFT2	EET CF	04/22/25 14:35
Total/NA	Analysis	Field Sampling		1	452990	FQT6	EET CF	04/16/25 13:15

Client Sample ID: MW-6
Lab Sample ID: 310-304418-2
Date Collected: 04/16/25 14:40
Matrix: Water
Date Received: 04/17/25 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	452649	WZC8	EET CF	04/22/25 14:52
Total/NA	Prep	3005A			452056	QTZ5	EET CF	04/18/25 12:37
Total/NA	Analysis	6020B		1	452401	NFT2	EET CF	04/22/25 14:06
Total/NA	Prep	7470A			452501	F5MW	EET CF	04/24/25 12:56
Total/NA	Analysis	7470A		1	452733	QTZ5	EET CF	04/25/25 10:44
Total/NA	Analysis	SM 2540C		1	452248	MDU9	EET CF	04/21/25 19:14
Total/NA	Analysis	SM 4500 H+ B		1	451851	W9YR	EET CF	04/17/25 12:28
Total/NA	Prep	PrecSep-21			713488	OGC	EET SL	04/21/25 07:39
Total/NA	Analysis	903.0		1	717539	SWS	EET SL	05/14/25 18:11
Total/NA	Prep	PrecSep_0			713490	OGC	EET SL	04/21/25 07:42
Total/NA	Analysis	904.0		1	717539	SWS	EET SL	05/14/25 11:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	717161	FLC	EET SL	05/15/25 13:13
Total/NA	Analysis	Field Sampling		1	452990	FQT6	EET CF	04/16/25 14:40

Client Sample ID: Field Blank
Lab Sample ID: 310-304418-3
Date Collected: 04/16/25 14:10
Matrix: Water
Date Received: 04/17/25 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	452649	WZC8	EET CF	04/22/25 15:05
Total/NA	Prep	3005A			452056	QTZ5	EET CF	04/18/25 12:37
Total/NA	Analysis	6020B		1	452401	NFT2	EET CF	04/22/25 14:32
Total/NA	Prep	7470A			452501	F5MW	EET CF	04/24/25 12:56
Total/NA	Analysis	7470A		1	452733	QTZ5	EET CF	04/25/25 10:51
Total/NA	Analysis	SM 2540C		1	452347	XJ7V	EET CF	04/22/25 14:38
Total/NA	Analysis	SM 4500 H+ B		1	451851	W9YR	EET CF	04/17/25 12:27
Total/NA	Prep	PrecSep-21			713488	OGC	EET SL	04/21/25 07:39
Total/NA	Analysis	903.0		1	717539	SWS	EET SL	05/14/25 18:11
Total/NA	Prep	PrecSep_0			713490	OGC	EET SL	04/21/25 07:42
Total/NA	Analysis	904.0		1	717539	SWS	EET SL	05/14/25 11:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	717161	FLC	EET SL	05/15/25 13:13

Laboratory References:
EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-25

Laboratory: Eurofins 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	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	06-30-25
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

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

Method Summary

Client: SCS Engineers
Project/Site: Lansing Generating Station 25225070

Job ID: 310-304418-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
Pos Field Sampling	Field Sampling	EPA	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

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

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client.	SCS Engineers		
City/State:	CITY	STATE	Project:
Receipt Information			
Date/Time Received.	DATE 4.17.25	TIME 0905	Received By: CGC

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

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

Temperature Record

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

Thermometer ID: 1A	Correction Factor (°C): 0

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

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

• Sample Container Temperature

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e g , bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

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

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Colin Gloede	Lab PM: Sandie Fredrick	Carrier Tracking No(s):	COC No:
Client Contact: Meghan Blodgett	Phone: 608 419 5420	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:

Address: 2830 Dairy Drive	Due Date Requested:	
City: Madison	TAT Requested (days):	
State, Zip: WI, 53718	Compliance Project: Δ Yes Δ No	
Phone: 608-224-2830	PO #: 25225070	
Email: mblodgett@scsengineers.com	WO #:	
Project Name: Lansing Generating Station 25225070	Project #: 25225070	
Site: Lansing IA	SSOW#:	

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 Metals, total (Sb As Ba Be B Ca Cd Cr Co Fe Pb Li Mo Se Tl)	6020 Metals (As, Fe, Mo only)	7470 Mercury total	TDS and pH	Chloride Fluoride Sulfate	EPA 903/904 Radium 226 + 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	D	I	I	D		
MW-306A	4/16/25	1315	G	W	N			X						
MW-6	4/16/25	1440	G	W	N		X		X	X	X	X		
Field Blank	4/16/25	1410	G	W	N		X		X	X	X	X		

Preservation Codes:

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

Other:

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

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

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

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Colin Gloede	4/16/25 1900	SCS	CGC	4-17-25 0905	Eurofins
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

Table 2 Sampling Points and Parameters CCR Rule Sampling Program - Lansing Generating Station / SCS Engineers Project #25224070.00

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-302A	MW-304A	MW-306A	MW-307	MW-307A	MW-308	MW-309	MW-6	Field Blank	TOTAL
CCR Rule Parameters	Appendix III Parameters, Total (Unfiltered)	Boron														X	X	
		Calcium														X	X	
		Chloride														X	X	
		Fluoride														X	X	
		pH														X	X	
		Sulfate														X	X	
		TDS														X	X	
	Appendix IV Parameters, Total (Unfiltered)	Antimony														X	X	
		Arsenic									X					X	X	
		Barium														X	X	
		Beryllium														X	X	
		Cadmium														X	X	
		Chromium														X	X	
		Cobalt														X	X	
		Fluoride														X	X	
		Lead														X	X	
		Lithium														X	X	
		Mercury														X	X	
		Molybdenum														X	X	
		Selenium														X	X	
		Thallium														X	X	
		Radium														X	X	
	Field Parameters	Groundwater Elevation									X					X		
		Well Depth																
		pH (field)									X					X		
		Specific Conductance									X					X		
		Dissolved Oxygen									X					X		
		ORP									X					X		
		Temperature									X					X		
		Turbidity									X					X		
		Color									X					X		
		Odor									X					X		
Additional Parameters	Total (Unfiltered)	Alkalinity - Carbonate																
		Alkalinity - Bicarbonate																
		Iron									X					X		
		Magnesium																
		Manganese																
		Potassium																
		Sodium																
	Dissolved (Filtered)	Arsenic																
		Iron																
		Manganese																
		Molybdenum																
	Field Parameters	Sulfide Field																
		Total Iron Field																
		Ferrous Iron Field																

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Fredrick, Sandie	Carrier Tracking No(s): N/A	COC No: 310-82158.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Iowa		Job #: 310-304418-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 4/30/2025			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Lansing Generating Station 25225070	Project #: 31011020			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226 (GFPC)	904.0/PrecSep_0 Radium-228 (GFPC)	Ra226_228GFPC_P/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-6 (310-304418-2)	4/16/25	14:40 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
Field Blank (310-304418-3)	4/16/25	14:10 Central	G	Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	4/17/25 1440		M. Pinetta	APR 18 2025 0835	
Relinquished by:	Date/Time:	Company	Received by: Meadow Pinette	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-304418-1

Login Number: 304418
List Number: 1
Creator: Hirsch, Preston

List Source: Eurofins Cedar Falls

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-304418-1

Login Number: 304418
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 04/18/25 11:28 AM

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

Tracer/Carrier Summary

Client: SCS Engineers
Job ID: 310-304418-1
Project/Site: Lansing Generating Station 25225070

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(30-110)
310-304418-2	MW-6	88.0
310-304418-3	Field Blank	76.2
LCS 160-713488/2-A	Lab Control Sample	92.1
MB 160-713488/1-A	Method Blank	94.1

Tracer/Carrier Legend

Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(30-110)	(30-110)
310-304418-2	MW-6	88.0	79.3
310-304418-3	Field Blank	76.2	80.4
LCS 160-713490/2-A	Lab Control Sample	92.1	77.8
MB 160-713490/1-A	Method Blank	94.1	84.1

Tracer/Carrier Legend

Ba = Barium
Y = Y Carrier

Groundwater Monitoring Results - Field Parameters
Lansing Generating Station / SCS Engineers Project #25225070.00
April 2025

Sample	Sample Date/Time	Groundwater Elevation (ft AMSL)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity (NTU)
MW-6	4/16/2025 1440	664.43	10.0	7.19	0.06	58.8	86.5	4.88
MW-306A	4/16/2025 1315	619.88	13.2	7.21	0.03	647	-65.5	4.00

Abbreviations:
ft amsl = feet above mean sea level
µmhos/cm = micromhos per centimeter
mg/L = milligrams per liter
mV = millivolts
ORP = Oxidation Reduction (REDOX)
NTU = Nephelometric Turbidity Units

Created by: EMS Date: 4/13/2023
Last revision by: RM Date: 4/24/2025
Checked by: BLJ Date: 4/24/2025

C:\Users\FQT6\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\600TOIAS\[April 2025_Lansing_CCR_Field_310-304418-1.xlsx]Data

Appendix D

Historical Monitoring Results

Single Location
Name: IPL - Lansing

Location ID: MW-6

Number of Sampling Dates: 27

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/27/2016	1/18/2017	4/19/2017	6/19/2017	8/15/2017	10/16/2017	4/16/2018	4/26/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/20/2020	8/19/2020	10/20/2020	4/7/2021	10/26/2021
Boron	ug/L	25.7	<50	<50	<50	<50	31.9	42.1	40	41.2	--	29.8	42.9	40.2	<110	<110	<73	--	<80	<58	64
Calcium	mg/L	64	72.6	68.9	68.6	68.6	67.8	64.6	68.2	66.9	--	72.7	66.5	69.6	67	70	72	--	69	71	72
Chloride	mg/L	7.5	7.6	8.1	6.8	6.5	6.3	6.2	6.5	6.5	--	6.5	7.3	6.6	6.7	6.9	7.7	6.8	5.6	7	6.8
Fluoride	mg/L	0.094	0.15	0.082	0.12	0.092	<0.1	0.1	0.12	0.14	--	0.084	0.12	<0.19	0.63	<0.23	<0.23	--	<0.23	0.34	<0.28
Field pH	Std. Units	7.44	7.64	7.25	7.56	7.62	7.48	7.4	7.48	7.03	--	7.34	7.18	7.06	7.59	7.46	7.34	7.98	7.42	7.39	7.7
Sulfate	mg/L	23	22.2	22.5	25.2	24.8	25.5	27.4	26.9	25.8	--	26.4	24.8	25.5	26	24	27	25	25	23	25
Total Dissolved Solids	mg/L	382	328	352	337	324	350	337	333	318	--	343	351	319	340	280	580	--	300	290	240
Antimony	ug/L	0.18	<0.058	<0.058	<0.058	<0.058	<0.026	0.027	0.037	--	--	<0.026	<0.15	<0.078	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	<4.5	0.28	0.26	0.19	0.23	0.28	0.18	0.28	--	--	0.23	0.26	0.24	<0.75	<0.75	<0.88	--	<0.88	<0.75	<0.75
Barium	ug/L	45.5	45.6	43.8	44.6	46.5	45.4	41.9	44	--	--	44.1	43.1	43	43	46	46	--	45	49	47
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	<0.08	<0.012	<0.012	<0.012	--	--	<0.012	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	<0.029	<0.018	<0.018	<0.018	--	--	<0.018	--	<0.033	<0.077	--	<0.039	--	<0.049	<0.051	<0.051
Chromium	ug/L	<0.96	0.82	0.81	0.81	1.1	0.76	0.68	0.71	--	--	0.66	0.97	0.73	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	<0.1	<0.5	<0.5	<0.5	<0.5	0.034	0.021	<0.014	--	--	<0.014	<0.15	<0.062	<0.091	<0.091	<0.091	--	<0.091	<0.091	<0.19
Lead	ug/L	<1.9	<0.19	<0.19	<0.19	<0.19	0.13	<0.033	0.065	--	--	<0.033	<0.12	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21	<0.21
Lithium	ug/L	<2.5	<4.9	<4.9	<4.9	<4.9	<2.9	<2.9	3	--	--	<4.6	--	<4.6	<2.7	<2.7	<2.3	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	--	<0.09	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.5	0.25	0.24	0.31	0.21	0.25	0.26	0.31	--	--	0.26	0.28	<0.57	<1.1	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3
Selenium	ug/L	<5.8	0.57	0.46	0.54	0.36	0.5	0.36	0.52	--	--	0.47	0.5	0.46	<1	--	<1	--	<1	<0.96	<0.96
Thallium	ug/L	0.18	<0.5	<0.5	<0.5	<0.5	0.11	<0.036	0.29	--	--	<0.036	--	<0.099	<0.27	--	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	1.51	0.458	0.724	0.6	0.397	0.0972	1.06	0.826	--	1.35	--	0.974	1.37	--	0.495	--	--	0.644	0.359	0.779
Radium-226	pCi/L	0.599	0.232	0.0668	0.126	0	-0.07	0.457	0.633	--	0	--	0.547	0.705	--	0.237	--	--	0.0266	0.109	0.232
Radium-228	pCi/L	0.913	0.226	0.657	0.474	0.397	0.0972	0.606	0.193	--	1.35	--	0.427	0.668	--	0.259	--	--	0.618	0.249	0.547
Collected By		--	--	0	--	0	0	0	0	0	--	0	--	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	8	7.7	7.4	7.7	8.1	7.8	7.2	7.5	7.5	--	7.7	7.5	7.4	7.5	7.5	7.5	--	7.4	7.5	7.5
Field Oxidation Potential	mV	166.8	243.7	45.8	122	163	321	251	142	282	--	34.6	233	119	274	88.9	119.6	113.9	68.5	186.2	136.2
Field Specific Conductance	umhos/cm	606.4	596.2	582.4	590	589	589	580	588	591	--	569.1	609	587	618	590	597	597	575.5	599	601
Field Temperature	deg C	9.6	9.7	9.9	10	8	10.3	11.2	11.4	10.2	--	11.1	10.5	11.5	10	10	10	9.8	9.7	10	9.9
Groundwater Elevation	feet	662.28	662.08	663.21	670.82	666.28	669.82	670.65	670.61	669.58	--	667.96	668.13	664.71	672.78	675.54	674.47	674.64	673.37	671.08	668.14
Oxygen, Dissolved	mg/L	9.44	7.7	4.98	8.6	9.8	7.1	3.7	5.8	8.8	--	3.46	7.4	9.1	8.7	10.29	9.2	9.45	8.23	9.06	9.34
Turbidity	NTU	--	0.41	0.01	2.1	0	1.71	1.35	0	0	--	0.81	1.77	0.01	0.75	0.7	0.01	0	0	0	0
Collected Date		--	--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	300	310	380
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	49	<36
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.6	25	5.1	<4.4
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	74000	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05	<50	<36	<36
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	37000	36000	35000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.004	<4	<4.4	<4.4
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1100	1100	1100
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4500	4600	4500
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	300	310	380
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	<4.4	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	<0.75
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.7	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-6

Number of Sampling Dates: 27

Parameter Name	Units	4/6/2022	10/18/2022	4/11/2023	10/30/2023	4/1/2024	10/22/2024	4/16/2025
Boron	ug/L	<58	<58	<76	<76	<76	<76	<82
Calcium	mg/L	71	70	79	73	68	69	75
Chloride	mg/L	5.3	5.1	6.5	5.5	5.6	5.6	6.6
Fluoride	mg/L	<0.22	<0.22	<0.38	<0.38	<0.38	<0.38	<0.38
Field pH	Std. Units	7.32	7.4	7.15	7.38	7.12	7.25	7.19
Sulfate	mg/L	25	21	21	22	21	20	23
Total Dissolved Solids	mg/L	280	250	350	280	300	320	330
Antimony	ug/L	<0.69	<0.69	<1	<1	<1	<1	<1
Arsenic	ug/L	<0.75	<0.75	<0.53	<0.53	<0.53	<0.53	<0.53
Barium	ug/L	48	49	49	46	44	43	47
Beryllium	ug/L	<0.27	<0.27	<0.33	<0.33	<0.33	<0.33	<0.33
Cadmium	ug/L	<0.055	<0.055	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	ug/L	<1.1	<1.1	<1.1	<1.1	<1.1	<1.2	<1.8
Cobalt	ug/L	<0.19	<0.19	<0.17	<0.17	<0.17	<0.17	<0.17
Lead	ug/L	<0.24	<0.24	<0.24	<0.24	<0.24	<0.26	<0.33
Lithium	ug/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.9
Mercury	ug/L	<0.11	--	<0.14	<0.14	<0.14	<0.11	<0.11
Molybdenum	ug/L	<1.2	<1.2	<0.91	<0.91	<0.91	<1.3	<1.3
Selenium	ug/L	<0.96	<0.96	<1.4	<1.4	<1.4	<1.4	<1.4
Thallium	ug/L	<0.26	<0.26	<0.26	<0.26	<0.26	<0.57	<0.57
Total Radium	pCi/L	0.0823	1.29	0.0554	<0.643	0.457	0.956	0.392
Radium-226	pCi/L	0.0404	0.109	0.0554	<0.286	0.0274	0.13	0.103
Radium-228	pCi/L	0.0419	1.18	-0.0629	<0.643	0.43	0.826	0.288
Collected By		--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.6	7.6	7.6	7.5	7.5	7.6	7.4
Field Oxidation Potential	mV	197.7	47.3	141.4	-12.3	76.5	91.3	86.5
Field Specific Conductance	umhos/cm	599	552.6	595.6	565.2	528.2	594	58.8
Field Temperature	deg C	8.9	9.7	9.9	9.7	9.6	10.1	10
Groundwater Elevation	feet	667.14	665.34	664.79	663.59	663.16	664.87	664.43
Oxygen, Dissolved	mg/L	8.92	8.16	8.38	7.94	6.61	7.72	0.06
Turbidity	NTU	0	0.6	0.97	0	0	0.56	4.88
Collected Date		--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	330	300	--	--	--	--	--
Iron, dissolved	ug/L	<36	<36	<36	--	--	--	--
Manganese, dissolved	ug/L	14	<3.6	--	--	--	--	--
Calcium, total	ug/L	--	--	--	--	--	--	--
Iron, total	ug/L	<36	<36	--	<36	<36	<36	<50
Magnesium, total	ug/L	35000	32000	--	--	--	--	--
Manganese, total	ug/L	<3.6	<3.6	--	--	--	--	--
Potassium, total	ug/L	1100	930	--	--	--	--	--
Sodium, total	ug/L	4500	4100	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	330	300	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-301

Number of Sampling Dates: 27

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/26/2016	1/17/2017	4/19/2017	6/19/2017	8/15/2017	10/16/2017	4/16/2018	6/4/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/19/2020	8/18/2020	10/19/2020	4/8/2021	10/26/2021
Boron	ug/L	739	436	417	554	471	405	333	365	436	198	--	279	357	250	360	150	--	260	160	260
Calcium	mg/L	41	39.1	45.1	55.5	56.4	61.7	59.5	66.4	65.9	64.5	--	65.1	72.5	73	68	56	--	57	58	68
Chloride	mg/L	25.5	18.5	18.2	15.8	16	18.3	18	16.2	17.3	20.2	--	17.7	15.9	17	14	17	15	15	18	17
Fluoride	mg/L	0.3	0.32	0.25	0.26	0.21	0.19	0.23	0.26	0.24	0.24	--	0.23	0.27	0.9	0.23	0.56	--	<0.23	0.38	<0.28
Field pH	Std. Units	7.96	8.23	7.86	8.1	8.37	8.5	8.25	8.19	7.66	8.39	8.1	8.08	8.16	8.47	8.11	7.85	8.33	8.06	8.04	8.11
Sulfate	mg/L	62.2	38.8	37.5	45.7	55.6	48.7	44.7	49.4	52.7	49.3	--	53.2	64.4	51	56	34	44	48	27	49
Total Dissolved Solids	mg/L	280	176	218	246	271	289	278	285	289	--	300	326	320	350	310	480	--	280	240	210
Antimony	ug/L	0.078	0.086	<0.058	<0.058	0.088	<0.026	0.08	0.079	--	0.071	--	0.16	0.085	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	<4.5	2.3	2.8	3.5	3.8	3.1	3	3.8	--	3.9	--	4.4	5.4	5.4	5.6	3.8	--	6	5	7.1
Barium	ug/L	146	139	182	220	227	182	175	196	--	163	--	156	155	160	180	140	--	150	140	160
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	<0.08	<0.012	<0.012	<0.012	--	<0.012	--	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	<0.029	0.021	<0.018	<0.018	--	<0.018	--	--	<0.033	<0.077	--	<0.039	--	<0.049	0.06	<0.051
Chromium	ug/L	<0.96	<0.34	<0.34	0.35	0.49	0.97	0.21	0.23	--	1.1	--	<0.19	0.09	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	0.13	<0.5	<0.5	<0.5	<0.5	0.098	0.074	0.07	--	0.086	--	0.16	0.11	0.11	0.11	0.11	--	0.11	0.11	0.23
Lead	ug/L	<1.9	<0.19	0.23	<0.19	0.23	0.36	0.041	<0.033	--	0.037	--	<0.12	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21	0.37
Lithium	ug/L	5	5.3	5	6.4	<4.9	<2.9	4.2	7.3	--	<4.6	--	--	9.1	8.7	8	7	--	7.9	7.1	6.7
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	0.31	--	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	2.5	5.5	5	8.1	9.3	6.9	5.5	6.8	--	4.4	--	5.6	10.3	11	10	8.1	5.8	7.5	6.8	6.2
Selenium	ug/L	<5.8	<0.18	<0.18	<0.18	<0.18	0.12	0.1	0.13	--	<0.086	--	0.22	0.18	<1	--	<1	--	<1	<0.96	<0.96
Thallium	ug/L	0.064	<0.5	<0.5	<0.5	<0.5	0.14	0.05	0.31	--	<0.036	--	--	<0.099	<0.27	--	<0.26	--	--	<0.26	<0.26
Total Radium	pCi/L	0.436	0.525	0.126	1.03	0.647	0.752	0.453	1.86	--	0.689	--	1.66	0.556	--	0.488	--	--	0.889	0.244	0.814
Radium-226	pCi/L	0.349	0.111	0.126	0.236	0.334	0.374	0.0591	1.03	--	0	--	0.692	0.115	--	0.372	--	--	0.339	0.0913	0.259
Radium-228	pCi/L	0.087	0.414	-0.0306	0.791	0.313	0.378	0.394	0.826	--	0.689	--	0.972	0.441	--	0.116	--	--	0.55	0.153	0.555
Collected By		--	--	0	--	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.8	8	7.8	7.8	7.8	7.8	7.7	8.1	7.9	8	--	8.1	8	7.9	8.1	8.1	--	8.1	8	8.1
Field Oxidation Potential	mV	-94.9	-134.2	-166.3	-156	-98	-181	-230	-178	-221	-40	-145.5	-149	-180	-171	-156.8	-77.6	-115.3	-97	-10.1	-159.7
Field Specific Conductance	umhos/cm	431.4	355.2	377.4	456	491	471	468	498	497	505	507	524	545	539	501.8	474	476	488.8	461	534
Field Temperature	deg C	13.6	8.9	13.3	15.4	12.3	10.6	12.2	14.7	17	9.5	12.2	14.6	17.4	11.3	15.6	11.3	15	14.7	11.5	16.1
Groundwater Elevation	feet	623.54	622.19	624.76	624.97	624.09	624.7	624.89	624.09	625.7	624.29	624.62	624.51	625.73	629.19	626.54	624.46	625.02	624.42	624.02	627
Oxygen, Dissolved	mg/L	1.08	0.34	0.16	0	1.6	0.3	0	0	0	1	0.89	0.2	0.3	0.2	0.13	0.75	0.16	0.42	0.27	0.1
Turbidity	NTU	--	1.9	2	6.79	4.27	3.04	0.2	4.87	0.05	8.31	2.72	5.5	9.19	9.33	1.36	1.39	1.65	0.75	0	0.81
Collected Date		--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--	--	--	1426	--	--	--	--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	160	220	260
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	110	320	430
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	810	530	650	530
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62000	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	500	740	640
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18000	19000	18000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	560	670	530
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3600	2600	3700
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11000	13000	13000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	160	220	260
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	<4.6	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.5	--	--	6.8
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-301

Number of Sampling Dates: 27

Parameter Name	Units	4/5/2022	10/17/2022	4/10/2023	10/31/2023	4/1/2024	10/22/2024	4/1/2025
Boron	ug/L	220	260	440	650	480	350	320
Calcium	mg/L	69	67	48	83	69	76	75
Chloride	mg/L	22	15	23	29	20	10	14
Fluoride	mg/L	<0.22	<0.22	<0.38	<0.38	<0.38	<0.38	<0.38
Field pH	Std. Units	8.3	8.1	8.05	7.71	7.84	7.45	7.59
Sulfate	mg/L	86	63	38	58	56	20	33
Total Dissolved Solids	mg/L	260	280	180	340	360	350	330
Antimony	ug/L	<0.69	<0.69	<1	<1	<1	<1	<1
Arsenic	ug/L	4.9	5	3.7	2.9	1.3	1.6	1.1
Barium	ug/L	130	160	73	160	120	140	150
Beryllium	ug/L	<0.27	<0.27	<0.33	<0.33	<0.33	<0.33	<0.33
Cadmium	ug/L	<0.055	<0.055	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	ug/L	<1.1	<1.1	<1.1	<1.1	<1.1	<1.2	<1.8
Cobalt	ug/L	<0.19	<0.19	<0.17	<0.17	<0.17	<0.17	<0.17
Lead	ug/L	<0.24	<0.24	<0.24	<0.24	<0.24	<0.26	<0.33
Lithium	ug/L	7.3	8.7	5.8	8.1	6.9	10	7.6
Mercury	ug/L	<0.11	--	<0.14	<0.14	<0.14	<0.11	<0.11
Molybdenum	ug/L	7.6	12	14	11	5.8	2.5	4.2
Selenium	ug/L	<0.96	<0.96	1.9	<1.4	<1.4	<1.4	<1.4
Thallium	ug/L	<0.26	<0.26	<0.26	<0.26	<0.26	<0.57	<0.57
Total Radium	pCi/L	0.103	0.83	0.521	0.324	0.168	<0.552	<0.492
Radium-226	pCi/L	0.103	0.296	0.043	0.288	-0.0193	<0.169	<0.355
Radium-228	pCi/L	-0.168	0.534	0.478	0.0367	0.168	<0.552	<0.492
Collected By		--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	8.2	8.2	8.2	7.8	7.8	7.7	8
Field Oxidation Potential	mV	200	-185.1	-149.6	-96	11.7	29.7	75
Field Specific Conductance	umhos/cm	554	526	352.2	639.4	586.8	598	614
Field Temperature	deg C	8.7	12.5	10.3	12.4	9.2	13.8	9.2
Groundwater Elevation	feet	630.67	630.79	623.4	622.2	622.11	622.16	622.21
Oxygen, Dissolved	mg/L	0.15	0.08	0.19	0.62	0.54	0.39	0.39
Turbidity	NTU	0	1.31	0	0.49	0	0	0
Collected Date		--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	200	230	--	--	--	--	--
Iron, dissolved	ug/L	280	410	250	--	--	--	--
Manganese, dissolved	ug/L	570	590	--	--	--	--	--
Calcium, total	ug/L	--	--	--	--	--	--	--
Iron, total	ug/L	620	620	--	250	160	59	100
Magnesium, total	ug/L	21000	18000	--	--	--	--	--
Manganese, total	ug/L	590	640	--	--	--	--	--
Potassium, total	ug/L	3000	3200	--	--	--	--	--
Sodium, total	ug/L	16000	14000	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	200	230	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-302

Number of Sampling Dates: 27

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/26/2016	1/17/2017	4/19/2017	6/19/2017	8/15/2017	10/16/2017	4/16/2018	6/4/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/20/2020	8/19/2020	10/19/2020	4/9/2021	10/27/2021
Boron	ug/L	564	468	579	673	576	527	558	645	708	489	--	648	694	690	690	480	--	640	460	630
Calcium	mg/L	95.1	96.5	97.8	110	116	112	110	118	116	120	--	116	122	130	130	120	--	110	120	120
Chloride	mg/L	17	14.9	15.1	15.5	15.7	12.9	14.4	15	13.9	13	--	13.9	13.5	13	12	14	12	11	11	14
Fluoride	mg/L	0.26	0.28	0.22	0.26	0.21	0.22	0.25	0.25	0.28	0.24	--	0.23	0.27	0.79	0.24	0.25	--	<0.23	0.31	1.3
Field pH	Std. Units	7.15	7.41	6.86	7.12	7.25	7.25	7.03	6.96	7.1	7.26	6.97	6.92	6.93	7.66	7.15	6.93	7.18	7.06	7.08	6.89
Sulfate	mg/L	9.8	0.72	0.29	0.32	<0.15	<0.5	<0.5	<0.5	<0.5	<0.24	--	<0.24	<0.24	<1.8	<1.8	<3.6	<3.6	<3.6	<2.5	<2.5
Total Dissolved Solids	mg/L	503	422	438	499	497	503	512	517	507	--	535	562	518	450	480	710	--	490	470	450
Antimony	ug/L	0.091	<0.058	<0.058	<0.058	0.14	<0.026	0.048	0.069	--	0.035	--	<0.15	<0.078	<0.53	--	<0.58	--	--	<1.1	<1.1
Arsenic	ug/L	33.9	30.4	41	50.2	45	31.7	36.7	47.3	--	30.8	--	47.6	50.4	37	53	33	--	48	33	51
Barium	ug/L	483	479	540	648	706	559	597	660	--	789	--	661	603	690	740	610	--	630	630	680
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	0.1	0.016	<0.012	0.012	--	<0.012	--	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	0.074	<0.018	<0.018	<0.018	--	<0.018	--	--	<0.033	<0.077	--	<0.039	--	<0.049	0.06	0.076
Chromium	ug/L	<0.96	0.56	0.39	0.56	3.5	1	0.51	0.44	--	0.35	--	0.49	0.39	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1
Cobalt	ug/L	1.6	1.1	1.2	1.1	3.2	1.1	1.2	1.2	--	1.1	--	1.1	1.1	1.5	1.3	1	--	0.86	1	1.1
Lead	ug/L	<1.9	<0.19	0.32	<0.19	3.3	0.36	0.14	0.075	--	0.084	--	0.23	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21	1
Lithium	ug/L	<2.5	<4.9	<4.9	<4.9	<4.9	<2.9	<2.9	<2.9	--	<4.6	--	--	<4.6	<2.7	<2.7	<2.3	--	<2.5	<2.5	<2.5
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	0.35	--	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15	<0.15
Molybdenum	ug/L	<1.5	0.81	0.98	1.2	1.1	0.87	0.91	1.2	--	0.91	--	1.2	1.5	<1.1	1.4	<1.1	<1.1	<1.1	1.7	1.4
Selenium	ug/L	<5.8	0.2	0.22	0.28	0.36	0.25	0.19	0.31	--	<0.086	--	0.3	0.26	<1	--	<1	--	<1	1.2	<0.96
Thallium	ug/L	0.25	<0.5	<0.5	<0.5	<0.5	0.042	<0.036	0.14	--	<0.036	--	--	<0.099	<0.27	--	<0.26	--	--	2.5	0.31
Total Radium	pCi/L	1.46	2.14	2.07	1.73	1.49	1.25	2.75	1.68	--	1.96	--	2.09	3.52	--	1.48	--	--	1.41	1.57	1.59
Radium-226	pCi/L	0.415	0.985	0.969	0.539	0.514	0.672	1.36	0.619	--	0.776	--	1.23	1.67	--	0.807	--	--	0.531	0.747	0.907
Radium-228	pCi/L	1.04	1.15	1.1	1.19	0.978	0.576	1.39	1.06	--	1.18	--	0.858	1.85	--	0.675	--	--	0.88	0.819	0.68
Collected By		--	--	0	--	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.3	7.2	7	7	6.9	7.2	7.2	7	7	7.3	--	7	6.9	7	7	7	--	7.1	7	7
Field Oxidation Potential	mV	-150.3	-163.3	-141.5	-171	-154	-172	-189	-181	-179	-152	-179.3	-164	-43.9	-159	-160	-161.5	-173	-182.5	-171.2	-128.1
Field Specific Conductance	umhos/cm	918	875	891	1004	1036	971	1017	1053	1045	1098	1068	1095	1039	1089	1049	1070	1039	1074	1043	1075
Field Temperature	deg C	12.7	7.8	14.2	15.6	9.3	7.6	11.4	15.7	16.2	6	10.8	15.3	16.99	7.1	15.9	8.7	16.2	14.4	7.5	15.7
Groundwater Elevation	feet	627.88	626.93	628.6	628.35	627.32	628.98	627.75	627.28	628.75	628.98	628.27	627.62	628.59	629.99	630.04	627.68	627.53	627.14	627.87	628.86
Oxygen, Dissolved	mg/L	0.08	0.1	0.03	0	0.2	0	0	0	0	0.8	0.12	0.1	0.48	0.2	0.11	0.19	0.05	0.1	0.03	1.07
Turbidity	NTU	--	4.98	2.6	11.14	93.1	3.36	4.61	4.28	3.96	5.25	1.46	11.23	5.92	18.39	4.71	4.16	4	2.96	3.15	3.35
Collected Date		--	--	--	--	--	--	--	--	--	4	--	--	--	--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--	--	--	1511	--	--	--	--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	530	540	540	550
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32000	30000	33000	33000
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2800	2500	2400	2600
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130000	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33000	36000	35000
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	42000	41000	39000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2700	2500	2700
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4300	3200	4300
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17000	16000	18000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	530	540	540	550
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<7.6	<3.8	<4.6	<4.6
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46	44	33	48
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-302

Number of Sampling Dates: 27

Parameter Name	Units	4/5/2022	10/19/2022	4/11/2023	10/30/2023	4/2/2024	10/21/2024	4/2/2025
Boron	ug/L	540	780	480	590	430	--	--
Calcium	mg/L	120	110	130	130	130	--	--
Chloride	mg/L	12	11	15	16	10	--	--
Fluoride	mg/L	<0.22	<0.22	0.66	<0.38	<0.38	--	--
Field pH	Std. Units	6.92	6.87	7.19	7.21	7.06	7.04	6.91
Sulfate	mg/L	<2	<2	<2.1	<2.1	<2.1	--	--
Total Dissolved Solids	mg/L	490	520	530	520	580	--	--
Antimony	ug/L	<0.69	<0.69	<1	<1	<1	--	--
Arsenic	ug/L	40	51	42	64	45	54	37
Barium	ug/L	690	790	800	830	700	--	--
Beryllium	ug/L	<0.27	<0.27	<0.33	<0.33	<0.33	--	--
Cadmium	ug/L	<0.055	<0.055	<0.1	<0.1	<0.1	--	--
Chromium	ug/L	<1.1	<1.1	<1.1	10	<1.1	--	--
Cobalt	ug/L	1.5	1.2	1.3	1.3	1.4	--	--
Lead	ug/L	<0.24	0.39	<0.24	<0.24	<0.24	--	--
Lithium	ug/L	<2.5	<2.5	<2.5	<2.5	<2.5	--	--
Mercury	ug/L	<0.11	--	<0.14	<0.14	<0.14	--	--
Molybdenum	ug/L	<1.2	1.2	1.9	1.4	--	--	--
Selenium	ug/L	<0.96	<0.96	2.9	<1.4	<1.4	--	--
Thallium	ug/L	<0.26	<0.26	<0.26	0.34	<0.26	--	--
Total Radium	pCi/L	1.35	4.33	1.07	2.68	2.04	--	--
Radium-226	pCi/L	0.604	0.888	0.964	0.714	0.901	--	--
Radium-228	pCi/L	0.744	3.44	0.11	1.96	1.13	--	--
Collected By		--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7	7	7	7	6.9	--	--
Field Oxidation Potential	mV	202.8	-186.2	-181.4	-177.4	-175.9	-154.8	-177
Field Specific Conductance	umhos/cm	1151	1045	871	1185	1175	1125	1063
Field Temperature	deg C	6.3	14.5	6.9	13.4	7.4	16.6	6.7
Groundwater Elevation	feet	623.29	629.51	628.61	627.05	625.6	625.89	627.32
Oxygen, Dissolved	mg/L	0.13	0.03	0.29	0.26	0.14	0.17	0.44
Turbidity	NTU	3.21	23.33	4.54	0.82	0	0	0
Collected Date		--	--	--	--	--	--	--
Collected Time		--	--	--	--	--	--	--
Total Alkalinity as CaCO3	mg/L	620	540	--	--	--	--	--
Iron, dissolved	ug/L	44000	40000	47000	--	--	--	--
Manganese, dissolved	ug/L	3000	2500	--	--	--	--	--
Calcium, total	ug/L	--	--	--	--	--	--	--
Iron, total	ug/L	45000	43000	--	45000	45000	35000	39000
Magnesium, total	ug/L	49000	42000	--	--	--	--	--
Manganese, total	ug/L	3000	2300	--	--	--	--	--
Potassium, total	ug/L	3900	3900	--	--	--	--	--
Sodium, total	ug/L	21000	19000	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	620	540	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	38	50	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-302A

Number of Sampling Dates: 13

Parameter Name	Units	5/20/2020	7/6/2020	8/19/2020	10/19/2020	4/9/2021	10/27/2021	4/5/2022	10/17/2022	4/11/2023	10/31/2023	4/2/2024	10/21/2024	4/2/2025
Boron	ug/L	190	250	--	160	170	140	170	190	--	--	--	--	--
Calcium	mg/L	79	78	--	72	75	75	73	74	--	--	--	--	--
Chloride	mg/L	7.8	6.9	7.1	6	6.7	6.9	5.6	5.2	--	--	--	--	--
Fluoride	mg/L	<0.23	<0.23	--	<0.23	<0.28	<0.28	<0.22	<0.22	--	--	--	--	--
Field pH	Std. Units	7.27	7.22	7.41	7.33	7.25	7.15	7.34	7.28	7.38	7.34	7.37	7.18	7.14
Sulfate	mg/L	53	47	49	47	45	50	52	44	--	--	--	--	--
Total Dissolved Solids	mg/L	520	350	--	350	330	280	300	310	--	--	--	--	--
Antimony	ug/L	<0.58	<0.51	--	--	<1.1	<1.1	<0.69	<0.69	--	--	--	--	--
Arsenic	ug/L	<0.88	<0.88	--	<0.88	<0.75	<0.75	<0.75	<0.75	<0.53	<0.53	<0.53	<0.53	<0.53
Barium	ug/L	51	47	--	46	51	48	49	50	--	--	--	--	--
Beryllium	ug/L	<0.27	<0.27	--	--	<0.27	<0.27	<0.27	<0.27	--	--	--	--	--
Cadmium	ug/L	<0.039	<0.049	--	<0.049	<0.051	<0.051	<0.055	<0.055	--	--	--	--	--
Chromium	ug/L	<1.1	<1.1	--	1.2	<1.1	<1.1	<1.1	<1.1	--	--	--	--	--
Cobalt	ug/L	0.41	0.098	--	<0.091	<0.091	<0.19	0.45	<0.19	--	--	--	--	--
Lead	ug/L	0.48	0.14	--	<0.11	<0.21	0.22	<0.24	<0.24	--	--	--	--	--
Lithium	ug/L	<2.3	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	--
Mercury	ug/L	<0.1	<0.1	--	--	<0.15	<0.15	<0.11	--	--	--	--	--	--
Molybdenum	ug/L	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3	<1.2	<1.2	<0.91	--	<0.91	--	--
Selenium	ug/L	1.3	1.1	--	<1	1.2	1	1.3	<0.96	--	--	--	--	--
Thallium	ug/L	<0.26	<0.26	--	--	<0.26	<0.26	<0.26	<0.26	--	--	--	--	--
Total Radium	pCi/L	--	0.0963	--	0.732	0.714	1.01	0.402	0.371	--	--	--	--	--
Radium-226	pCi/L	--	0.0963	--	0.229	0.076	0.233	0.196	0.0611	--	--	--	--	--
Radium-228	pCi/L	--	-0.00723	--	0.503	0.638	0.778	0.206	0.31	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.4	7.6	--	7.4	7.4	7.6	7.4	7.5	--	--	--	--	--
Field Oxidation Potential	mV	126.9	47	74.1	125.4	104.7	159.1	199.7	105.7	98.5	36.1	22.9	82.6	51
Field Specific Conductance	umhos/cm	644	641	638	650.1	597	627	630	619.9	458.5	616.4	607.2	648	591
Field Temperature	deg C	11.7	11.7	11.8	11.4	11.1	12	10.2	11.6	11.2	11.4	10.6	12	11.1
Groundwater Elevation	feet	623.19	624.2	623.52	623.03	623.12	623.1	623.71	622.97	621.32	622.91	622.53	622.41	622.68
Oxygen, Dissolved	mg/L	6.55	6.6	6.23	6.46	7.88	7.27	6.49	6.27	3.72	5.16	5.67	5.48	5.92
Turbidity	NTU	11.9	4.68	0.19	0.58	0.86	0	0	1.39	0	0	0	2.06	0
Total Alkalinity as CaCO3	mg/L	--	--	290	300	300	300	330	290	--	--	--	--	--
Iron, dissolved	ug/L	--	--	330	56	440	38	<36	55	37	--	--	--	--
Manganese, dissolved	ug/L	--	--	38	10	59	<4.4	8.3	5.4	--	--	--	--	--
Calcium, total	ug/L	--	--	--	81000	--	--	--	--	--	--	--	--	--
Iron, total	ug/L	--	--	--	<50	47	41	<36	<36	--	<36	<36	<36	<50
Magnesium, total	ug/L	--	--	--	38000	37000	35000	37000	32000	--	--	--	--	--
Manganese, total	ug/L	--	--	--	<4	4.5	<4.4	<3.6	<3.6	--	--	--	--	--
Potassium, total	ug/L	--	--	--	1000	1000	1000	1100	900	--	--	--	--	--
Sodium, total	ug/L	--	--	--	6700	7000	6300	7400	6800	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	290	300	300	300	330	290	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	<3.8	<3.8	<4.2	<4.6	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	<0.88	--	--	<0.75	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	<1.1	--	--	--	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-303

Number of Sampling Dates: 22

Parameter Name	Units	12/10/2015	4/29/2016	7/20/2016	10/26/2016	1/17/2017	4/19/2017	6/20/2017	8/15/2017	10/16/2017	4/16/2018	6/4/2018	8/7/2018	10/8/2018	4/15/2019	10/2/2019	5/19/2020	8/18/2020	10/19/2020	4/8/2021
Boron	ug/L	178	178	405	235	133	177	390	386	592	144	--	675	474	150	520	150	--	370	120
Calcium	mg/L	38.2	48.6	64.5	67.1	72.5	60.1	62.2	42	84.7	54.6	--	46	35.3	49	46	54	--	34	47
Chloride	mg/L	18.7	16.8	18.1	17.7	21.9	16.1	17.3	18.4	17.2	24.1	--	14.6	16.3	18	16	15	16	15	21
Fluoride	mg/L	0.43	0.32	0.37	0.31	0.22	0.24	0.36	0.48	0.25	0.32	--	0.47	0.72	1	0.42	0.38	--	<0.23	0.52
Field pH	Std. Units	8.03	8.07	7.12	7.93	8.16	8.19	7.93	7.78	7.2	8	7.59	7.66	7.91	7.95	7.83	7.67	7.65	7.77	8
Sulfate	mg/L	30.8	35.8	56	62.2	67.9	43.7	71.9	43.4	69.9	43.5	--	52.5	29.1	35	39	42	33	20	25
Total Dissolved Solids	mg/L	240	200	317	340	350	317	346	219	379	--	256	262	181	280	210	450	--	180	210
Antimony	ug/L	0.22	0.27	0.55	0.25	0.19	0.26	0.34	0.26	--	0.16	--	0.34	0.19	<0.53	--	<0.58	--	--	<1.1
Arsenic	ug/L	<4.5	1.4	1.4	1.8	1.8	2.4	2.5	2.5	--	1.2	--	2.3	2.3	1.4	2.5	1.4	--	3.2	1.5
Barium	ug/L	102	122	178	169	174	159	214	147	--	173	--	194	121	160	220	210	--	190	170
Beryllium	ug/L	<0.17	<0.08	<0.08	<0.08	<0.08	<0.012	<0.012	<0.012	--	0.046	--	<0.12	<0.089	<0.27	--	<0.27	--	--	<0.27
Cadmium	ug/L	<0.56	<0.029	<0.029	<0.029	0.042	0.018	<0.018	<0.018	--	<0.018	--	--	<0.033	<0.077	--	<0.039	--	<0.049	<0.051
Chromium	ug/L	<0.96	0.52	<0.34	<0.34	0.81	0.71	0.36	0.36	--	0.51	--	0.44	0.089	<0.98	<0.98	<1.1	--	<1.1	<1.1
Cobalt	ug/L	0.14	<0.5	<0.5	<0.5	<0.5	0.09	0.22	0.14	--	0.14	--	0.36	0.21	<0.091	0.12	<0.091	--	0.098	<0.091
Lead	ug/L	<1.9	<0.19	0.2	<0.19	0.24	0.078	0.085	<0.033	--	<0.033	--	0.24	<0.13	<0.27	<0.27	<0.27	--	<0.11	<0.21
Lithium	ug/L	5.1	6.2	13.9	10.4	5.9	4.7	10.4	16.1	--	<4.6	--	--	8.1	3.3	9.1	4.2	--	9.5	3.5
Mercury	ug/L	<0.012	<0.039	<0.039	<0.039	<0.039	<0.046	<0.046	<0.046	--	<0.09	--	<0.09	<0.09	<0.1	--	<0.1	--	--	<0.15
Molybdenum	ug/L	<1.5	5	16.8	16.1	10.7	7.6	15.9	11.8	--	7.3	--	21.6	12	6.2	9.8	3.1	23	10	4.8
Selenium	ug/L	<5.8	1.2	0.9	0.6	1.9	0.63	0.67	0.59	--	3.3	--	0.38	0.39	<1	--	1.4	--	<1	1.1
Thallium	ug/L	0.14	<0.5	<0.5	<0.5	<0.5	<0.036	<0.036	0.17	--	<0.036	--	--	<0.099	<0.27	--	<0.26	--	--	<0.26
Total Radium	pCi/L	0.926	0.73	0.768	1.24	0.416	0.339	0.639	0.477	--	0.787	--	0.929	1.87	--	0.463	--	--	0.27	0.243
Radium-226	pCi/L	-0.132	0.18	0.372	0.653	-0.077	0.339	0.217	0.155	--	0.359	--	0.929	0.664	--	0.444	--	--	0.217	0.125
Radium-228	pCi/L	0.926	0.555	0.396	0.582	0.416	-0.167	0.422	0.322	--	0.428	--	-0.073	1.21	--	0.0185	--	--	0.0528	0.118
Collected By		--	--	0	--	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--
pH at 25 Degrees C	Std. Units	8	8	7.6	7.8	7.7	8.1	7.7	7.9	7.4	8	--	8	7.9	8	8	7.9	--	7.9	8
Field Oxidation Potential	mV	84.2	133.2	-27.2	10	221	81	9	-75	49	53	68	-71	139	-76	156	28.9	25.8	38.4	78.4
Field Specific Conductance	umhos/cm	375.2	409	535	776	614	520	567	423	687	552	431	425	328	448	409	464	468	340.3	425
Field Temperature	deg C	8.5	6.7	30.4	22.1	6.3	10.5	24.8	31.7	25.2	4.1	17	31.5	28.5	4.2	25.2	6.3	30.4	23.5	3.7
Groundwater Elevation	feet	638.79	638.07	639.33	638.65	638.1	639.2	638.77	637.86	638.79	638.62	638.81	637.85	637.32	638.22	638.03	637.98	638.22	636.96	638.07
Oxygen, Dissolved	mg/L	2.38	2.63	0.15	8.1	3	1.4	0	0	1.9	3.5	0.36	0.4	0.4	1.4	0.27	1.29	0.15	0.58	2.03
Turbidity	NTU	--	2.13	0.39	3.02	2.53	0	0	0	0	0.4	1.08	4.51	2.62	6.6	0.58	0	1.62	0	0
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190	120	170
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	320
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	160	66
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35000	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05	<50	<36
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13000	18000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180	30
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2200	1500
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12000	13000
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190	120	170
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<3.8	<3.8
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-303

Number of Sampling Dates: 22

Parameter Name	Units	10/26/2021	4/5/2022	10/17/2022
Boron	ug/L	170	110	590
Calcium	mg/L	49	48	42
Chloride	mg/L	25	23	17
Fluoride	mg/L	<0.28	0.33	<0.22
Field pH	Std. Units	7.45	8.07	7.66
Sulfate	mg/L	28	54	58
Total Dissolved Solids	mg/L	150	180	200
Antimony	ug/L	<1.1	<0.69	<0.69
Arsenic	ug/L	2.2	1.3	1.9
Barium	ug/L	240	200	230
Beryllium	ug/L	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.051	<0.055	<0.055
Chromium	ug/L	<1.1	<1.1	<1.1
Cobalt	ug/L	<0.19	<0.19	<0.19
Lead	ug/L	<0.21	<0.24	<0.24
Lithium	ug/L	11	5.4	10
Mercury	ug/L	<0.15	<0.11	--
Molybdenum	ug/L	7.1	9.2	22
Selenium	ug/L	<0.96	<0.96	<0.96
Thallium	ug/L	<0.26	<0.26	<0.26
Total Radium	pCi/L	0.359	0.533	0.512
Radium-226	pCi/L	0.278	0.296	0.2
Radium-228	pCi/L	0.0804	0.236	0.312
Collected By		--	--	--
pH at 25 Degrees C	Std. Units	7.7	8.1	7.4
Field Oxidation Potential	mV	125.8	202.1	25.5
Field Specific Conductance	umhos/cm	452	452.4	397.1
Field Temperature	deg C	24.8	4.6	23.1
Groundwater Elevation	feet	638.68	641.69	639.39
Oxygen, Dissolved	mg/L	0.17	1.17	0.11
Turbidity	NTU	0.65	0	2.07
Total Alkalinity as CaCO3	mg/L	220	210	120
Iron, dissolved	ug/L	69	<36	46
Manganese, dissolved	ug/L	38	60	110
Calcium, total	ug/L	--	--	--
Iron, total	ug/L	38	<36	<36
Magnesium, total	ug/L	16000	20000	13000
Manganese, total	ug/L	39	89	220
Potassium, total	ug/L	2800	1900	3100
Sodium, total	ug/L	15000	16000	15000
Bicarbonate Alkalinity as CaCO3	mg/L	220	210	120
Carbonate Alkalinity as CaCO3	mg/L	<4.6	<4.6	<4.6
Arsenic, dissolved	ug/L	2.2	--	--
Molybdenum, dissolved	ug/L	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-304

Number of Sampling Dates: 14

Parameter Name	Units	6/20/2019	10/2/2019	5/20/2020	8/19/2020	10/19/2020	4/9/2021	10/26/2021	4/5/2022	10/17/2022	4/10/2023	10/30/2023	4/1/2024	10/21/2024	4/1/2025
Boron	ug/L	<110	<110	<73	--	<80	64	<58	71	78	--	--	--	--	--
Calcium	mg/L	82	72	70	--	66	69	71	70	79	--	--	--	--	--
Chloride	mg/L	5.9	7	6.2	7.7	6.2	6.5	6.9	5.3	8.6	--	--	--	--	--
Fluoride	mg/L	<0.23	<0.23	<0.23	--	<0.23	<0.28	<0.28	<0.22	<0.22	--	--	--	--	--
Field pH	Std. Units	7.01	7.16	7.32	7.55	7.16	7.27	7.29	7.25	7.17	7.27	7.17	7.28	7.29	7.22
Sulfate	mg/L	20	17	17	15	16	15	18	20	14	--	--	--	--	--
Total Dissolved Solids	mg/L	350	300	470	--	270	290	200	240	290	--	--	--	--	--
Antimony	ug/L	<0.53	--	<0.58	--	--	<1.1	<1.1	<0.69	<0.69	--	--	--	--	--
Arsenic	ug/L	<0.75	<0.75	<0.88	--	<0.88	<0.75	<0.75	<0.75	<0.75	<0.53	<0.53	<0.53	<0.53	<0.53
Barium	ug/L	54	47	42	--	42	43	44	42	49	--	--	--	--	--
Beryllium	ug/L	<0.27	--	<0.27	--	--	<0.27	<0.27	<0.27	<0.27	--	--	--	--	--
Cadmium	ug/L	<0.077	--	<0.039	--	<0.049	<0.051	<0.051	<0.055	<0.055	--	--	--	--	--
Chromium	ug/L	1.6	1	8.2	--	<1.1	<1.1	<1.1	<1.1	<1.1	--	--	--	--	--
Cobalt	ug/L	1.1	0.19	0.22	--	<0.091	<0.091	0.22	<0.19	<0.19	--	--	--	--	--
Lead	ug/L	1.2	0.35	<0.27	--	<0.11	<0.21	0.23	<0.24	<0.24	--	--	--	--	--
Lithium	ug/L	<2.7	<2.7	<2.3	--	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	--
Mercury	ug/L	<0.1	--	<0.1	--	--	<0.15	<0.15	<0.11	--	--	--	--	--	--
Molybdenum	ug/L	<1.1	<1.1	<1.1	1.2	<1.1	<1.3	<1.3	2.7	2.1	2.5	--	--	--	--
Selenium	ug/L	<1	--	<1	--	<1	<0.96	<0.96	<0.96	<0.96	--	--	--	--	--
Thallium	ug/L	<0.27	--	<0.26	--	--	<0.26	<0.26	<0.26	<0.26	--	--	--	--	--
Total Radium	pCi/L	0.356	0.9	--	--	0.139	0.497	0.87	0.143	0.0692	--	--	--	--	--
Radium-226	pCi/L	0.217	0.246	--	--	-0.0496	0.0825	0.331	0.143	0.0692	--	--	--	--	--
Radium-228	pCi/L	0.139	0.653	--	--	0.139	0.415	0.539	-0.0479	-0.288	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.4	7	7.3	--	7.3	7.4	7.4	7.5	7.4	--	--	--	--	--
Field Oxidation Potential	mV	41	107.3	104.9	109.6	155.6	160.3	171.3	201.4	169.2	195.5	-29.7	161.2	101.3	180
Field Specific Conductance	umhos/cm	593	578.4	574	583	601.9	520	562.3	571.8	643.3	481.6	575.6	543.9	604.5	530
Field Temperature	deg C	10.6	12.4	9	11.8	11.8	8.8	12.1	8.2	11.9	8.9	12	9.4	12.3	9.3
Groundwater Elevation	feet	0	623.79	621.57	621.75	621.4	621.46	621.29	621.72	621.21	622.31	621.21	621.05	620.95	620.8
Oxygen, Dissolved	mg/L	6.2	7.51	7.78	6.76	6.84	8.69	8.32	7.2	6.97	7.75	7.54	7.97	7.99	7.1
Turbidity	NTU	104	3.51	3.72	1.06	0.42	0	0	0	0.01	0	0	0	4.9	0
Total Alkalinity as CaCO3	mg/L	280	--	--	300	310	300	370	320	330	--	--	--	--	--
Iron, dissolved	ug/L	--	--	--	<50	<50	<36	67	<36	<36	50	--	--	--	--
Manganese, dissolved	ug/L	--	--	--	6.9	4.1	10	<4.4	<3.6	<3.6	--	--	--	--	--
Calcium, total	ug/L	--	--	--	--	75000	--	--	--	--	--	--	--	--	--
Iron, total	ug/L	--	--	--	51	<50	37	<36	<36	<36	--	290	<36	48	<50
Magnesium, total	ug/L	--	--	--	--	35000	33000	32000	33000	34000	--	--	--	--	--
Manganese, total	ug/L	--	--	--	--	6	5.9	<4.4	<3.6	<3.6	--	--	--	--	--
Potassium, total	ug/L	--	--	--	--	1300	1200	1300	1300	1400	--	--	--	--	--
Sodium, total	ug/L	--	--	--	--	6100	4900	4000	5900	6300	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	300	310	300	370	320	330	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<3.8	<3.8	<4.2	<4.6	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	--	<0.88	--	--	<0.75	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	--	1.6	--	--	--	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-304A
Number of Sampling Dates: 15

Parameter Name	Units	5/20/2020	7/6/2020	8/19/2020	10/19/2020	2/23/2021	4/9/2021	7/12/2021	10/26/2021	4/5/2022	10/17/2022	4/10/2023	10/30/2023	4/1/2024	10/21/2024	4/1/2025
Boron	ug/L	1800	1700	--	1700	--	1400	--	1300	1500	1600	--	--	--	--	--
Calcium	mg/L	54	41	--	35	--	43	--	35	38	37	--	--	--	--	--
Chloride	mg/L	15	13	13	12	--	13	--	15	16	16	--	--	--	--	--
Fluoride	mg/L	0.57	0.42	--	<0.23	--	0.53	--	<0.28	0.32	<0.22	--	--	--	--	--
Field pH	Std. Units	8.04	7.9	8.48	7.89	8.01	7.78	8.09	7.94	7.97	7.81	7.74	7.93	8.02	7.76	7.85
Sulfate	mg/L	83	77	76	76	--	77	--	91	87	69	--	--	--	--	--
Total Dissolved Solids	mg/L	680	330	--	310	--	300	--	240	270	270	--	--	--	--	--
Antimony	ug/L	<0.58	<0.51	--	--	--	<1.1	--	<1.1	<0.69	<0.69	--	--	--	--	--
Arsenic	ug/L	1.3	<0.88	--	<0.88	--	0.78	--	<0.75	<0.75	<0.75	0.63	0.76	0.69	<0.53	0.62
Barium	ug/L	67	34	--	28	--	36	--	26	30	29	--	--	--	--	--
Beryllium	ug/L	<0.27	<0.27	--	--	--	<0.27	--	<0.27	<0.27	<0.27	--	--	--	--	--
Cadmium	ug/L	0.19	0.098	--	0.073	--	0.096	--	<0.051	0.074	0.076	--	--	--	--	--
Chromium	ug/L	2.2	1.1	--	<1.1	--	1.6	--	<1.1	<1.1	<1.1	--	--	--	--	--
Cobalt	ug/L	3.2	0.83	--	0.43	--	0.88	--	<0.19	0.48	0.88	--	--	--	--	--
Lead	ug/L	4.3	1.2	--	0.48	--	1.1	--	0.37	0.81	1.1	--	--	--	--	--
Lithium	ug/L	2.7	<2.5	--	<2.5	--	<2.5	--	<2.5	<2.5	<2.5	--	--	--	--	--
Mercury	ug/L	<0.1	<0.1	--	--	--	<0.15	--	<0.15	<0.11	--	--	--	--	--	--
Molybdenum	ug/L	110	140	140	130	120	110	100	120	120	130	150	--	--	--	--
Selenium	ug/L	<1	<1	--	<1	--	<0.96	--	<0.96	<0.96	<0.96	--	--	--	--	--
Thallium	ug/L	<0.26	<0.26	--	--	--	<0.26	--	<0.26	<0.26	<0.26	--	--	--	--	--
Total Radium	pCi/L	--	0.573	--	0.157	--	0.468	--	0.698	0.51	0.296	--	--	--	--	--
Radium-226	pCi/L	--	0.221	--	0.117	--	0.0845	--	0.245	-0.00262	0.207	--	--	--	--	--
Radium-228	pCi/L	--	0.352	--	0.0402	--	0.384	--	0.454	0.51	0.0889	--	--	--	--	--
pH at 25 Degrees C	Std. Units	8	8	--	8	--	8	--	8.1	8	8	--	--	--	--	--
Field Oxidation Potential	mV	61.8	-15.8	50.5	162.7	44.9	151.6	80.3	157.1	198.1	-24.7	115.7	-120.7	122.9	-132.9	98
Field Specific Conductance	umhos/cm	529	541	533	547.4	534	533	543.1	526.8	520.9	480.6	422.5	472.9	499.7	535	516
Field Temperature	deg C	12.6	19.1	14	10.1	9.1	10.1	13.8	13.4	9.4	10.6	10.6	10.9	10.2	11.2	10.4
Groundwater Elevation	feet	624.88	625.76	0	624.41	625.04	624.31	623.87	623.87	619	623.56	623.95	623.57	623.25	623.22	623.18
Oxygen, Dissolved	mg/L	0.48	0.3	0.27	0.78	0.39	0.41	0.48	2.53	0.19	0.13	0.21	0.18	0.47	0.42	0.09
Turbidity	NTU	585.9	181.9	236.2	90.29	116.6	165.2	36.09	2.78	42.65	77.88	28.82	23.95	59.83	2.17	29.71
Total Alkalinity as CaCO3	mg/L	--	--	190	190	--	180	--	210	210	180	--	--	--	--	--
Iron, dissolved	ug/L	--	--	<50	55	--	<36	--	<36	<36	<36	390	--	--	--	--
Manganese, dissolved	ug/L	--	--	16	7.3	--	6.2	--	<4.4	6.8	<3.6	--	--	--	--	--
Calcium, total	ug/L	--	--	--	35000	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L	--	--	--	270	--	580	--	<36	240	380	--	160	380	<36	690
Magnesium, total	ug/L	--	--	--	16000	--	18000	--	15000	16000	14000	--	--	--	--	--
Manganese, total	ug/L	--	--	--	26	--	54	--	<4.4	25	31	--	--	--	--	--
Potassium, total	ug/L	--	--	--	680	--	710	--	650	740	540	--	--	--	--	--
Sodium, total	ug/L	--	--	--	63000	--	58000	--	55000	58000	49000	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	190	190	--	180	--	210	210	180	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	<7.6	<3.8	--	<4.6	--	<4.6	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	<0.88	--	--	--	--	<0.75	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	160	140	140	120	--	120	130	140	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-305
Number of Sampling Dates: 14

Parameter Name	Units	6/20/2019	10/2/2019	5/19/2020	8/18/2020	10/20/2020	4/9/2021	10/27/2021	4/4/2022	10/18/2022	4/11/2023	10/31/2023	4/2/2024	10/22/2024	4/2/2025
Boron	ug/L	180	190	210	--	220	140	200	110	240	--	--	--	--	--
Calcium	mg/L	92	97	82	--	76	79	79	78	80	--	--	--	--	--
Chloride	mg/L	6.8	3.2	7.5	6.9	6	4.8	6.6	3.5	5.5	--	--	--	--	--
Fluoride	mg/L	<0.23	<0.23	0.23	--	<0.23	<0.28	<0.28	<0.22	<0.22	--	--	--	--	--
Field pH	Std. Units	7.19	7.03	6.9	7.23	7.24	7.17	7.29	6.94	7.32	7.44	7.17	7.23	7.1	7.11
Sulfate	mg/L	24	26	<3.6	<3.6	<3.6	29	14	42	3.6	--	--	--	--	--
Total Dissolved Solids	mg/L	440	380	540	--	320	300	260	270	300	--	--	--	--	--
Antimony	ug/L	<0.53	--	<0.58	--	--	<1.1	<1.1	<0.69	<0.69	--	--	--	--	--
Arsenic	ug/L	2.2	3.4	3.6	--	5.6	1.7	3.9	0.89	4.7	0.93	1.8	0.66	3.5	0.67
Barium	ug/L	170	190	220	--	200	150	200	97	230	--	--	--	--	--
Beryllium	ug/L	<0.27	--	<0.27	--	--	<0.27	<0.27	<0.27	<0.27	--	--	--	--	--
Cadmium	ug/L	<0.077	--	<0.039	--	<0.049	<0.051	<0.051	<0.055	<0.055	--	--	--	--	--
Chromium	ug/L	<0.98	<0.98	<1.1	--	<1.1	<1.1	<1.1	<1.1	<1.1	--	--	--	--	--
Cobalt	ug/L	0.52	0.27	0.32	--	0.12	0.29	<0.19	<0.19	<0.19	--	--	--	--	--
Lead	ug/L	<0.27	<0.27	<0.27	--	<0.11	<0.21	0.29	<0.24	<0.24	--	--	--	--	--
Lithium	ug/L	3.4	4.6	<2.3	--	<2.5	<2.5	<2.5	2.6	<2.5	--	--	--	--	--
Mercury	ug/L	<0.1	--	<0.1	--	--	<0.15	<0.15	<0.11	--	--	--	--	--	--
Molybdenum	ug/L	1.7	1.6	<1.1	1.8	<1.1	<1.3	<1.3	<1.2	<1.2	1.1	--	--	--	--
Selenium	ug/L	<1	--	<1	--	<1	1.4	<0.96	1.7	<0.96	--	--	--	--	--
Thallium	ug/L	<0.27	--	<0.26	--	--	<0.26	<0.26	<0.26	<0.26	--	--	--	--	--
Total Radium	pCi/L	0.553	0.557	--	--	0.377	0.474	1.43	0.249	1.2	--	--	--	--	--
Radium-226	pCi/L	0.181	0.38	--	--	0.296	0.301	0.55	0.145	0.331	--	--	--	--	--
Radium-228	pCi/L	0.372	0.178	--	--	0.0809	0.173	0.879	0.104	0.871	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.2	7.2	7.2	--	7.2	7.3	7.3	7.4	7.4	--	--	--	--	--
Field Oxidation Potential	mV	27	-105.6	-138	-162.9	-145.4	-25.8	-128.5	198.9	-186.6	-92.1	-153.3	-126	-189.9	-68
Field Specific Conductance	umhos/cm	638	635	684	654	634	574	643	545	607.2	396.9	745	656.8	818	547
Field Temperature	deg C	15.5	19	9.8	19	15.6	7.1	16.3	4.4	15.7	6.2	15.1	6.8	15.8	5.9
Groundwater Elevation	feet	0	629.77	627.24	626.98	626.54	627.02	626.41	627.17	626.36	624.54	626.89	626.49	626.23	626.92
Oxygen, Dissolved	mg/L	0.2	0.21	0.48	0.07	0.22	2.1	0.08	4.06	0.06	3.18	0.71	1.18	0.16	3.29
Turbidity	NTU	9.6	8.87	20.44	27.27	3.65	14.88	0.27	4.57	8.17	1.71	4.18	0	0	4.66
Total Alkalinity as CaCO3	mg/L	290	--	--	340	340	280	330	290	360	--	--	--	--	--
Iron, dissolved	ug/L	--	--	--	11000	10000	3700	6900	830	7400	3300	--	--	--	--
Manganese, dissolved	ug/L	--	--	--	2000	1800	1100	1400	520	1400	--	--	--	--	--
Calcium, total	ug/L	--	--	--	--	87000	--	--	--	--	--	--	--	--	--
Iron, total	ug/L	--	--	--	--	12000	5900	7300	1500	8500	--	6700	5500	9500	1700
Magnesium, total	ug/L	--	--	--	--	32000	25000	30000	23000	30000	--	--	--	--	--
Manganese, total	ug/L	--	--	--	--	1800	1200	1500	560	1300	--	--	--	--	--
Potassium, total	ug/L	--	--	--	--	1800	1300	1600	1500	1500	--	--	--	--	--
Sodium, total	ug/L	--	--	--	--	7700	5900	6700	5500	7000	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	340	340	280	330	290	360	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<7.6	<3.8	<4.6	<2.3	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	--	6.4	--	--	3.7	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	--	2.8	--	--	--	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-306

Number of Sampling Dates: 18

Parameter Name	Units	6/20/2019	10/2/2019	12/5/2019	2/5/2020	5/19/2020	8/18/2020	10/20/2020	2/23/2021	4/9/2021	7/12/2021	10/27/2021	4/4/2022	10/19/2022	4/11/2023	10/30/2023	4/2/2024	10/22/2024	4/2/2025
Boron	ug/L	860	660	--	--	720	--	720	--	650	--	580	550	600	--	--	--	--	--
Calcium	mg/L	240	260	--	--	340	--	260	--	290	--	210	200	280	--	--	--	--	--
Chloride	mg/L	24	40	--	--	32	28	27	--	33	--	34	41	32	--	--	--	--	--
Fluoride	mg/L	<0.23	<0.23	--	--	<0.23	--	<0.23	--	<0.28	--	<0.28	<0.22	<0.22	--	--	--	--	--
Field pH	Std. Units	6.87	9	6.76	6.95	6.66	7.12	6.88	6.87	6.85	7.51	6.86	6.86	6.8	7.13	7.05	6.97	6.83	6.96
Sulfate	mg/L	280	140	--	--	430	260	220	--	240	--	95	100	500	--	--	--	--	--
Total Dissolved Solids	mg/L	1200	1300	--	--	3400	--	1100	--	1300	--	960	1100	1500	--	--	--	--	--
Antimony	ug/L	<0.53	--	--	--	<0.58	--	--	--	<1.1	--	<1.1	<0.69	<0.69	--	--	--	--	--
Arsenic	ug/L	8.6	12	9.3	9.4	8.5	--	10	9	8	8.2	8.6	7.7	7.1	7	9.5	8.1	6.3	5.8
Barium	ug/L	280	540	--	--	260	--	250	--	280	--	320	350	390	--	--	--	--	--
Beryllium	ug/L	<0.27	--	--	--	<0.27	--	--	--	<0.27	--	<0.27	<0.27	<0.27	--	--	--	--	--
Cadmium	ug/L	<0.077	--	--	--	<0.039	--	<0.049	--	<0.051	--	<0.051	<0.055	<0.055	--	--	--	--	--
Chromium	ug/L	<0.98	<0.98	--	--	<1.1	--	<1.1	--	1.3	--	<1.1	<1.1	<1.1	--	--	--	--	--
Cobalt	ug/L	1	0.98	--	--	0.53	--	0.24	--	0.35	--	0.3	0.49	0.3	--	--	--	--	--
Lead	ug/L	0.52	<0.27	--	--	<0.27	--	<0.11	--	<0.21	--	1.1	<0.24	<0.24	--	--	--	--	--
Lithium	ug/L	19	25	--	--	25	--	26	--	24	--	22	23	27	--	--	--	--	--
Mercury	ug/L	<0.1	--	--	--	<0.1	--	--	--	<0.15	--	<0.15	<0.11	--	--	--	--	--	--
Molybdenum	ug/L	<1.1	<1.1	--	--	<1.1	<1.1	<1.1	--	<1.3	--	<1.3	<1.2	<1.2	<0.91	--	--	--	--
Selenium	ug/L	<1	--	--	--	<1	--	<1	--	<0.96	--	<0.96	<0.96	<0.96	--	--	--	--	--
Thallium	ug/L	<0.27	--	--	--	<0.26	--	--	--	<0.26	--	<0.26	<0.26	<0.26	--	--	--	--	--
Total Radium	pCi/L	0.897	1.79	--	--	--	--	1.16	--	1.09	--	2.1	0.757	0.693	--	--	--	--	--
Radium-226	pCi/L	0.432	0.902	--	--	--	--	0.459	--	0.436	--	0.814	0.464	0.431	--	--	--	--	--
Radium-228	pCi/L	0.465	0.889	--	--	--	--	0.696	--	0.659	--	1.29	0.292	0.262	--	--	--	--	--
pH at 25 Degrees C	Std. Units	6.9	7.2	--	--	6.9	--	6.8	--	7.2	--	7	7	7	--	--	--	--	--
Field Oxidation Potential	mV	22	-1205	-127	-127.7	-137	-139.1	-142.3	-127.2	-134.2	-128.3	-126.3	196.3	-173.1	-165.5	-158.8	-167.8	-152.5	-97
Field Specific Conductance	umhos/cm	1632	1998	2196	2477	2332	1911	1832	2055	1994	2006	1778	1839	2120	1682	2071	2002	2074	1806
Field Temperature	deg C	13.8	16.33	16.3	13.7	12.7	15	16.2	13.6	12.6	14.4	16.6	12	15.4	12	16.3	11.9	16.5	11.4
Groundwater Elevation	feet	0	622.47	620.6	620.83	620.43	620.37	619.92	619.76	620.03	619.83	619.91	620.42	619.79	622.07	620.41	620.18	619.92	619.95
Oxygen, Dissolved	mg/L	1	0.27	0.9	0.23	0.3	0.1	0.26	0.12	0.05	0.37	0.11	0.26	0.07	0.27	0.2	0.13	0.07	0.19
Turbidity	NTU	25.9	3.67	10.26	4.43	2.63	0.16	3.08	3.11	0.09	0.13	2.72	0	0.98	4.12	33.15	1.51	11.07	2.13
Total Alkalinity as CaCO3	mg/L	620	--	--	--	--	850	800	--	880	--	880	940	800	--	--	--	--	--
Iron, dissolved	ug/L	--	--	--	--	--	44000	39000	--	41000	--	33000	32000	41000	50000	--	--	--	--
Manganese, dissolved	ug/L	--	--	--	--	--	5100	4800	--	5300	--	4100	4500	7000	--	--	--	--	--
Calcium, total	ug/L	--	--	--	--	--	--	280000	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L	--	--	--	--	--	--	40000	--	44000	--	33000	33000	42000	--	53000	50000	41000	49000
Magnesium, total	ug/L	--	--	--	--	--	--	46000	--	50000	--	36000	41000	46000	--	--	--	--	--
Manganese, total	ug/L	--	--	--	--	--	--	4800	--	5500	--	4100	4400	5500	--	--	--	--	--
Potassium, total	ug/L	--	--	--	--	--	--	7100	--	6100	--	6200	7000	8300	--	--	--	--	--
Sodium, total	ug/L	--	--	--	--	--	--	110000	--	98000	--	140000	160000	140000	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	850	800	--	880	--	880	940	800	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	<7.6	<3.8	--	<4.6	--	<4.6	<4.6	<12	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	--	--	--	9.4	--	8.8	7.8	--	8.4	7.8	7	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	--	--	--	<1.1	--	--	--	--	--	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-306A
Number of Sampling Dates: 13

Parameter Name	Units	5/19/2020	7/6/2020	8/18/2020	10/20/2020	4/9/2021	10/27/2021	4/4/2022	10/19/2022	4/11/2023	10/30/2023	4/2/2024	10/22/2024	4/16/2025
Boron	ug/L	290	340	--	280	280	240	260	290	--	--	--	--	--
Calcium	mg/L	83	82	--	76	78	80	78	77	--	--	--	--	--
Chloride	mg/L	7.8	7.1	7.4	7.2	7.2	7.7	6.3	5.8	--	--	--	--	--
Fluoride	mg/L	<0.23	<0.23	--	<0.23	<0.28	<0.28	<0.22	<0.22	--	--	--	--	--
Field pH	Std. Units	6.99	7.04	7.38	7.18	7.21	7.34	7.19	7.25	7.43	7.43	7.36	7.2	7.21
Sulfate	mg/L	44	40	41	41	39	42	43	34	--	--	--	--	--
Total Dissolved Solids	mg/L	610	360	--	350	350	280	330	350	--	--	--	--	--
Antimony	ug/L	<0.58	<0.51	--	--	<1.1	<1.1	<0.69	<0.69	--	--	--	--	--
Arsenic	ug/L	<0.88	<0.88	--	<0.88	<0.75	<0.75	<0.75	<0.75	<0.53	<0.53	<0.53	<0.53	<0.53
Barium	ug/L	61	58	--	58	62	59	61	62	--	--	--	--	--
Beryllium	ug/L	<0.27	<0.27	--	--	<0.27	<0.27	<0.27	<0.27	--	--	--	--	--
Cadmium	ug/L	<0.039	<0.049	--	<0.049	<0.051	<0.051	<0.055	<0.055	--	--	--	--	--
Chromium	ug/L	<1.1	<1.1	--	<1.1	<1.1	<1.1	<1.1	<1.1	--	--	--	--	--
Cobalt	ug/L	0.33	0.18	--	0.22	0.17	0.21	0.19	<0.19	--	--	--	--	--
Lead	ug/L	<0.27	<0.11	--	<0.11	<0.21	0.32	<0.24	<0.24	--	--	--	--	--
Lithium	ug/L	<2.3	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	--
Mercury	ug/L	<0.1	<0.1	--	--	<0.15	<0.15	<0.11	--	--	--	--	--	--
Molybdenum	ug/L	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3	<1.2	<1.2	<0.91	--	--	--	--
Selenium	ug/L	<1	<1	--	<1	<0.96	0.99	<0.96	<0.96	--	--	--	--	--
Thallium	ug/L	<0.26	<0.26	--	--	<0.26	<0.26	<0.26	<0.26	--	--	--	--	--
Total Radium	pCi/L	--	0.525	--	0.124	0.408	0.682	0.198	1.18	--	--	--	--	--
Radium-226	pCi/L	--	0.0377	--	-0.201	0.12	0.279	0.00526	0.193	--	--	--	--	--
Radium-228	pCi/L	--	0.487	--	0.124	0.288	0.403	0.192	0.99	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.4	7.5	--	7.4	7.4	7.4	7.4	7.5	--	--	--	--	--
Field Oxidation Potential	mV	-21.7	-55.8	21.2	-38.5	-8.5	78.8	192.7	-91.1	-93.3	-84.3	-91.7	-93.9	-65.5
Field Specific Conductance	umhos/cm	697	683	654	681	669	663	669	624.3	486.3	650	619.1	668	647
Field Temperature	deg C	14.6	15.3	15.5	14.4	14.2	14.6	13	14	13.7	14.2	12.3	14.6	13.2
Groundwater Elevation	feet	620.4	621.66	620.63	620.17	620.14	620.17	620.61	620.05	622.68	621.02	620.56	620.18	619.88
Oxygen, Dissolved	mg/L	1.18	1.24	1.16	1.3	1.68	1.23	1.13	1.3	0.67	1.25	1.31	1.42	0.03
Turbidity	NTU	4.15	1.4	2.71	1.56	0.01	0.59	0	3.21	0.83	0	0	0	4
Total Alkalinity as CaCO3	mg/L	--	--	330	320	320	330	350	350	--	--	--	--	--
Iron, dissolved	ug/L	--	--	1900	1600	1600	1500	1500	1400	1400	--	--	--	--
Manganese, dissolved	ug/L	--	--	1200	1100	1100	1000	1000	1000	--	--	--	--	--
Calcium, total	ug/L	--	--	--	85000	--	--	--	--	--	--	--	--	--
Iron, total	ug/L	--	--	--	1900	1800	1800	1700	1500	--	1700	1700	1300	1200
Magnesium, total	ug/L	--	--	--	37000	35000	33000	36000	32000	--	--	--	--	--
Manganese, total	ug/L	--	--	--	1100	1100	1000	1000	940	--	--	--	--	--
Potassium, total	ug/L	--	--	--	1200	1200	1200	1300	1000	--	--	--	--	--
Sodium, total	ug/L	--	--	--	11000	10000	9800	10000	9100	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	330	320	320	330	350	350	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	<7.6	<1.9	<4.6	<4.6	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	--	--	<0.88	--	--	<0.75	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	--	--	<1.1	--	--	--	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-307
Number of Sampling Dates: 10

Parameter Name	Units	7/12/2021	8/13/2021	10/27/2021	4/5/2022	10/18/2022	4/10/2023	10/30/2023	4/1/2024	10/21/2024	4/2/2025
Boron	ug/L	220	250	280	400	1100	1200	920	770	710	640
Calcium	mg/L	55	47	38	50	39	38	56	44	54	57
Chloride	mg/L	15	16	17	22	18	23	20	16	12	18
Fluoride	mg/L	<0.28	<0.28	<0.28	<0.22	<0.22	<0.38	<0.38	<0.38	<0.38	0.53
Field pH	Std. Units	8.25	7.86	8.11	8.34	8.44	8.36	8.32	8.62	7.95	8.23
Sulfate	mg/L	44	42	70	76	120	45	36	61	34	42
Total Dissolved Solids	mg/L	210	230	130	210	900	160	250	230	170	250
Antimony	ug/L	<1.1	<1.1	<1.1	<0.69	<0.69	<1	<1	<1	<1	1.3
Arsenic	ug/L	2.1	2.4	2.5	1.8	2.7	2.5	2.3	1.9	2.4	2
Barium	ug/L	310	300	240	290	280	230	340	240	310	340
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27	<0.27	<0.33	<0.33	<0.33	<0.33	<0.33
Cadmium	ug/L	<0.051	<0.051	<0.051	<0.055	<0.055	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	ug/L	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.2	<1.8
Cobalt	ug/L	0.15	0.15	<0.19	<0.19	0.19	<0.17	<0.17	<0.17	<0.17	<0.17
Lead	ug/L	<0.21	<0.21	<0.21	<0.24	<0.24	<0.24	<0.24	<0.24	<0.26	<0.33
Lithium	ug/L	13	13	12	10	13	11	16	12	15	14
Mercury	ug/L	<0.15	<0.15	<0.15	<0.11	--	<0.14	<0.14	<0.14	<0.11	<0.11
Molybdenum	ug/L	5.5	7.2	12	16	25	7.8	5.5	7.7	4.3	5
Selenium	ug/L	<0.96	<0.96	<0.96	<0.96	<0.96	<1.4	<1.4	1.8	4.1	2.2
Thallium	ug/L	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.57	0.65
Total Radium	pCi/L	0.499	1.91	0.743	0.183	1.51	0.165	1.95	0.465	<0.584	<0.683
Radium-226	pCi/L	0.171	0.289	0.421	0.0893	0.166	0.165	0.203	0.032	0.268	<0.315
Radium-228	pCi/L	0.328	1.62	0.322	0.0932	1.34	-0.128	1.74	0.433	<0.584	<0.683
pH at 25 Degrees C	Std. Units	8.2	8.1	8.2	8.2	8.1	8.6	8.2	8.4	8	8.1
Field Oxidation Potential	mV	-40.6	-17.5	-123.4	198.2	-175.6	-150.4	-102.1	-173.6	-103	-179
Field Specific Conductance	umhos/cm	449.6	437	361.2	460	399.6	312.4	489.7	421.4	454.1	452
Field Temperature	deg C	15.2	17.4	16.4	6.9	15.7	8	13.5	8.8	14.6	8.4
Groundwater Elevation	feet	630.95	630.01	634.9	639.74	639.23	629.13	628.65	628.61	629.73	629.31
Oxygen, Dissolved	mg/L	0.47	0.17	0.93	0.08	0.16	0.28	0.19	0.48	0.3	0.17
Turbidity	NTU	0	0	0	0	4.34	0	0	0	1.22	0.71
Total Alkalinity as CaCO3	mg/L	170	--	86	130	100	--	--	--	--	--
Iron, dissolved	ug/L	110	--	110	87	90	68	--	--	--	--
Manganese, dissolved	ug/L	300	--	240	560	450	--	--	--	--	--
Iron, total	ug/L	140	--	95	78	110	--	56	48	130	83
Magnesium, total	ug/L	17000	--	12000	17000	11000	--	--	--	--	--
Manganese, total	ug/L	310	--	230	590	430	--	--	--	--	--
Potassium, total	ug/L	3600	--	2600	2400	2900	--	--	--	--	--
Sodium, total	ug/L	13000	--	11000	16000	24000	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	170	--	86	130	100	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	<4.1	--	<2.3	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	2	--	2.6	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	5.2	--	--	--	--	--	--	--	--	--

Single Location
Name: IPL - Lansing

Location ID: MW-307A
Number of Sampling Dates: 10

Parameter Name	Units	7/12/2021	8/13/2021	10/27/2021	4/5/2022	10/18/2022	4/10/2023	10/30/2023	4/1/2024	10/21/2024	4/1/2025
Boron	ug/L	370	380	300	430	680	--	--	--	--	--
Calcium	mg/L	67	62	70	58	52	--	--	--	--	--
Chloride	mg/L	6.8	7.2	8.1	13	11	--	--	--	--	--
Fluoride	mg/L	<0.28	<0.28	<0.28	<0.22	<0.22	--	--	--	--	--
Field pH	Std. Units	7.83	7.35	7.29	7.48	7.59	7.33	7.71	7.56	7.32	7.56
Sulfate	mg/L	30	32	33	28	27	--	--	--	--	--
Total Dissolved Solids	mg/L	280	290	230	250	270	--	--	--	--	--
Antimony	ug/L	<1.1	<1.1	<1.1	<0.69	<0.69	--	--	--	--	--
Arsenic	ug/L	<0.75	0.76	1.3	2.1	1.9	0.65	1	1.1	4.4	10
Barium	ug/L	120	120	130	110	100	--	--	--	--	--
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27	<0.27	--	--	--	--	--
Cadmium	ug/L	<0.051	<0.051	<0.051	<0.055	<0.055	--	--	--	--	--
Chromium	ug/L	<1.1	<1.1	<1.1	<1.1	<1.1	--	--	--	--	--
Cobalt	ug/L	0.54	0.57	0.77	0.68	0.65	--	--	--	--	--
Lead	ug/L	<0.21	<0.21	0.21	<0.24	<0.24	--	--	--	--	--
Lithium	ug/L	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	--
Mercury	ug/L	<0.15	<0.15	<0.15	<0.11	--	--	--	--	--	--
Molybdenum	ug/L	6.8	6.6	6.3	5.7	6.6	7.6	--	--	--	--
Selenium	ug/L	<0.96	<0.96	<0.96	<0.96	<0.96	--	--	--	--	--
Thallium	ug/L	<0.26	<0.26	<0.26	<0.26	<0.26	--	--	--	--	--
Total Radium	pCi/L	0.509	0.258	0.957	0.0954	0.683	--	--	--	--	--
Radium-226	pCi/L	0.265	0.163	0.412	0.0954	0.0963	--	--	--	--	--
Radium-228	pCi/L	0.245	0.0954	0.545	-0.076	0.587	--	--	--	--	--
pH at 25 Degrees C	Std. Units	7.5	7.6	7.6	8.1	7.7	--	--	--	--	--
Field Oxidation Potential	mV	73.1	54.3	47.7	199.8	-99.4	-13.8	-52.4	-74	-55.9	-26
Field Specific Conductance	umhos/cm	615.6	612.3	625.4	563	518.7	521.2	609.6	587.9	617	549
Field Temperature	deg C	13.2	12.5	12.9	10.8	11.4	11.6	11.9	10.6	12	10.6
Groundwater Elevation	feet	625.27	625.48	626.25	626.72	625.77	617.75	625.01	624.61	624.59	624.57
Oxygen, Dissolved	mg/L	0.27	0.17	1.39	0.09	0.1	0.15	0.49	0.19	0.29	0.14
Turbidity	NTU	0	0	0	0	2.57	0	0	0	3.43	2.25
Total Alkalinity as CaCO3	mg/L	310	--	310	330	270	--	--	--	--	--
Iron, dissolved	ug/L	<36	--	170	280	300	36	--	--	--	--
Manganese, dissolved	ug/L	600	--	720	700	640	--	--	--	--	--
Iron, total	ug/L	<36	--	160	370	330	--	200	180	1300	3200
Magnesium, total	ug/L	33000	--	33000	27000	24000	--	--	--	--	--
Manganese, total	ug/L	620	--	720	710	610	--	--	--	--	--
Potassium, total	ug/L	3000	--	2500	2100	2000	--	--	--	--	--
Sodium, total	ug/L	16000	--	14000	22000	28000	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	310	--	310	330	270	--	--	--	--	--
Carbonate Alkalinity as CaCO3	mg/L	<4.2	--	<4.6	<4.6	<4.6	--	--	--	--	--
Arsenic, dissolved	ug/L	<0.75	--	1.4	--	--	--	--	--	--	--
Molybdenum, dissolved	ug/L	7.3	--	--	--	--	--	--	--	--	--

Appendix E

Statistical Evaluation

E1 – LCL Evaluation – October 2024

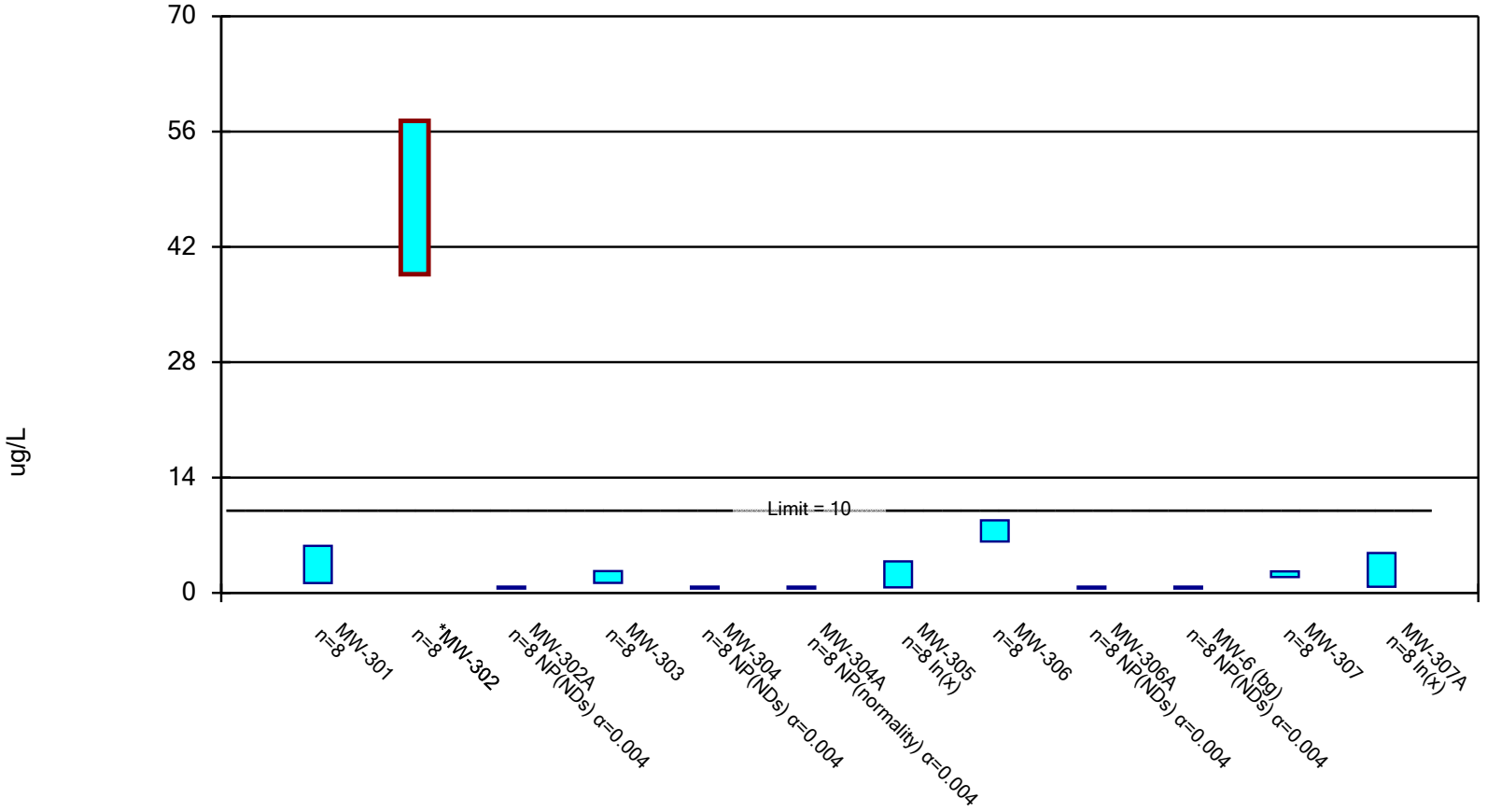
Confidence Interval

Lansing Generating Station Client: SCS Engineers Data: Lansing Printed 6/11/2025, 10:32 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	MW-301	5.708	1.192	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	**MW-302**	**57.31**	**38.69**	**10**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
Arsenic (ug/L)	MW-302A	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-303	2.637	1.213	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-304	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-304A	0.76	0.53	10	No	8	50	No	0.004	NP (normality)
Arsenic (ug/L)	MW-305	3.828	0.6662	10	No	8	0	ln(x)	0.01	Param.
Arsenic (ug/L)	MW-306	8.801	6.224	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-306A	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-6 (bg)	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-307	2.607	1.918	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-307A	4.829	0.7402	10	No	8	0	ln(x)	0.01	Param.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 6/11/2025 10:26 AM

Lansing Generating Station Client: SCS Engineers Data: Lansing

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 6/11/2025 10:32 AM

Lansing Generating Station Client: SCS Engineers Data: Lansing

	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A
4/15/2019				1.4 (J)					
10/2/2019				2.5					
5/19/2020				1.4 (J)					
10/19/2020				3.2					
4/8/2021				1.5 (J)					
10/26/2021	7.1			2.2	<0.75 (U)	<0.75 (U)			
10/27/2021		51	<0.75 (U)				3.9	8.6	<0.75 (U)
4/4/2022							0.89 (J)	7.7	<0.75 (U)
4/5/2022	4.9	40	<0.75 (U)	1.3 (J)	<0.75 (U)	<0.75 (U)			
4/6/2022									
10/17/2022	5		<0.75 (U)	1.9 (J)	<0.75 (U)	<0.75 (U)			
10/18/2022							4.7		
10/19/2022		51						7.1	<0.75 (U)
4/10/2023	3.7				<0.53 (U)	0.63 (J)			
4/11/2023		42	<0.53 (U)				0.93 (J)	7	<0.53 (U)
10/30/2023		64			<0.53 (U)	0.76 (J)		9.5	<0.53 (U)
10/31/2023	2.9		<0.53 (U)				1.8 (J)		
4/1/2024	1.3 (J)				<0.53 (U)	0.69 (J)			
4/2/2024		45	<0.53 (U)				0.66 (J)	8.1	<0.53 (U)
10/21/2024		54	<0.53		<0.53	<0.53			
10/22/2024	1.6 (J)						3.5	6.3	<0.53
4/1/2025	1.1 (J)				<0.53	0.62 (J)			
4/2/2025		37	<0.53				0.67 (J)	5.8	
4/16/2025									<0.53 (U)
Mean	3.45	48	0.6125	1.925	0.6125	0.685	2.131	7.513	0.6125
Std. Dev.	2.13	8.783	0.1139	0.6714	0.1139	0.08418	1.647	1.216	0.1139
Upper Lim.	5.708	57.31	0.75	2.637	0.75	0.76	3.828	8.801	0.75
Lower Lim.	1.192	38.69	0.53	1.213	0.53	0.53	0.6662	6.224	0.53

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 6/11/2025 10:32 AM

Lansing Generating Station Client: SCS Engineers Data: Lansing

	MW-6 (bg)	MW-307	MW-307A
4/15/2019			
10/2/2019			
5/19/2020			
10/19/2020			
4/8/2021			
10/26/2021	<0.75 (U)		
10/27/2021		2.5	1.3 (J)
4/4/2022			
4/5/2022		1.8 (J)	2.1
4/6/2022	<0.75 (U)		
10/17/2022			
10/18/2022	<0.75 (U)	2.7	1.9 (J)
10/19/2022			
4/10/2023		2.5	0.65 (J)
4/11/2023	<0.53 (U)		
10/30/2023	<0.53 (U)	2.3	1 (J)
10/31/2023			
4/1/2024	<0.53 (U)	1.9 (J)	1.1 (J)
4/2/2024			
10/21/2024		2.4	4.4
10/22/2024	<0.53		
4/1/2025			10
4/2/2025		2	
4/16/2025	<0.53 (U)		
Mean	0.6125	2.263	2.806
Std. Dev.	0.1139	0.3249	3.133
Upper Lim.	0.75	2.607	4.829
Lower Lim.	0.53	1.918	0.7402

ND substitution: RL or RL/2 if <15% NDs.

E2 – LCL Evaluation - April 2025

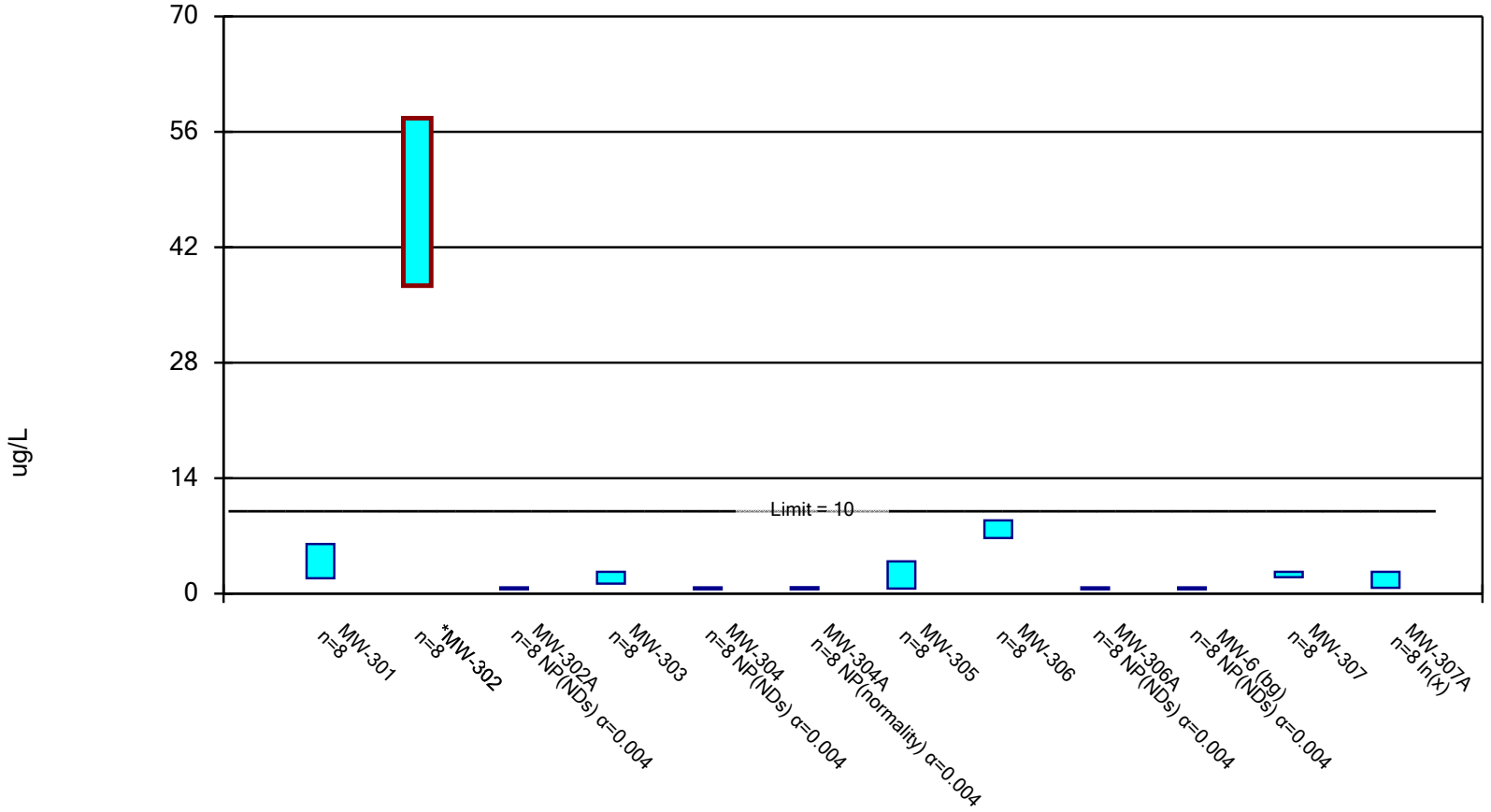
Confidence Interval

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev Printed 1/3/2025, 1:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	MW-301	6.009	1.866	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	**MW-302**	**57.65**	**37.35**	**10**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
Arsenic (ug/L)	MW-302A	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-303	2.637	1.213	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-304	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-304A	0.78	0.53	10	No	8	50	No	0.004	NP (normality)
Arsenic (ug/L)	MW-305	3.908	0.6125	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-306	8.885	6.74	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-306A	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-6 (bg)	0.75	0.53	10	No	8	100	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-307	2.64	1.985	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-307A	2.647	0.7089	10	No	8	0	ln(x)	0.01	Param.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/3/2025 1:33 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 1/3/2025 1:34 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-301	MW-302	MW-302A	MW-303	MW-304	MW-304A	MW-305	MW-306	MW-306A
4/15/2019				1.4 (J)					
10/2/2019				2.5					
5/19/2020				1.4 (J)					
10/19/2020				3.2					
4/7/2021									
4/8/2021	5			1.5 (J)					
4/9/2021		33	<0.75 (U)		<0.75 (U)	0.78 (J)	1.7 (J)		<0.75 (U)
7/12/2021								8.2	
8/13/2021									
10/26/2021	7.1			2.2	<0.75 (U)	<0.75 (U)			
10/27/2021		51	<0.75 (U)				3.9	8.6	<0.75 (U)
4/4/2022							0.89 (J)	7.7	<0.75 (U)
4/5/2022	4.9	40	<0.75 (U)	1.3 (J)	<0.75 (U)	<0.75 (U)			
4/6/2022									
10/17/2022	5		<0.75 (U)	1.9 (J)	<0.75 (U)	<0.75 (U)			
10/18/2022							4.7		
10/19/2022		51						7.1	<0.75 (U)
4/10/2023	3.7				<0.53 (U)	0.63 (J)			
4/11/2023		42	<0.53 (U)				0.93 (J)	7	<0.53 (U)
10/30/2023		64			<0.53 (U)	0.76 (J)		9.5	<0.53 (U)
10/31/2023	2.9		<0.53 (U)				1.8 (J)		
4/1/2024	1.3 (J)				<0.53 (U)	0.69 (J)			
4/2/2024		45	<0.53 (U)				0.66 (J)	8.1	<0.53 (U)
10/21/2024		54	<0.53		<0.53	<0.53			
10/22/2024	1.6 (J)						3.5	6.3	<0.53
Mean	3.938	47.5	0.64	1.925	0.64	0.705	2.26	7.813	0.64
Std. Dev.	1.954	9.577	0.1176	0.6714	0.1176	0.08552	1.554	1.012	0.1176
Upper Lim.	6.009	57.65	0.75	2.637	0.75	0.78	3.908	8.885	0.75
Lower Lim.	1.866	37.35	0.53	1.213	0.53	0.53	0.6125	6.74	0.53

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 1/3/2025 1:34 PM

Lansing Generating Station Client: SCS Engineers Data: LAN_Export_201121_Rev

	MW-6 (bg)	MW-307	MW-307A
4/15/2019			
10/2/2019			
5/19/2020			
10/19/2020			
4/7/2021	<0.75 (U)		
4/8/2021			
4/9/2021			
7/12/2021			
8/13/2021		2.4	0.76 (J)
10/26/2021	<0.75 (U)		
10/27/2021		2.5	1.3 (J)
4/4/2022			
4/5/2022		1.8 (J)	2.1
4/6/2022	<0.75 (U)		
10/17/2022			
10/18/2022	<0.75 (U)	2.7	1.9 (J)
10/19/2022			
4/10/2023		2.5	0.65 (J)
4/11/2023	<0.53 (U)		
10/30/2023	<0.53 (U)	2.3	1 (J)
10/31/2023			
4/1/2024	<0.53 (U)	1.9 (J)	1.1 (J)
4/2/2024			
10/21/2024		2.4	4.4
10/22/2024	<0.53		
Mean	0.64	2.313	1.651
Std. Dev.	0.1176	0.3091	1.223
Upper Lim.	0.75	2.64	2.647
Lower Lim.	0.53	1.985	0.7089

ND substitution: RL or RL/2 if <15% NDs.