

2021 Annual Groundwater Monitoring and Corrective Action Report

Prairie Creek Generating Station
Cedar Rapids, Iowa

Prepared for:

Alliant Energy



SCS ENGINEERS

25221074.00 | January 31, 2022

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OVERVIEW OF CURRENT STATUS

Prairie Creek Generating Station (PCS) 2021 Annual Report

In accordance with §257.90(e)(6), this section at the beginning of the annual report provides an overview of the current status of groundwater monitoring and corrective action programs for the coal combustion residual (CCR) unit. The groundwater monitoring system at PCS monitors the closure area for 10 former CCR units. Supporting information is provided in the text of the annual report.

Category	Rule Requirement	Site Status
Monitoring Status – Start of Year	(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Monitoring Status – End of Year	(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Statistically Significant Increases (SSIs)	<p>(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e):</p> <p>(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and</p>	<p>SSIs initially determined on January 15, 2018, based on October 2017 monitoring results. In 2021, SSIs for semiannual events for compliance wells at the waste boundary included the following; see Table 5 for complete results.</p> <p><u>April 2021</u> Boron: MW-303, MW-304, MW-305, MW-306, MW-307, MW-308</p> <p>Sulfate: MW-303, MW-304, MW-305, MW-306, MW-308,</p> <p>Total Dissolved Solids: MW-305</p>

Category	Rule Requirement	Site Status
		<p><u>October 2021</u> Boron: MW-303, MW-304, MW-305, MW-306, MW-307, MW-308</p> <p>Fluoride: MW-304</p> <p>Field pH: MW-307, MW-308</p> <p>Sulfate: MW-303, MW-304, MW-305, MW-306, MW-308</p> <p>Total Dissolved Solids: MW-305</p>
	(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	July 16, 2018
<p>Statistically Significant Levels (SSL) Above Groundwater Protection Standard</p>	<p>(iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g) include all of the following:</p> <p>(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;</p>	<p><u>Arsenic: Initially determined to be at SSL above GPS on January 14, 2019 at MW-303, MW-304, and MW-305. In 2021, concentrations determined to be at SSL above the GPS as follows:</u></p> <p><u>April 2021</u> MW-303, MW-304, MW-308, MW-309, MW-310</p> <p><u>October 2021</u> MW-303, MW-304, MW-308, MW-309, MW-310</p> <p><u>Molybdenum: Initially determined to be at SSL above GPS on January 14, 2019 at MW-306. In 2021, concentrations determined to be at SSL above the GPS as follows:</u></p> <p><u>April 2021</u> MW-306</p> <p><u>October 2021</u> MW-306</p>

Category	Rule Requirement	Site Status
	(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;	April 15, 2019
	(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and	Selection of remedy in progress. A public meeting pursuant to §257.96(e) planned for 2022
	(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.	September 12, 2019
Selection of Remedy	(v) Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection; and	Selection of remedy is in progress
Corrective Action	(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	Not applicable – Selection of remedy is in progress

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1.0 INTRODUCTION

This 2021 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the Coal Combustion Residuals (CCR) Rule [40 CFR 257.50-107]. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.90(e). The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2021 Annual Groundwater Monitoring and Corrective Action Report for the CCR Units. The Prairie Creek Generating Station (PCS) site location is shown on **Figure 1**.

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

The groundwater monitoring system at PCS monitors the closure area for 10 former CCR units. All CCR units at PCS were closed in 2018. CCR was consolidated, capped in accordance with §257.102(d), and closure certification was completed in December 2018.

The monitoring system is designed to detect monitored constituents at the waste boundary of the facility as required by 40 CFR 257.91(d). The groundwater monitoring system currently consists of 3 upgradient wells, 6 downgradient compliance monitoring wells at the waste boundary, and 5 downgradient delineation wells installed to characterize site conditions and evaluate the nature and extent of groundwater impacts (**Figure 2** and **Table 1**).

2.0 BACKGROUND

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

- Geologic and hydrogeologic setting
- CCR Rule monitoring system

2.1 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.1.1 Regional Information

The geologic formation beneath PCS that meets the definition of the “uppermost aquifer,” as defined by section 257.53 of the CCR Rule, is the surficial alluvial aquifer. A summary of regional hydrogeologic units in east-central Iowa is provided in **Appendix A**. The alluvial aquifer comprises Cedar River valley sand, gravel, silt, and clay deposits. This deposit is present along the Cedar River valley and is used for municipal supply by the City of Cedar Rapids approximately 4.5 miles upstream of PCS. A map of the regional surficial aquifers in east-central Iowa is included in **Appendix A**.

The alluvial aquifer is underlain by Devonian and Silurian limestone and dolomite bedrock. A bedrock geology map and cross sections of the area are provided in **Appendix A**. The Devonian and Silurian bedrock are also aquifer units and are likely hydraulically connected to the alluvial aquifer above. The Silurian limestone is several hundred feet thick at the site and is underlain by an Ordovician confining unit.

2.1.2 Site Information

Monitoring wells MW-301 through MW-310 were installed to intersect the surficial alluvium aquifer at the site. The unconsolidated materials at these well locations are generally sand and silt with minor clay and gravel. The total boring depths were between 15.5 and 30.5 feet and bedrock was not encountered in any monitoring well boring. Boring logs and well construction forms for MW-301 through MW-310 are included in **Appendix B**.

Assessment piezometers MW-301A, MW-306A, MW-309A, and MW-310A were installed in June and July 2020. Unconsolidated materials were also observed in the deeper piezometer borings and bedrock was not encountered. The boring for upgradient piezometer MW-301A encountered a thick lean clay layer and the well is screened within the clay. The other three piezometers are screened in sandy materials. The total boring depths were between 45 and 60 feet. Boring logs and well construction forms for the four deeper piezometers are included in **Appendix B**.

The sampling event summary and groundwater elevation data for the CCR monitoring wells are included in **Table 2** and **Table 3**. Water table elevations and groundwater flow patterns for the April 2021 monitoring event are shown on **Figure 3**. Water table elevations and groundwater flow patterns for the October 2021 monitoring event are shown on **Figure 4**. Both water table maps show groundwater flow moving north toward Prairie Creek, which is a tributary of the Cedar River. Estimated horizontal gradients and flow velocities are provided in **Table 4A**. Vertical hydraulic gradients for the well nests are provided in **Table 4B**. For the April 2021 event, the vertical gradients indicate upward flow at all well nests. For the October 2021 event, vertical gradients indicate upward flow at MW-306/MW-306A and MW-310/MW-310A and downward flow at MW-301/MW-301A and MW-309/MW-309A.

2.2 CCR RULE MONITORING SYSTEM

The current groundwater monitoring system established in accordance with the CCR Rule consists of 2 upgradient (background) monitoring wells, 1 upgradient piezometer, 6 downgradient compliance monitoring wells, and 5 additional downgradient monitoring wells and piezometers to assist with the assessment monitoring and selection of remedy process. The background wells are MW-301 and MW-302, and the six downgradient wells at the waste boundary include MW-303, MW-304, MW-305, MW-306, MW-307, and MW-308.

The shallow downgradient delineation monitoring wells include MW-309 and MW-310. The deeper downgradient piezometers include MW-306A, MW-309A, and MW-310A. The upgradient piezometer, MW-301A, was also installed to assist with the selection of remedy process.

The CCR Rule wells are installed in the alluvial aquifer, which is the uppermost aquifer unit. Shallow monitoring well depths range from approximately 15 to 32 feet, measured from the top of the well casing. The piezometer depths range from approximately 47 to 62 feet, measured from top of well casing. Upgradient piezometer MW-301A is installed in a clay till unit below the alluvial aquifer. This well is not used in the statistical evaluation of background conditions because it is not installed in the same hydrostratigraphic unit as the downgradient wells.

3.0 § 257.90(E) ANNUAL REPORT REQUIREMENTS

Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR

landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

3.1 §257.90(E)(1) SITE MAP

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

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

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

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

There were no changes to the monitoring well system in 2021.

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;

Three groundwater sampling events were completed in 2021. The first round of semiannual groundwater monitoring was completed in April 2021. An additional monitoring event in July 2021 was completed for compliance well MW-308 to evaluate the statistical significance of an increase over the GPS for lithium detected in October 2020. The third event was the semiannual groundwater sampling event for all wells in October 2021. A summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the assessment monitoring programs is included in **Table 2**.

Groundwater samples collected in each semiannual event were analyzed for both Appendix III and Appendix IV constituents, as shown in **Table 5**. The supplemental groundwater sample collected during the July monitoring event was analyzed for field pH and submitted to a laboratory for lithium analysis. Field parameter results for the 2021 sampling events are provided in **Table 6**. The results of the analytical laboratory analyses are provided in the laboratory reports in **Appendix C**. Historical results for each monitoring well are summarized in **Appendix D**.

Supplemental groundwater quality parameters were included in the monitoring program in 2021 to support the selection of remedy process, including the characterization of aquifer conditions and evaluation of monitored natural attenuation (MNA). The results for the supplemental parameters are also included in **Table 5**, and in the laboratory reports in **Appendix C**.

3.4 § 257.90(E)(4) MONITORING TRANSITION NARRATIVE

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

There was no monitoring program transition in 2021.

The PCS monitoring program transitioned to assessment monitoring beginning in April 2018 and assessment monitoring continued through 2021. An Assessment of Corrective Measures (ACM) was initiated for the PCS CCR units in April 2019 and completed in September 2019. An addendum to the ACM was submitted August 9, 2021. The ACM was initiated in response to the detection of arsenic and molybdenum at statistically significant levels (SSLs) exceeding the Groundwater Protection Standards (GPS). Assessment monitoring continued during the ACM and will continue during the selection of remedy.

The statistical evaluation of the October 2020 assessment monitoring results was completed in January 2021. Evaluation of the April 2021 results was completed in July 2021, evaluation of July 2021 results was completed in October 2021, and evaluation of October 2021 results was completed in January 2022.

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

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

Based on the LCL evaluations completed following the April and October 2021 events, SSLs above the GPS were identified for the following parameters and wells:

- Arsenic: MW-303, MW-304, MW-308, MW309, and MW-310
- Lithium: None
- Molybdenum: MW-306

The SSLs for arsenic at MW-303, MW-304, MW-308, MW-309, and MW-310 and for molybdenum at MW-306 are consistent with previous SSL determinations. Lithium was detected above the GPS in the October 2020 sample and July 2021 supplemental sample from MW-308, but was below the GPS in the April and October 2021 monitoring event and the LCL remains below the GPS.

3.5 § 257.90(E)(5) OTHER REQUIREMENTS

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

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

3.5.1 § 257.90(e) General Requirements

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

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

Summary of Key Actions Completed.

- Two semiannual groundwater sampling and analysis events (April and October 2021).
- An additional monitoring event was completed to collect a supplemental sample at compliance well MW-308 for lithium analysis to support the evaluation of whether lithium is present at this well at a SSL above the GPS.
- Statistical evaluation for the October 2020 assessment monitoring event completed on January 28, 2021.
- Statistical evaluation for the April 2021 monitoring event, completed on July 15, 2021.
- Statistical evaluation for the July 2021 supplemental monitoring event, completed on October 25, 2021.
- Continued work on the selection of remedy in accordance with § 257.97.
- ACM addendum completed in August 2021.

Description of Any Problems Encountered.

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

Discussion of Actions to Resolve the Problems.

- Not applicable.

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

- Two semiannual assessment monitoring events (April and October 2022).
- Statistical evaluation and determination of any SSLs exceeding the GPS for the October 2021 monitoring event (January 2022).
- Statistical evaluation and determination of any SSLs exceeding the GPS for the April 2022 monitoring event (July 2022).
- Continued work on the selection of remedy in accordance with § 257.97.
- A public meeting will be held in 2022 prior to remedy selection.

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 PCS closure area is 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 PCS closure area is no longer in the detection monitoring program.

3.5.4 § 257.95(c) Alternative Assessment Monitoring Frequency

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

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

3.5.5 § 257.95(d)(3) Assessment Monitoring Results and Standards

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

The 2021 assessment monitoring results, background upper prediction limits (UPLs), and GPSs established for PCS are provided in **Table 5**. The laboratory reports are provided in **Appendix C**. Historical monitoring results are summarized in **Appendix D**.

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

3.5.6 § 257.95(d)(3)(ii) Alternative Source Demonstration for Assessment Monitoring

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

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

3.5.7 § 257.96(a) Extension of Time for Corrective Measures Assessment

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

The ACM was initiated on April 15, 2019. The July 10, 2019 certification, demonstrating the need for a 90-day deadline extension which was provided in the 2019 Annual Groundwater Monitoring and Corrective Action Report. The ACM was completed on September 19, 2019.

3.6 §257.90(E)(6) OVERVIEW

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

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

4.0 REFERENCE

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

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- 4A Horizontal Gradients and Flow Velocities
- 4B Vertical Gradients
- 5 Groundwater Analytical Results Summary – 2021
- 6 2021 Groundwater Field Data Summary

**Table 1. Groundwater Monitoring Well Network
Prairie Creek Generating Station
SCS Engineers Project #25221074.00**

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

Created by: RM _____
by: JAO _____
Checked by: RM _____

Date: 12/14/2020 _____
Date: 12/21/2021 _____
Date: 12/29/2021 _____

**Table 2. CCR Rule Groundwater Samples Summary
Prairie Creek Generating Station
SCS Engineers Project #25221074.00**

Sample Dates	Background Wells			Compliance Wells				Delineation Well	Compliance Wells		Delineation Wells			
	MW-301	MW-301A	MW-302	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307	MW-308	MW-309	MW-309A	MW-310	MW-310A
4/26-28/2021	A	A	A	A	A	A	A	A	A	A	A	A	A	A
7/14/2021	--	--	--	--	--	--	--	--	--	A-S	--	--	--	--
10/20-22/2021	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Total Samples	2	2	2	2	2	2	2	2	2	3	2	2	2	2

Abbreviations:

A = Assessment Monitoring Program

A-S = Assessment Monitoring Program Supplemental Sampling Event

-- = Not Sampled

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

Date: 1/4/2018
 Date: 12/21/2021
 Date: 12/29/2021

Table 3. Groundwater Elevation Summary
Prairie Creek Generating Station / SCS Engineers Project #25221074.00

Raw Data	Depth to Water in feet below top of well casing													
	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-301A	MW-306A	MW-309A	MW-310A
Measurement Date														
December 20, 2016	16.50	6.88	6.10	6.24	6.15	9.22	NI	NI	NI	NI	NI	NI	NI	NI
January 23, 2017	16.50	6.50	4.82	5.10	5.02	8.05	NI	NI	NI	NI	NI	NI	NI	NI
February 23, 2017	16.68	6.72	5.00	5.01	4.94	7.95	NI	NI	NI	NI	NI	NI	NI	NI
March 28, 2017	16.75	6.82	5.65	5.67	5.52	8.55	NI	NI	NI	NI	NI	NI	NI	NI
April 27, 2017	15.85	6.20	4.39	4.58	4.57	7.56	NI	NI	NI	NI	NI	NI	NI	NI
May 25, 2017	15.47	6.00	4.09	4.29	4.32	7.20	NI	NI	NI	NI	NI	NI	NI	NI
June 28, 2017	16.45	7.05	5.50	5.50	5.50	8.60	NI	NI	NI	NI	NI	NI	NI	NI
August 17, 2017	17.20	7.80	6.63	6.70	6.70	9.80	NI	NI	NI	NI	NI	NI	NI	NI
October 17, 2017	18.19	8.35	6.51	6.49	6.40	9.38	NI	NI	NI	NI	NI	NI	NI	NI
May 8, 2018	18.60	8.74	4.10	4.12	4.00	7.03	NI	NI	NI	NI	NI	NI	NI	NI
August 6, 2018	18.25	8.44	6.82	7.04	7.05	9.86	NI	NI	NI	NI	NI	NI	NI	NI
October 9, 2018	16.81	5.55	1.60	1.85	1.88	4.66	NI	NI	NI	NI	NI	NI	NI	NI
March 11, 2019	NM	NM	NM	5.42	5.56	NM	NM	NM	NI	NI	NI	NI	NI	NI
April 22-23, 2019	16.11	6.58	5.63	5.73	5.68	8.31	11.30	13.48	NI	NI	NI	NI	NI	NI
October 28-29, 2019	16.69	7.00	5.36	5.51	5.44	8.14	12.59	13.36	7.96	8.22	NI	NI	NI	NI
January 9, 2020	NM	NM	NM	NM	NM	NM	NM	NM	8.70	9.12	NI	NI	NI	NI
April 27, 2020	16.75	7.10	6.36	6.82	6.59	9.19	NM	NM	8.96	9.40	NI	NI	NI	NI
May 27, 2020	NM	NM	NM	NM	NM	NM	13.02	14.03	NM	NM	NI	NI	NI	NI
September 14, 2020	17.25	7.11	5.76	5.92	5.87	8.70	12.41	13.54	8.52	9.10	37.95	7.47	6.91	7.25
October 19-21, 2020	17.78	8.52	7.30	7.53	7.59	10.28	14.60	15.80	9.83	10.15	27.75	9.07	8.37	8.68
April 26-27, 2021	16.71	7.32	6.71	6.86	6.95	9.79	14.78	14.62	9.12	9.82	15.31	7.87	7.62	7.99
July 14, 2021	NM	NM	NM	NM	NM	NM	NM	16.29	NM	NM	NM	NM	NM	NM
October 20-22, 2021	19.11	9.59	7.62	7.86	7.86	10.52	14.87	16.46	10.10	10.45	25.00	9.19	8.94	8.92
	Ground Water Elevation in feet above mean sea level (amsl)													
Well Number	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-301A	MW-306A	MW-309A	MW-310A
Top of Casing Elevation (feet amsl)	732.55	722.68	709.46	709.66	709.61	712.54	721.16	719.67	711.80	711.93	732.07	711.50	710.54	710.68
Screen Length (ft)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	5.0	5.0	5.0
Total Depth (ft from top of casing)	25.10	17.39	17.01	17.09	17.00	31.91	23.27	23.21	15.00	15.00	56.15	61.85	47.31	47.47
Top of Well Screen Elevation (ft)	717.45	715.29	702.45	702.57	702.61	685.63	707.89	706.46	703.11	703.09	680.92	654.65	668.23	668.21
Measurement Date														
December 20, 2016	716.05	715.80	703.36	703.42	703.46	703.32	NI	NI	NI	NI	NI	NI	NI	NI
January 23, 2017	716.05	716.18	704.64	704.56	704.59	704.49	NI	NI	NI	NI	NI	NI	NI	NI
February 23, 2017	715.87	715.96	704.46	704.65	704.67	704.59	NI	NI	NI	NI	NI	NI	NI	NI
March 28, 2017	715.80	715.86	703.81	703.99	704.09	703.99	NI	NI	NI	NI	NI	NI	NI	NI
April 27, 2017	716.70	716.48	705.07	705.08	705.04	704.98	NI	NI	NI	NI	NI	NI	NI	NI
May 25, 2017	717.08	716.68	705.37	705.37	705.29	705.34	NI	NI	NI	NI	NI	NI	NI	NI
June 28, 2017	716.10	715.63	703.96	704.16	704.11	703.94	NI	NI	NI	NI	NI	NI	NI	NI
August 17, 2017	715.35	714.88	702.83	702.96	702.91	702.74	NI	NI	NI	NI	NI	NI	NI	NI
October 17, 2017	714.36	714.33	702.95	703.17	703.21	703.16	NI	NI	NI	NI	NI	NI	NI	NI
May 8, 2018	713.95	713.94	705.36	705.54	705.61	705.51	NI	NI	NI	NI	NI	NI	NI	NI
August 6, 2018	714.30	714.24	702.64	702.62	702.56	702.68	NI	NI	NI	NI	NI	NI	NI	NI
October 9, 2018	715.74	717.13	707.86	707.81	707.73	707.88	NI	NI	NI	NI	NI	NI	NI	NI
March 11, 2019	NM	NM	NM	704.24	704.05	NM	NI	NI	NI	NI	NI	NI	NI	NI
April 22-23, 2019	716.44	716.10	703.83	703.93	703.93	704.23	709.86	706.19	NI	NI	NI	NI	NI	NI
October 28-29, 2019	715.86	715.68	704.10	704.15	704.17	704.40	708.57	706.31	703.84	703.71	NI	NI	NI	NI
January 9, 2020	NM	NM	NM	NM	NM	NM	NM	NM	703.10	702.81	NI	NI	NI	NI
April 27, 2020	715.80	715.58	703.10	702.84	703.02	703.35	NM	NM	702.84	702.53	NI	NI	NI	NI
May 27, 2020	NM	NM	NM	NM	NM	NM	708.14	705.64	NM	NM	NI	NI	NI	NI
September 14, 2020	715.30	715.57	703.70	703.74	703.74	703.84	708.75	706.13	703.28	702.83	694.12	704.03	703.63	703.43
October 19-21, 2020	714.77	714.16	702.16	702.13	702.02	702.26	706.56	703.87	701.97	701.78	704.32	702.43	702.17	702.00
April 26-28, 2021	715.84	715.36	702.75	702.80	702.66	702.75	706.38	705.05	702.68	702.11	716.76	703.63	702.92	702.69
July 14, 2021	NM	NM	NM	NM	NM	NM	NM	703.38	NM	NM	NM	NM	NM	NM
October 20-22, 2021	713.44	713.09	701.84	701.80	701.75	702.02	706.29	703.21	701.70	701.48	707.07	702.31	701.60	701.76
Bottom of Well Elevation (ft)	707.45	705.29	692.45	692.57	692.61	680.63	697.89	696.46	693.11	693.09	675.92	649.65	663.23	663.21

Created by: RM	Date: 12/10/2020
Last rev. by: RM	Date: 1/5/2022
Checked by: JAO	Date: 1/5/2021
Proj Mgr QC: TK	Date: 1/11/2022

**Table 4A. Horizontal Gradients and Flow Velocities
Prairie Creek Generating Station
SCS Engineers Project #25221074.00**

Northwest					
Sampling Dates	h1 (ft)	h2 (ft)	Δl (ft)	Δh/Δl (ft/ft)	V (ft/d)
April 26-27, 2021	708.00	702.66	499	0.011	2.1
October 20-22, 2021	708.00	701.75	644	0.010	1.9

Wells	K Value (cm/sec)	K Value (ft/d)	Assumed Porosity, n
MW-301	N/A	N/A	0.40
MW-301A	N/A	N/A	
MW-302	N/A	N/A	
MW-303	1.2E-02	34	
MW-304	1.3E-02	36	
MW-305	1.6E-01	439	
MW-306	5.0E-02	141	
MW-306A	1.2E-02	35	
MW-307	1.8E-02	50	
MW-308	5.3E-03	15	
MW-309	5.0E-02	142	
MW-309A	1.1E-01	303	
MW-310	1.7E-02	47	
MW-310A	5.1E-02	145	
Geometric Mean	2.7E-02	77	

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

Notes:

1. Geometric mean calculation does not include upgradient wells MW-301, MW-301A, or MW-302.

ft = feet

ft/d = feet per day

K = hydraulic conductivity

n = effective porosity

V = groundwater flow velocity

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

Δl = distance between location 1 and 2

Δh/Δl = hydraulic gradient

Created by: RM
 Last revision by: MDB
 Checked by: RM

Date: 12/29/2020
 Date: 1/10/2022
 Date: 1/11/2022

**Table 4B. Vertical Gradients
Prairie Creek Generating Station / SCS Engineers Project #25221074.00
2021**

Vertical Hydraulic Gradients	MW-301/MW-301A		MW-306/MW-306A		MW-309/MW-309A		MW-310/MW-310A	
	Shallow Well Screen midpoint ⁽²⁾ (feet amsl)	MW-301 712.45		MW-306 683.13		MW-309 698.11		MW-310 698.09
Deep Well Screen midpoint (feet amsl)	MW-301A 678.42		MW-306A 652.15		MW-309A 665.73		MW-310A 665.71	
Measurement Date	Distance Between Midpoints ⁽²⁾ (ft)	Vertical Gradient (ft/ft)	Distance Between Midpoints (ft)	Vertical Gradient (ft/ft)	Distance Between Midpoints ⁽²⁾ (ft)	Vertical Gradient (ft/ft)	Distance Between Midpoints ⁽²⁾ (ft)	Vertical Gradient (ft/ft)
April 26-27, 2021	33.2	0.028	31.0	0.028	32.2	0.007	31.9	0.018
October 20-22, 2021	32.0	-0.199	31.0	0.009	31.7	-0.003	31.6	0.009

Notes:

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

2: The well screens at MW-301, MW-309, and MW-310 were not fully submerged during the April and October 2021 sampling events. In these cases, the effective screen midpoint is calculated at the midpoint between the water table elevation and screen bottom elevation, and this value is used to calculate Distance Between Midpoints.

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 Proj Mgr QA/QC: TK

Date: 1/18/2021
 Date: 12/28/2021
 Date: 12/29/2021
 Date: 1/11/2022

Table 5. Groundwater Analytical Summary - 2021
Prairie Creek Generating Station, Cedar Rapids, IA / SCS Engineers Project #25221074.00

Parameter Name	UPL Method	UPL	GPS	Background Wells						Compliance Wells								Delineation Well	
				MW-301		MW-301A*		MW-302		MW-303		MW-304		MW-305		MW-306		MW-306A	
				4/27/2021	10/21/2021	4/28/2021	10/22/2021	4/27/2021	10/21/2021	4/27/2021	10/21/2021	4/27/2021	10/21/2021	4/27/2021	10/20/2021	4/27/2021	10/20/2021	4/27/2021	10/20/2021
Appendix III																			
Boron, ug/L	P	67		<58	<58	71 J	61 J	<58	<58	920	1,100	790	810	1,100	1,100	2,500	2,200	2,400	2,100
Calcium, mg/L	NP	148		130	160	68	59	76	130	89	110	120	130	120	140	57	57	150	150
Chloride, mg/L	P	36.7		58	98.0	<2.2	<2.2	23	82	12	13	12	15	13	21	17	19.0	66	70
Fluoride, mg/L	P*	0.23		<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	0.42 J	0.40 J	0.41 J	0.53	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Field pH, Std. Units	NP	8		6.81	6.90	7.17	7.15	6.96	7.15	6.96	7.16	6.90	7.07	7.07	7.21	7.47	7.40	7.24	7.21
Sulfate, mg/L	NP	108		93	100	5.3	7.0	57	89	110	130	140	220	260	330	140	120	350	360
Total Dissolved Solids, mg/L	NP	642		550	690	250	200	330	500	440	480	610	620	650	730	360	320	790	760
Appendix IV																			
Antimony, ug/L	P*	0.48	6	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	1.1 J	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Arsenic, ug/L	P	3.57	10	<0.75	0.88 J	0.87 J	1.4 J	3.4	0.90 J	39	46	13	16	7.9	12	1.0 J	0.87 J	<0.75	<0.75
Barium, ug/L	P	332	2,000	250	270	160	130	160	220	90	110	120	120	120	150	72	56	160	130
Beryllium, ug/L	P*	0.16	4	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium, ug/L	P*	0.12	5	0.062 J	0.11	<0.051	0.075 J	0.065 J	0.080 J	<0.051	<0.051	<0.051	<0.051	0.064 J	0.067 J	0.110	0.099 J	<0.051	<0.051
Chromium, ug/L	P	13.5	100	4.2 J	5.2	<1.1	<1.1	1.4 J	2.0 J	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt, ug/L	NP	4.7	6	0.15 J	<0.19	1.2	0.96	0.37 J	<0.19	0.48 J	0.43 J	0.91	0.90	0.67	0.61	0.28 J	<0.19	0.15 J	<0.19
Fluoride, mg/L	P*	0.23	4	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	0.42 J	0.40 J	0.41 J	0.53	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Lead, ug/L	P*	0.56	15	<0.21	0.37 J	0.21 J	0.49 J	<0.21	<0.21	<0.21	<0.21	<0.21	0.24 J	<0.21	<0.21	0.87	0.23 J	<0.21	<0.21
Lithium, ug/L	P	19.6	40	13	13	<2.5	<2.5	6.3 J	6.9 J	16	17	14	14	17	17	<2.5	<2.5	5.8 J	5.3 J
Mercury, ug/L	DQ	DQ	2	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Molybdenum, ug/L	P*	0.73	100	<1.3	<1.3	3.1	3.1	<1.3	<1.3	12	14	25	31	54	84	240	220	16	15
Selenium, ug/L	P	1.47	50	<0.96	1.1 J	<0.96	<0.96	0.96 J	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96
Thallium, ug/L	P*	0.47	2	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Radium 226/228 Combined, pCi/L	P	2.37	5	0.844	0.606	0.823	1.27	1.31	0.770	0.519	0.963	0.726	0.407	0.461	0.586	0.205	0.899	0.642	0.368
Additional Parameters Monitored for Selection of Remedy																			
Arsenic - dissolved, ug/L				--	--	--	--	--	--	39	44	13	15	7.4	11	--	--	--	--
Cobalt - dissolved, # ug/L				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithium - dissolved, # ug/L				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, dissolved, # ug/L				<36	<36	130	<36	500	<36	3,100	2,900	3,100	1,500	47 J	97 J	1,500	1,600	1,700	1,600
Iron, ug/L				82 J	52 J	200	790	3,400	400	3,100	3,600	3,100	1,600	59 J	150	1,700	1,800	1,800	1,700
Magnesium ug/L				41,000	48,000	21,000	16,000	24,000	39,000	31,000	35,000	40,000	39,000	38,000	43,000	12,000	12,000	46,000	45,000
Manganese, dissolved, # ug/L				<4.4	<4.4	290	320	81	<4.4	1,400	1,400	1,400	1,200	1,300	1,100	100	96	380	340
Manganese, ug/L				<4.4	<4.4	300	420	82	5.0 J	1,400	1,500	1,400	1,300	1,200	1,200	100	110	360	380
Molybdenum dissolved, ug/L				--	--	--	--	--	--	--	--	--	--	--	--	240	210	--	--
Potassium, ug/L				1,300	930	1,700	1,300	480 J	690	3,900	4,700	5,000	5,600	4,400	5,400	880	820	1,600	1,700
Sodium, ug/L				14,000	15,000	12,000	9,400	12,000	16,000	30,000	34,000	50,000	39,000	53,000	55,000	52,000	47,000	34,000	33,000
Bicarbonate Alkalinity, mg/L				340	420	310	320	210	340	290	430	380	380	290	350	130	200	200	320
Carbonate Alkalinity, mg/L				<2.3	<4.6	<4.6	<4.6	<2.3	<4.6	<2.3	<4.6	<4.6	<4.6	<4.2	<4.6	<3.1	<4.6	<4.6	<4.6
Total Alkalinity, mg/L				340	420	310	320	210	340	290	430	380	380	290	350	130	200	200	320

4.4 Blue highlighted cell indicates the compliance well result exceeds the UPL (background) and the LOQ.
30.8 Yellow highlighted cell indicates the compliance well result exceeds the GPS.
17 Grayscale indicates Additional Parameters sampled for selection of remedy and evaluation of Monitored Natural Attenuation.

Table 5. Groundwater Analytical Summary - 2021
Prairie Creek Generating Station, Cedar Rapids, IA / SCS Engineers Project #25221074.00

Parameter Name	UPL Method	UPL	GPS	Background Wells						Compliance Wells					Delineation Wells							
				MW-301		MW-301A*		MW-302		MW-307		MW-308			MW-309		MW-309A		MW-310		MW-310A	
				4/27/2021	10/21/2021	4/28/2021	10/22/2021	4/27/2021	10/21/2021	4/26/2021	10/21/2021	4/26/2021	7/14/2021	10/21/2021	4/27/2021	10/22/2021	4/27/2021	10/22/2021	4/27/2021	10/22/2021	4/27/2021	10/22/2021
Appendix III																						
Boron, ug/L	P	67		<58	<58	71 J	61 J	<58	<58	1000	960	5,900	--	6,100	1,200	1,200	780	740	850	870	290	240
Calcium, mg/L	NP	148		130	160	68	59	76	130	21	16	65	--	53	120	110	110	110	110	110	160	140
Chloride, mg/L	P	36.7		58	98.0	<2.2	<2.2	23	82	10	2.5 J	7.9	--	8.1	12	17	26	30	18	24	44	48
Fluoride, mg/L	P*	0.23		<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	0.31 J	0.40 J	<0.28	--	<0.28	0.36 J	0.36 J	<0.28	<0.28	0.36 J	0.47 J	<0.28	<0.28
Field pH, Std. Units	NP	8		6.81	6.90	7.17	7.15	6.96	7.15	7.2	8.84	7.15	9.65	9.17	7.34	7.42	7.10	7.19	7.21	7.28	7.19	7.31
Sulfate, mg/L	NP	108		93	100	5.3	7.0	57	89	42	36	200	--	140	110	130	130	140	140	160	240	190
Total Dissolved Solids, mg/L	NP	642		550	690	250	200	330	500	82	26 J	430	--	270	560	480	490	440	550	490	690	570
Appendix IV																						
		UPL	GPS																			
Antimony, ug/L	P*	0.48	6	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	--	3.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Arsenic, ug/L	P	3.57	10	<0.75	0.88 J	0.87 J	1.4 J	3.4	0.90 J	6.5	6.2	53	--	48	100	75	0.98 J	0.87 J	25	25	<0.75	<0.75
Barium, ug/L	P	332	2,000	250	270	160	130	160	220	36	35	50	--	36	190	100	190	180	160	150	200	160
Beryllium, ug/L	P*	0.16	4	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	--	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium, ug/L	P*	0.12	5	0.062 J	0.11	<0.051	0.075 J	0.065 J	0.080 J	<0.051	<0.051	0.055 J	--	<0.051	<0.051	<0.051	<0.051	<0.51	<0.051	<0.051	<0.051	<0.051
Chromium, ug/L	P	13.5	100	4.2 J	5.2	<1.1	<1.1	1.4 J	2.0 J	<1.1	<1.1	<1.1	--	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt, ug/L	NP	4.7	6	0.15 J	<0.19	1.2	0.96	0.37 J	<0.19	<0.091	<0.19	<0.091	--	<0.19	0.12 J	<0.19	0.3 J	0.32 J	0.098 J	<0.19	4.4	2.8
Fluoride, mg/L	P*	0.23	4	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	0.31 J	0.40 J	<0.28	--	<0.28	0.36 J	0.36 J	<0.28	<0.28	0.36 J	0.47 J	<0.28	<0.28
Lead, ug/L	P*	0.56	15	<0.21	0.37 J	0.21 J	0.49 J	<0.21	<0.21	<0.21	<0.21	<0.21	--	0.29 J	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
Lithium, ug/L	P	19.6	40	13	13	<2.5	<2.5	6.3 J	6.9 J	9.4 J	10	39	47	39	15	15	5.8 J	4.9 J	15	14	4.9 J	3.5 J
Mercury, ug/L	DQ	DQ	2	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	--	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Molybdenum, ug/L	P*	0.73	100	<1.3	<1.3	3.1	3.1	<1.3	<1.3	8.5	6.6	53	--	58	17	24	9.1	11	43	45	24	20
Selenium, ug/L	P	1.47	50	<0.96	1.1 J	<0.96	<0.96	0.96 J	<0.96	2.5 J	<0.96	<0.96	--	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96
Thallium, ug/L	P*	0.47	2	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	--	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Radium 226/228 Combined, pCi/L	P	2.37	5	0.844	0.606	0.823	1.27	1.31	0.770	0.043	0.242	0.361	--	0.219	0.829	0.818	1.06	2.49	1.11	0.588	0.627	0.673
Additional Parameters Monitored for Selection of Remedy																						
Arsenic - dissolved, ug/L	UPL or GPS not applicable			--	--	--	--	--	--	--	--	50	--	50	62	72	--	--	23	25	--	--
Cobalt - dissolved, # ug/L	UPL or GPS not applicable			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithium - dissolved, # ug/L	UPL or GPS not applicable			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, dissolved, # ug/L	UPL or GPS not applicable			<36	<36	130	<36	500	<36	<36	<36	<36	--	<36	1,300	1,200	8,600	8,700	5,500	4,200	6,800	6,000
Iron, ug/L	UPL or GPS not applicable			82 J	52 J	200	790	3,400	400	<36	<36	<36	--	<36	4,400	1,300	9,100	8,900	5,700	4,500	7,000	6,100
Magnesium ug/L	UPL or GPS not applicable			41,000	48,000	21,000	16,000	24,000	39,000	1,300	1,400	7,000	--	2,600	39,000	32,000	31,000	31,000	31,000	29,000	42,000	37,000
Manganese, dissolved, # ug/L	UPL or GPS not applicable			<4.4	<4.4	290	320	81	<4.4	<4.4	<4.4	85	--	36	1,400	1,200	760	720	1,400	1,100	420	330
Manganese, ug/L	UPL or GPS not applicable			<4.4	<4.4	300	420	82	5.0 J	<4.4	<4.4	85	--	38	1,400	1,300	770	740	1,400	1,200	400	360
Molybdenum dissolved, ug/L	UPL or GPS not applicable			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, ug/L	UPL or GPS not applicable			1,300	930	1,700	1,300	480 J	690	1,400	1,300	6,800	--	6,900	4,400	4,800	2,000	2,000	5,200	5,400	990	880
Sodium, ug/L	UPL or GPS not applicable			14,000	15,000	12,000	9,400	12,000	16,000	9,500	5,500	46,000	--	42,000	35,000	34,000	21,000	18,000	41,000	37,000	14,000	13,000
Bicarbonate Alkalinity, mg/L	UPL or GPS not applicable			340	420	310	320	210	340	9.9	82.0	89	--	52	410	390	290	370	350	380	300	340
Carbonate Alkalinity, mg/L	UPL or GPS not applicable			<2.3	<4.6	<4.6	<4.6	<2.3	<4.6	9.9	<4.6	39	--	62	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6
Total Alkalinity, mg/L	UPL or GPS not applicable			340	420	310	320	210	340	20	82	130	--	110	410	390	290	370	350	380	300	340

4.4 Blue highlighted cell indicates the compliance well result exceeds the UPL (background) and the LOQ.
30.8 Yellow highlighted cell indicates the compliance well result exceeds the GPS.
17 Grayscale indicates Additional Parameters sampled for selection of remedy and evaluation of Monitored Natural Attenuation.

Table 5. Groundwater Analytical Summary - 2020
Prairie Creek Generating Station, Cedar Rapids, IA / SCS Engineers Project #25220074.00

Abbreviations:

UPL = Upper Prediction Limit
NA = Not Analyzed
µg/L = micrograms per liter
mg/L = milligrams per liter

GPS = Groundwater Protection Standard
LOD = Limit of Detection
LOQ = Limit of Quantitation

DQ= Double Quantification
P = Parametric UPL with 1-of-2 retesting
NP = Nonparametric UPL with 1-of-2 retesting

Notes:

J = Estimated concentration at or above the LOD and below the LOQ.

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

** = Piezometer located near background water table monitoring well but groundwater flow direction is not yet confirmed.

1. An individual result above the UPL or GPS does not constitute an SSI above background or statistically significant level above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (USEPA) Maximum Contamination Level (MCLs), if established; otherwise, the values from 40 CFR 257.95(h)(2).
3. Interwell UPLs calculated based on results from background wells MW-301 and MW-302.

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

Date: 4/22/2021
Date: 12/26/2021
Date: 12/30/2021
Date: 1/11/2022

Table 6. 2021 Groundwater Field Data Summary
Prairie Creek Generating Station / SCS Engineers Project #25221074.00

Well	Sample Date	Groundwater Elevation (feet)	Field Temperature (deg C)	Field pH (Std. Units)	Oxygen, Dissolved (mg/L)	Field Specific Conductance (umhos/cm)	Field Oxidation Potential (mV)	Turbidity (NTU)
MW-301	4/27/2021	715.84	10.4	6.81	3.76	931	168.4	2.04
	10/21/2021	713.44	12.3	6.90	4.67	1205	180.3	9.70
MW-301A	4/28/2021	716.76	9.7	7.17	1.68	930	11.7	2.04
	10/21/2021	707.07	13.3	7.15	2.39	538	37.5	32.20
MW-302	4/27/2021	715.36	9.0	6.96	0.12	889	24.1	2.70
	10/21/2021	713.09	14.1	7.15	3.47	969	122.3	15.30
MW-303	4/27/2021	702.75	9.0	6.96	0.19	734	11.7	2.10
	10/21/2021	701.84	16.2	7.16	0.24	911	-89.8	10.40
MW-304	4/27/2021	702.80	9.1	6.90	0.21	968	-15.8	1.20
	10/21/2021	701.80	16.1	7.07	0.25	1053	-60.7	8.50
MW-305	4/27/2021	702.66	9.3	7.07	0.10	977	87.1	1.10
	10/20/2021	701.75	16.0	7.21	0.22	1117	6.5	11.50
MW-306	4/27/2021	702.75	13.4	7.47	0.34	580	-104.7	1.20
	10/20/2021	702.02	12.9	7.40	0.24	563	-124.2	12.70
MW-306A	4/27/2021	703.63	13.6	7.24	0.11	873	-17.8	2.40
	10/20/2021	702.31	13.1	7.21	0.26	1109	-66.1	10.40
MW-307	4/26/2021	706.38	9.0	7.20	0.11	857	11.6	2.80
	10/21/2021	706.29	17.4	8.84	0.24	143	130.8	10.70
MW-308	4/26/2021	705.05	9.0	7.15	0.16	743	10.7	9.50
	7/14/2021	703.38	15.3	9.65	0.13	551.7	-228.9	0.14
	10/21/2021	703.21	14.6	9.17	0.20	507	-170.3	9.80
MW-309	4/27/2021	702.68	13.6	7.34	0.11	914	-55.8	0.70
	10/22/2021	701.70	17.9	7.42	0.21	855	-123.4	19.80
MW-309A	4/27/2021	702.92	14.1	7.10	4.80	907	-36.1	12.50
	10/22/2021	701.60	15.6	7.19	0.32	824	-144.2	19.80
MW-310	4/27/2021	702.11	13.3	7.21	0.09	893	-115.1	8.40
	10/22/2021	701.48	16.3	7.28	0.22	880	-145.2	20.00
MW-310A	4/27/2021	702.69	13.6	7.19	0.12	862	11.6	1.00
	10/22/2021	701.76	15.1	7.31	NM	963	-149.4	19.9

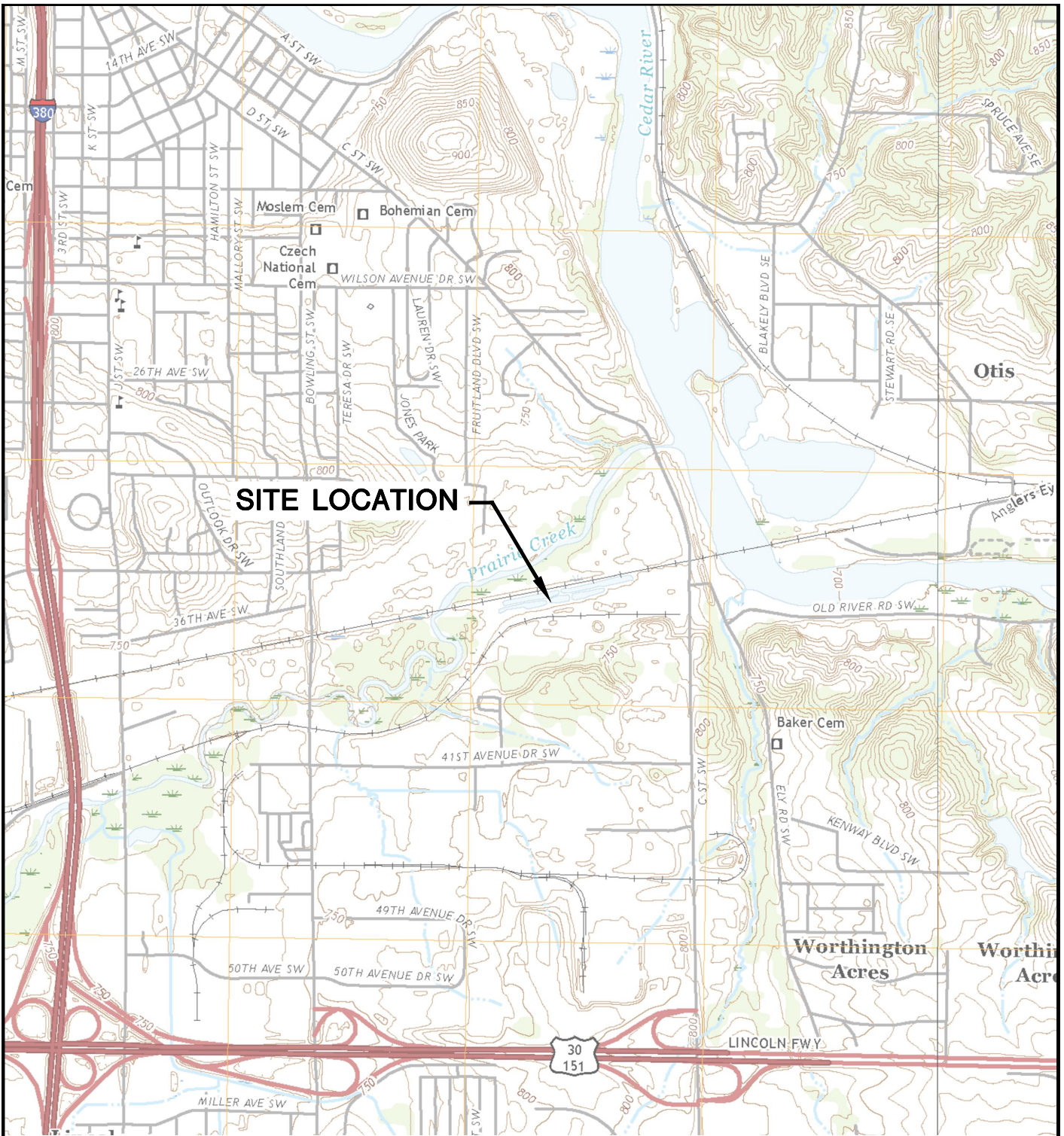
Abbreviations:
 NM = Not Measured

Created by: NDK _____	Date: 4/22/2021 _____
Last revision by: RM _____	Date: 1/5/2022 _____
Checked by: MDB _____	Date: 1/6/2022 _____
PM QA/QC: TK _____	Date: 1/11/2022 _____

I:\25221074.00\Deliverables\2021 Fed Annual Report\Tables\[Table 6 - 2021 Groundwater Field Data Summary.xlsx]GW Field Data Summary

Figures

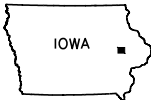
- 1 Site Location Map
- 2 Site Plan and Monitoring Well Locations
- 3 Water Table Map – April 2021
- 4 Water Table Map – October 2021



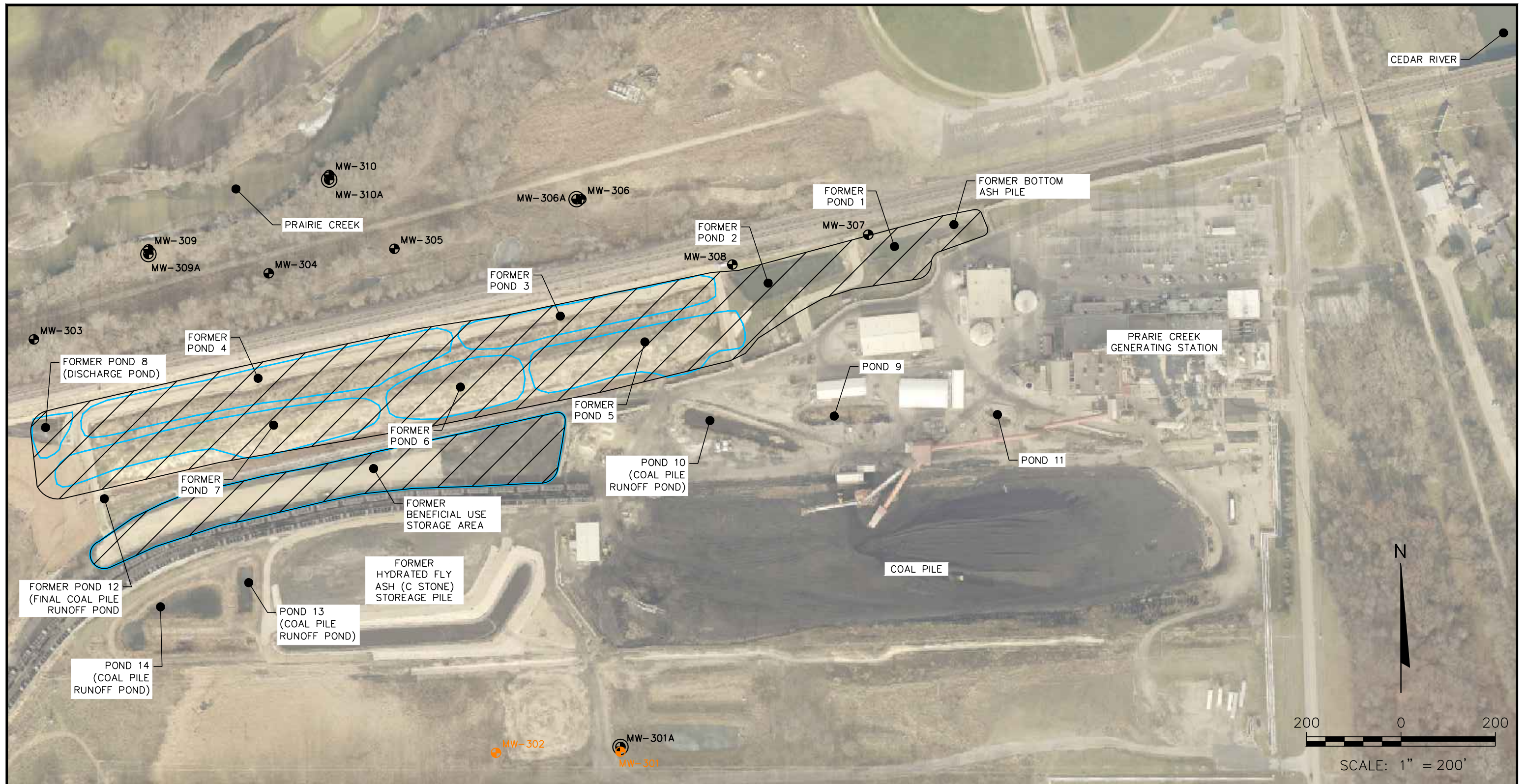
SITE LOCATION



CEDAR RAPIDS SOUTH QUADRANGLE
 IOWA-LINN CO.
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 2018
 SCALE: 1" = 2,000'



CLIENT	ALLIANT ENERGY 4902 N. BILTMORE LANE, #1000 MADISON, WI 53718		SITE	ALLIANT ENERGY PRAIRIE CREEK GENERATING STATION CEDAR RAPIDS, IA		ENGINEER	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830		FIGURE 1
	PROJECT NO.	25219074.00		DRAWN BY:	BSS		APPROVED BY:	TK 01/30/2020	
	DRAWN:	11/18/2019		CHECKED BY:	MDB				
REVISED:	01/14/2020								



LEGEND

- MONITORING WELL
- BACKGROUND MONITORING WELL
- PIEZOMETER
- CCR UNITS
- APPROXIMATE CLOSURE AREA (SEE NOTE 1)

NOTES:

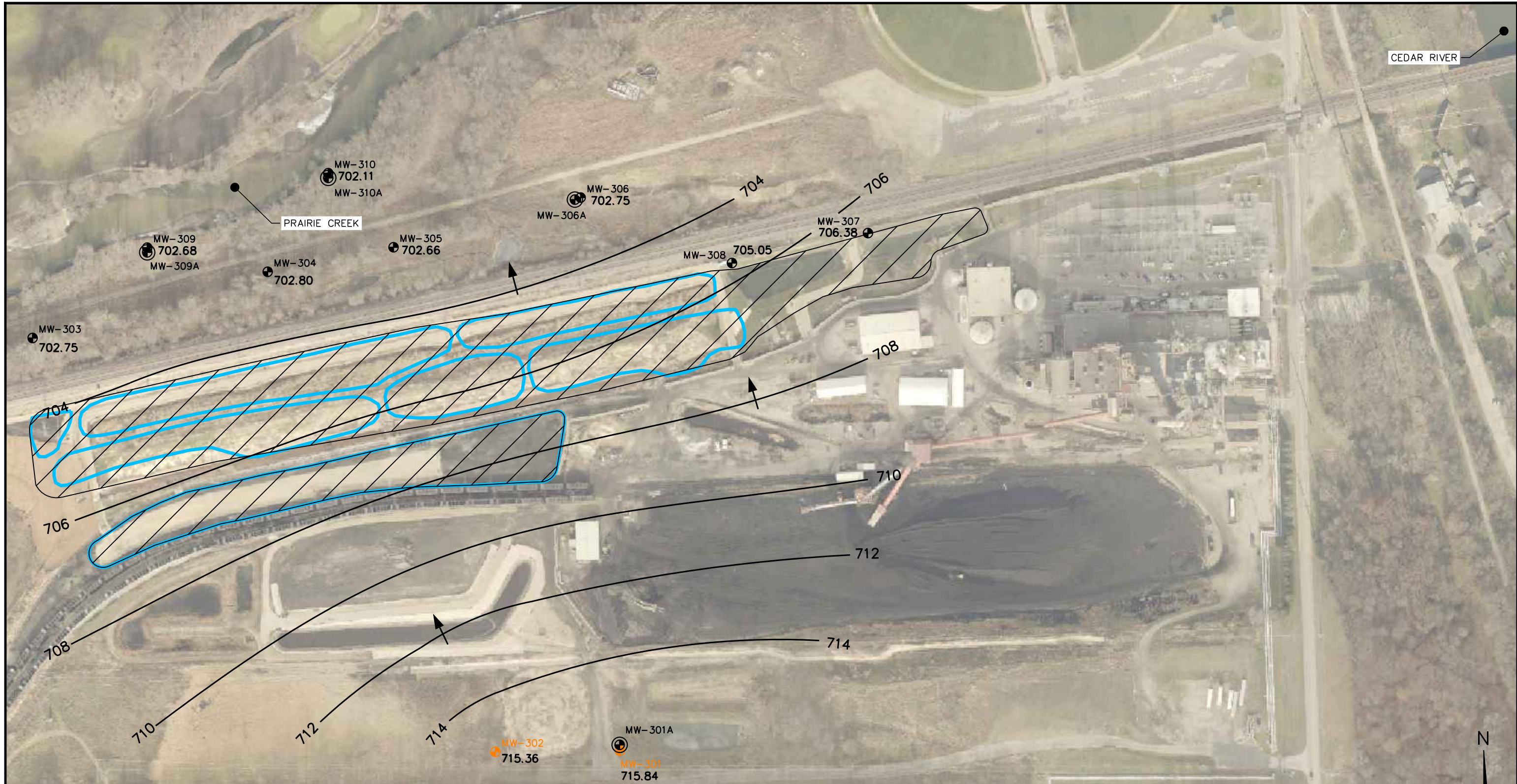
1. PCS PONDS 1-8, THE BOTTOM ASH PILE, AND THE BENEFICIAL USE STORAGE AREA WERE CLOSED IN DECEMBER 2018. LIMITS ARE APPROXIMATE.
2. AERIAL PHOTO IMPORTED FROM THE ARCMAP BASEMAP (CEDAR RAPIDS, IOWA GIS - DECEMBER 22, 2018).
3. MONITORING WELLS MW-301 THROUGH MW-306 INSTALLED BY CASCADE DRILLING BETWEEN OCTOBER 31 AND DECEMBER 6, 2016.
4. MONITORING WELLS MW-307 AND MW-308 INSTALLED BY CASCADE DRILLING ON NOVEMBER 27, 2018.
5. MONITORING WELLS MW-309 AND MW-310 INSTALLED BY ROBERTS ENVIRONMENTAL DRILLING ON AUGUST 5-6, 2019.
6. MONITORING WELLS MW-301A AND MW-306A INSTALLED BY CASCADE DRILLING ON JUNE 22-24, 2020.
7. MONITORING WELLS MW-309A AND MW-310A WERE INSTALLED BY CASCADE DRILLING ON JULY 23, 2020.
8. THE BACKGROUND MONITORING WELLS FOR THE PRAIRIE CREEK GENERATING STATION ARE: MW-301 AND MW-302.

PROJECT NO.	25219074.00	DRAWN BY:	BSS
DRAWN:	11/18/2019	CHECKED BY:	MDB
REVISED:	01/21/2021	APPROVED BY:	TK 01/28/2021

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

CLIENT ALLIANT ENERGY 4902 N. BILTMORE LANE, #1000 MADISON, WI 53718	SITE ALLIANT ENERGY PRAIRIE CREEK GENERATING STATION CEDAR RAPIDS, IA
---	--

SITE PLAN AND MONITORING WELL LOCATIONS	FIGURE 2
--	-------------



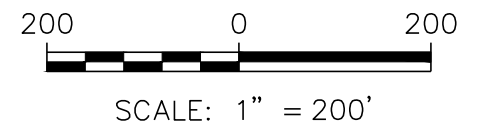
LEGEND

- MONITORING WELL
- BACKGROUND MONITORING WELL
- PIEZOMETER
- CCR UNITS
- APPROXIMATE CLOSURE AREA

- 715.84** WATER TABLE ELEVATION (APRIL 26-27, 2021)
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

- 1. SEE FIGURE 2 FOR BASE MAP NOTES.



PROJECT NO.	25221074.00	DRAWN BY:	KP
DRAWN:	05/25/2021	CHECKED BY:	MDB
REVISED:	07/09/2021	APPROVED BY:	TK 1/7/2022

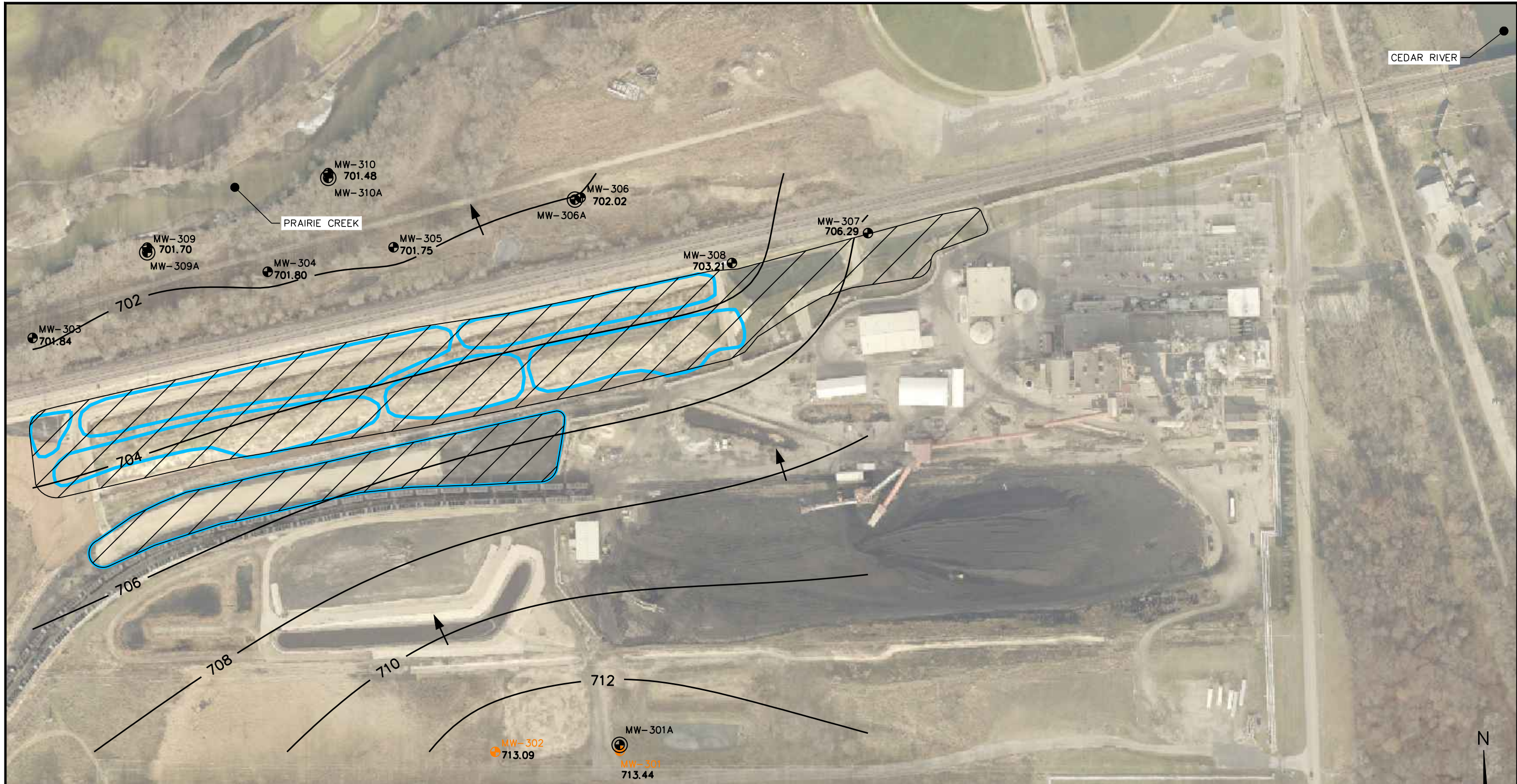
SCS ENGINEERS
 2830 DAIRY DRIVE MADISON, WI 53718-6751
 PHONE: (608) 224-2830

CLIENT **ALLIANT ENERGY**
 4902 N. BILTMORE LANE
 MADISON, WI 53718






SITE IPL-PRAIRIE CREEK GENERATING STATION
 3300 C ST. SW
 CEDAR RAPIDS, IA 52404



WATER TABLE MAP
 APRIL 2021

FIGURE
 3



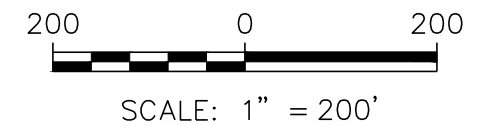
LEGEND

-  MONITORING WELL
-  BACKGROUND MONITORING WELL
-  PIEZOMETER
-  CCR UNITS
-  APPROXIMATE CLOSURE AREA

- 713.44** WATER TABLE ELEVATION (OCTOBER 20-22, 2021)
-  WATER TABLE CONTOUR
-  APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEE FIGURE 2 FOR BASE MAP NOTES.



PROJECT NO.	25221074.00	DRAWN BY:	KP
DRAWN:	01/06/2022	CHECKED BY:	MDB
REVISED:	01/06/2022	APPROVED BY:	TK 1/7/2022

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


CLIENT ALLIANT ENERGY
 4902 N. BILTMORE LANE
 MADISON, WI 53718

SITE IPL-PRAIRIE CREEK GENERATING STATION
 3300 C ST. SW
 CEDAR RAPIDS, IA 52404

WATER TABLE MAP
 OCTOBER 2021

FIGURE
 4

I:\25221074.00\Drawings\1:1.dwg, 1/7/2022 10:20:08 AM



Appendix A
Regional Hydrogeologic Information

**Table PC-2. Regional Hydrogeologic Stratigraphy
Prairie Creek Generating Station / SCS Engineers Project #25215053.01**

Age of Rocks	Hydrogeologic Unit	General Thickness (feet)	Name of Rock Unit*	Type of Rock
Quaternary (0-1 million years old)	Surficial Aquifers • Alluvial • Buried-Channel • Drift	0 to 400	Undifferentiated	<ul style="list-style-type: none"> • Sand, gravel, silt, and clay • Sand, gravel, silt, and clay • Till (sandy, pebbly clay), sand, and silt
Pennsylvanian (280 to 310 million years old)	Aquiclude, locally contains waterbearing sandstone	0 to 70	Undifferentiated	<ul style="list-style-type: none"> • Shale, sandstone, limestone, and coal
Mississippian (310 to 345 million years old)	Mississippian Aquifer	0 to 220	Meramecian Series Osagean Series Kinderhookian Series	<ul style="list-style-type: none"> • Limestone and sandstone • Dolomite, limestone, and shale • Limestone, dolomite, and siltstone
Devonian (345 to 400 million years old)	Devonian Aquiclude	0 to 350	Yellow Spring Group Lime Creek Group	<ul style="list-style-type: none"> • Shale, dolomite, and siltstone • Dolomite and shale
	Devonian Aquifer	0 to 400	Cedar Valley Limestone Wapsipinicon Limestone	<ul style="list-style-type: none"> • Limestone and dolomite • Dolomite, limestone, and shale
Silurian (400 to 425 million years old)	Silurian Aquifer	0 to 450	Gower Dolomite Hopkinton Dolomite Kankakee Limestone Edgewood Dolomite	<ul style="list-style-type: none"> • Dolomite, with some chert and limestone
Ordovician (425 to 500 million years old)	Aquiclude	300 to 600	Maquoketa Shale Galena Dolomite Decorah Formation Platteville Formation	<ul style="list-style-type: none"> • Dolomite and shale • Dolomite and chert • Limestone and shale • Limestone and shale
	Cambrian-Ordovician aquifer	400 to 650	St. Peter sandstone Prairie du Chien Formation Jordan Sandstone St. Lawrence Dolomite	<ul style="list-style-type: none"> • Sandstone • Dolomite, sandstone, and shale • Sandstone • Dolomite
Cambrian (500 to 600 million years old)	Cambrian confining beds	90 to 290	Franconia Sandstone	<ul style="list-style-type: none"> • Shale, siltstone, and sandstone
	Dresbach Aquifer	157 to 1644	Dresbach Group Galesville Sandstone Eau Claire Sandstone Mt. Simon Sandstone	<ul style="list-style-type: none"> • Sandstone • Sandstone, shale, and dolomite • Sandstone
Precambrian (600 million to more than 2 billion years old)	Precambrian rocks	Unknown	Crystalline rocks, undifferentiated	<ul style="list-style-type: none"> • Sandstone, igneous and metamorphic rocks

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

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

I:\25215053\Reports\Report 8 - OGS\Tables\Regional_Hydrogeologic_Stratigraphy.doc

GO

Things to See & Do Resident Resources Doing Business City Council Government City News CR Talks

Resident Resources

Parks & Recreation

Utilities

- Energy Management
- Garbage & Recycling
- Utility Bills

Water

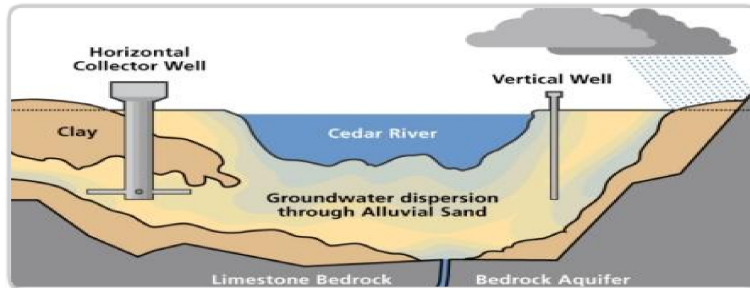
- About Us
- Backflow Prevention
- Outages/Main Breaks
- Our Treatment Process

Water Quality

Our Watershed

- Water Quality Report
- Best Tasting Water
- Water Engineering
- In the Home
- Drought
- Water Conservation
- Utility Bills
- 5 in 1 Dam
- Sewer Maintenance
- Water Pollution Control
- Sewer
- Storm Water
- City Buses
- Rental Services
- Neighborhood Services
- Streets Services
- Housing Services
- CleanUpCR
- iGreenCR
- Library
- Public Safety
- City Services
- Get Involved
- Americans with Disabilities Act

Our Watershed



SHARE

Where Does Our Water Come From?

The City of Cedar Rapids obtains its drinking water supplies from shallow vertical and collector wells constructed in the sand and gravel deposits along the Cedar River. Those deposits form an underground water-bearing layer called an alluvial aquifer. Because of continuous pumping of the City's wells, most of the water in the aquifer is pulled from the river. The rest of the water is supplied as water percolates up from a deeper bedrock aquifer or down from the top of the ground.

Our drinking water from those wells benefits from natural filtration through the riverbank. This natural sand filtration has proven beneficial, pre-treating the water before it ever reaches the City's two treatment plants (both conventional lime-softening facilities).

Watershed Monitoring

In order to most effectively manage our water resources, the Cedar Rapids Water Division has worked with state and federal agencies to complete a source water assessment, identifying potential contamination sources in the Cedar River watershed. The results of that assessment, paired with a continuous monitoring program, help us better understand our watershed. We have confirmed that some contaminants, including nitrate, herbicides and bacteria, enter the Cedar River watershed upstream from our wells. The watershed of the Cedar River upstream from Cedar Rapids is over 6,500 square miles and extends into southern Minnesota. Monitoring of these contaminants will continue to ensure a strong watershed protection program.

If you are interested in reviewing our source water assessment or any monitoring results, please contact the CRWD at 319-286-5910.

- | | | | |
|-----------------------------|------------------------|---------------------------|--------------------|
| How do I...? | Building Permit Viewer | Flood Recovery Progress | Parks & Recreation |
| Contact Us | City Buses | Garbage Pickup | Public Safety |
| Subscribe | City Departments | Licenses, Permits & Taxes | Utility Bills |
| Bid Opportunities & Results | Report a Problem | Maps | FAQ |

Privacy Statement & Disclaimer

© 2014 City of Cedar Rapids, Iowa

Select Language ▼

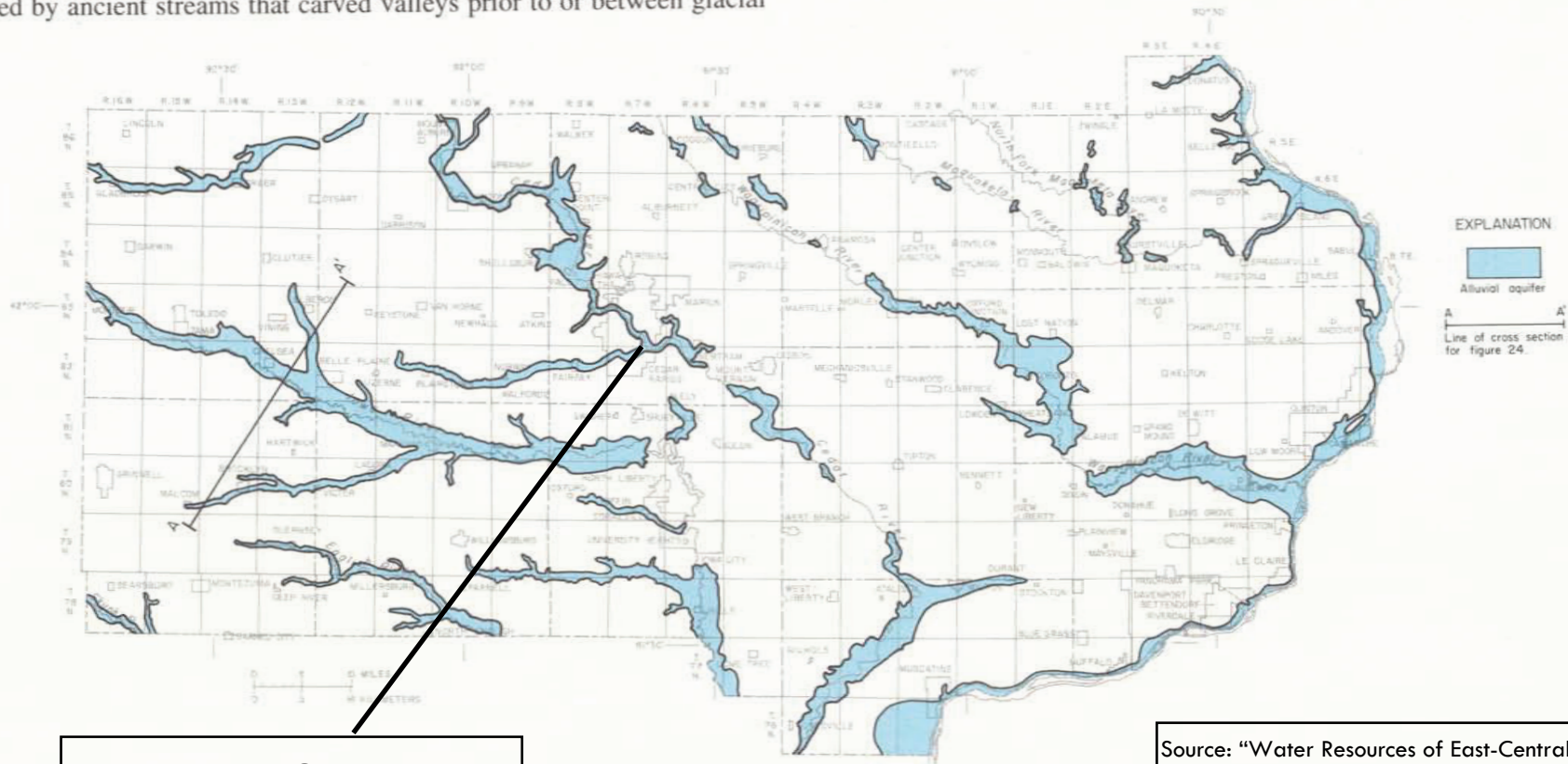
Surficial Aquifers

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

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

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

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



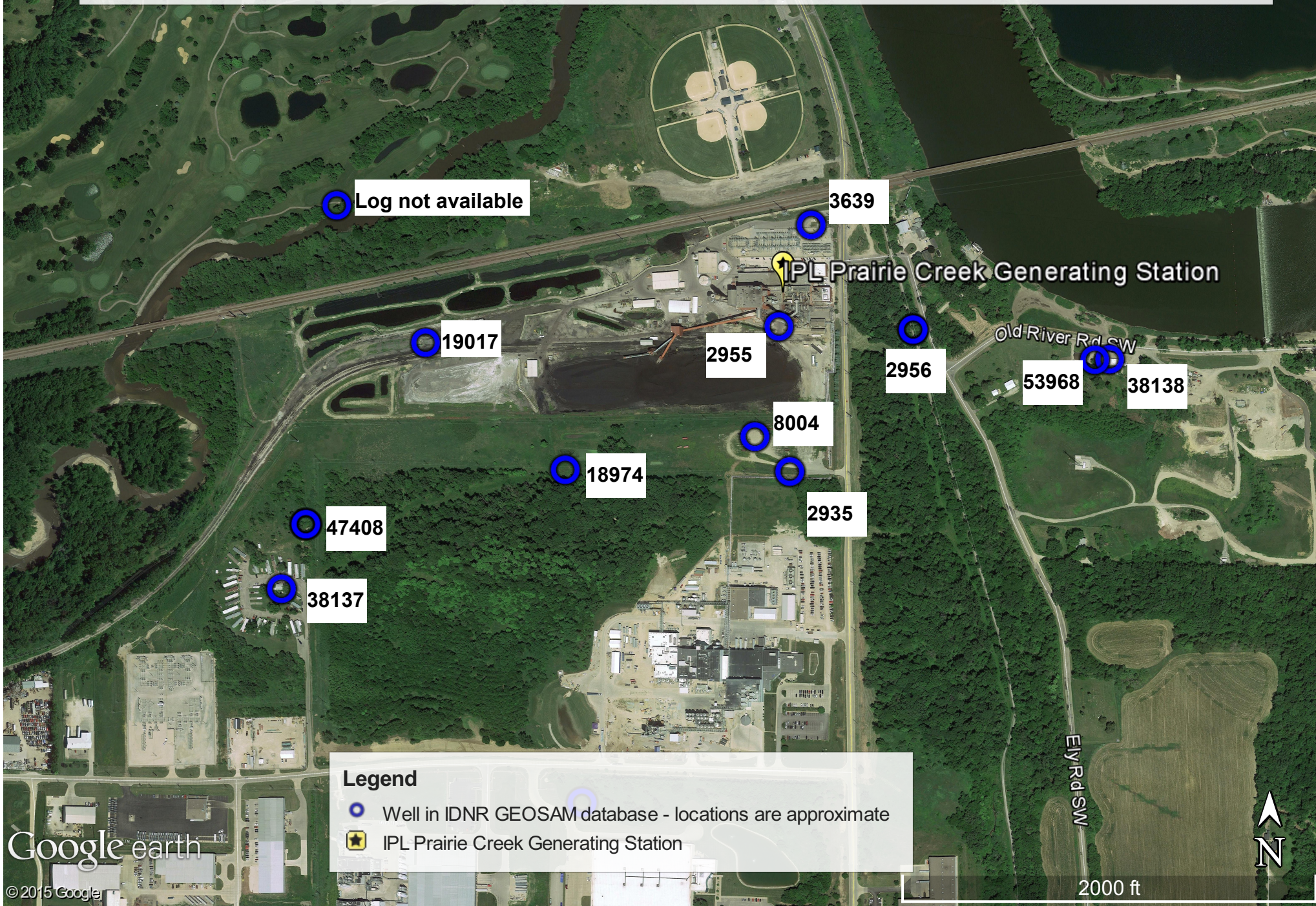
Approximate Site Location

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

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

Historical Well Logs Near Prairie Creek Generating Station

Labeled well locations are included in IDNR's GEOSAM database. Logs are not available for all well borings. Well locations are approximate.



Legend

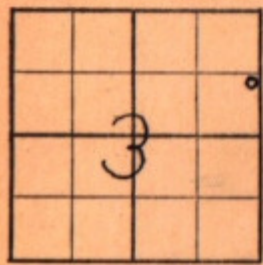
- Well in IDNR GEOSAM database - locations are approximate
- IPL Prairie Creek Generating Station



2000 ft

FORM NO. 79 -- In stock and for sale by Mid-West Prtg. Co., Tulsa W-2935

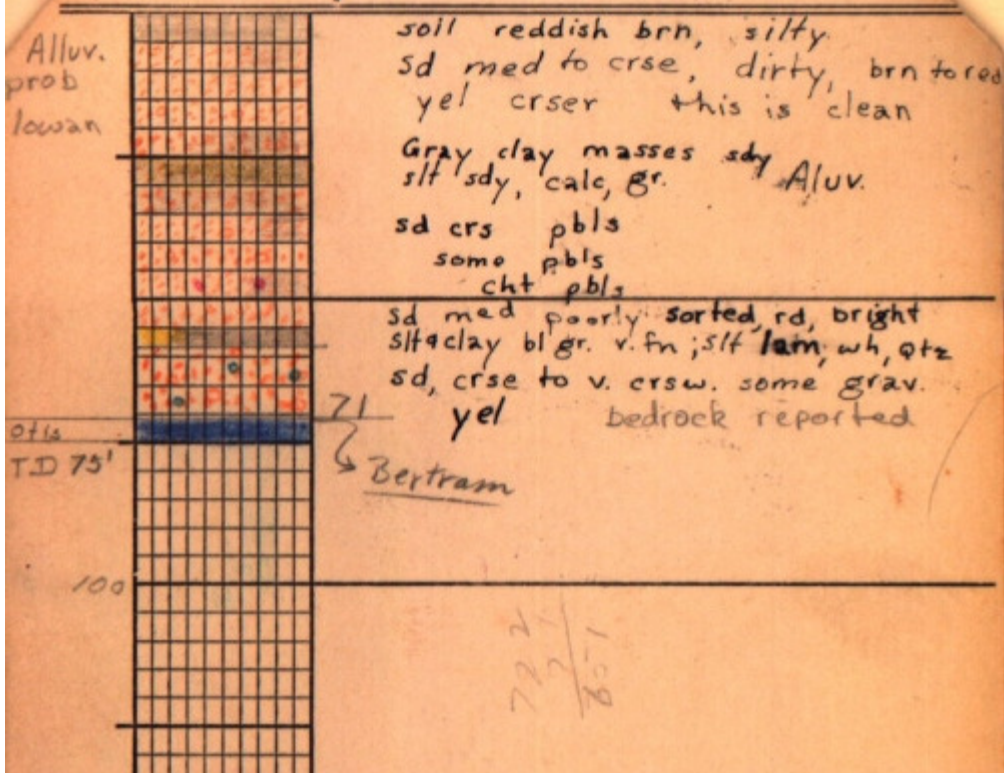
STATE IOWA CEDAR RAPIDS (LINN)
 NE/SE NE CENTRAL IOWA POWER CO-OP
 SEC. 3 Test hole No. 1
 TWP. 82N RGE. 7W COMMENCED COMPLETED



Art Bruinekool
 CASING RECORD
 LOGGED BY
 Aug 11, 1947 S.E.T. + G.

REMARKS
 Elev. 722 ± S.W.L. 19.6' below L.S. - 8-11-47
 T.D. 75'

CB7-3



General	Construction	Logs	Stratigraphy	Water	Storage
---------	--------------	------	--------------	-------	---------

Identification

Date Received
Owner Name Hide-A-Way Manor
Alt Name
WNumber 38137
PWTS ID
Storet ID
SDWIS ID 2411834
USGS ID
Project SOURCE WATER PROTECTION
Operator Unknown

Location

State Iowa
County Linn
Quadrangle Cedar Rapids South, Iowa
Township T82N
Range R7W
Section 3
Quarter SW NE NE
Latitude 41.9401300000
Longitude -91.6478370000
Accuracy GPS +/- 20 m.
UTM X 612089
UTM Y 4644013

Site

Site Type Drilled hole
Well Status Active
Field Located
Elevation 741 ft
Elevation Accuracy Digital Elevation Model
 Accurate to 5 ft
Landscape Position Valley

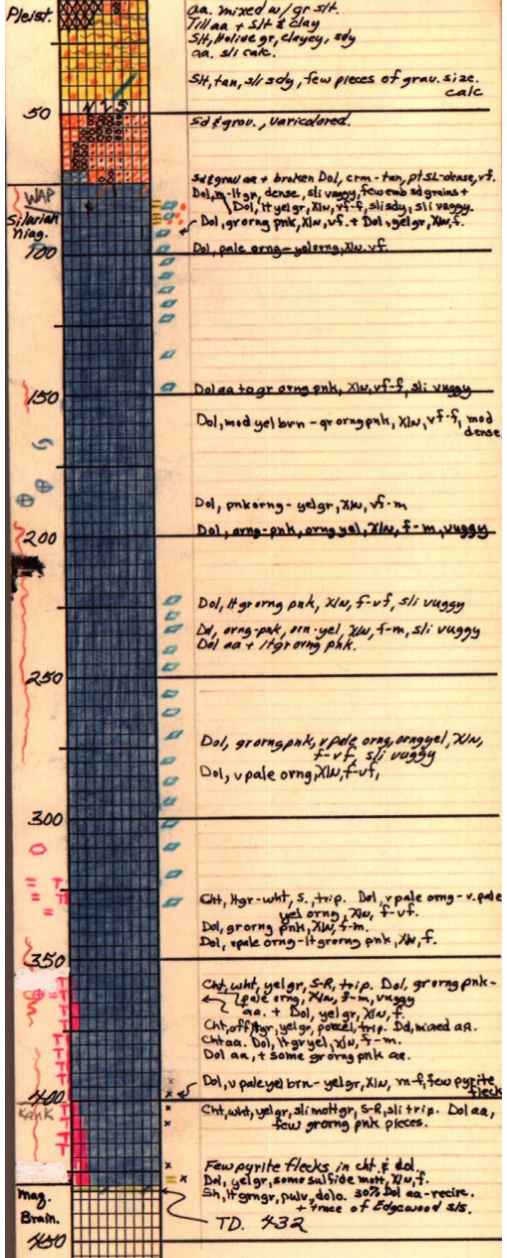
Drilling

Drilling Company Unknown
Drilling Date
Drill Method Unknown
Bedrock Depth
Well Depth 142 ft
Total Depth 142 ft
Well Types Public Access
Aquifers Silurian

STATE Iowa Cedar Rapids (Linna)
 SW NW SW NE Iowa Elec. L & P #5
 SEC. 3
 TWP. R2 RGE. TW COMMENCED _____ COMPLETED 10/66
 THORPE
 CASING RECORD

LOGGED July 1974 BY Gilmore
 REMARKS

EL. 715' Top.
 TD. 432'



715
 32
 640

430
 75
 355

STATE Iowa Cedar Rapids (Linn)

SENE SWNE Central Iowa Power #4

SEC. 3

TWP. 82 RGE. 7W COMMENCED 8-22-66 COMPLETED 9-17-66

Thorpe well co.

CASING RECORD
42" csg 0-5', 32" csg +1'-23', 24" csg

+17'-69'7", 16" csg +2'10"-90'

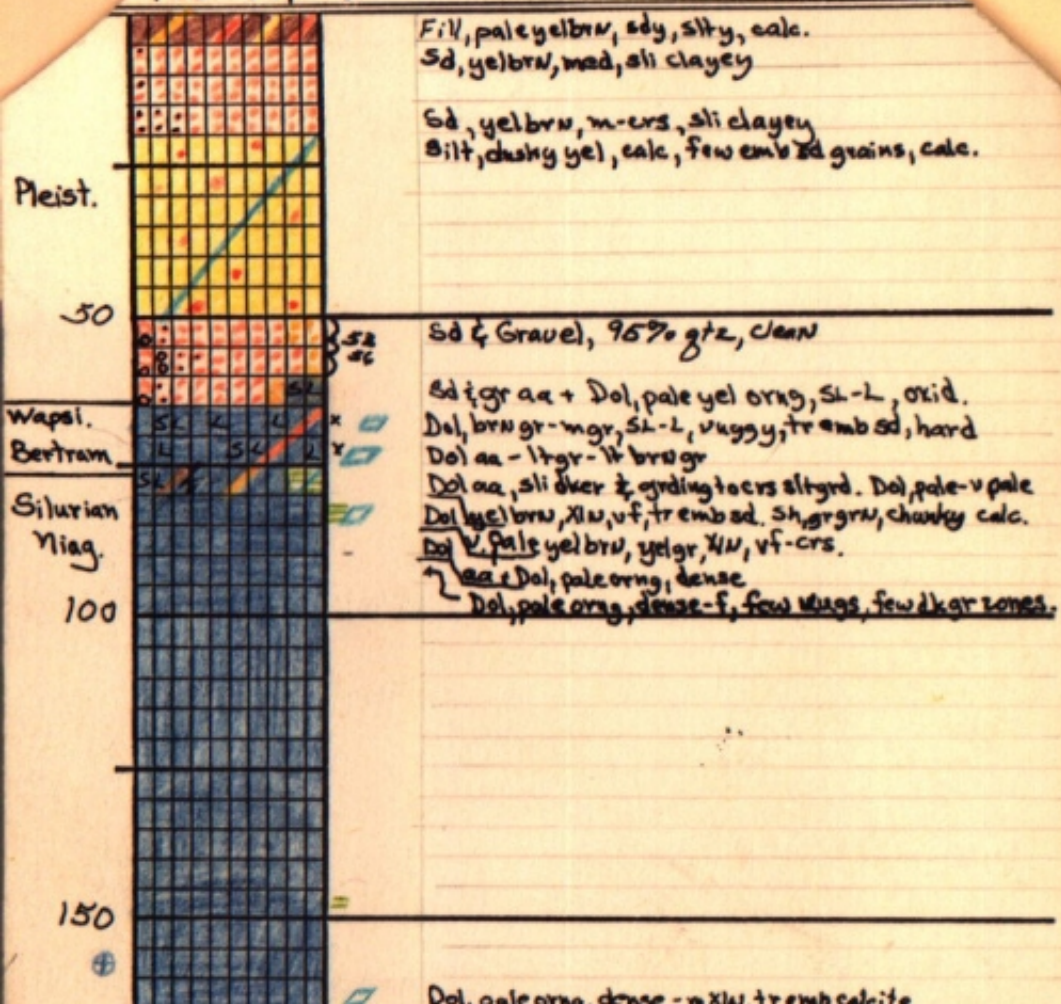
LOGGED 10-22-71 BY Gilmore

REMARKS
Cable tools

EL. 722' TD. 439' SWL-40-58', PL-113.9'

Yield-600 gpm

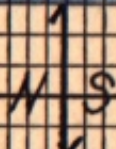
PL6-717



Dol aa, more XW, some pin point por.
Dol, pale orng - pnk orng, XW, f, pt dense, few gr zones

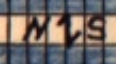
200

Dol, orng pnk - pale orng, XW, v.f., pin point por.



Dol, mod orng pnk - pale orng, XW, v.f., pt dense, sh por, vuggy, calcite - clear - yel.

250



Dol, grovng, orng pnk, dense, f, emb calcite

300

Dol aa few gr zones
Dol, v. pale orng, dense - f, emb calcite - yel - clear
Dol aa + some orng pnk

Dol, pale orng, tr pnk, XW, f, emb calcite, pin point por
cht, yelgr, wht, trip. Dol aa.
cht aa foss.

cht, lt gr, wht, trip, foss. Dol, v. pale orng, XW, f,
sh vuggy - por, trace orng pnk,
cht aa. Dol, v. pale orng, trace orng pnk, XW, f - v.f.
Dol, pale orng, grovng pnk, dense, f, sh vuggy & por.

350

cht, v. lt gr, wht, slt trip. S. Dol, pale - v. pale orng, XW, f-m.
Dol aa, sh vuggy

cht aa. Dol, v. pale orng, XW, f - v.f.
cht, lt gr, wht, slt trip. Dol, v. pale yel brn, pale orng, XW, f - m.
cht, lt - v. lt gr, S. Dol aa.
cht, lt gr, wht, pale yel brn, S, slt trip. Dol aa sh vuggy
cht aa. Dol, pale orng, XW, f - m.
cht, lt - v. lt gr, S, sh mett. Dol aa.

400

cht, off wht, lt gr, S-R, slt trip. Dol aa, some dissem. pyrite.
cht aa. Dol, v. pale yel brn, XW, f - m.
cht, off wht, yel brn, lt gr, S-R, slt trip. Dol aa w/ dk gr mett.,
pt sh mett & ang.

Sh, grng, chunky, dolo.

TD. 439'

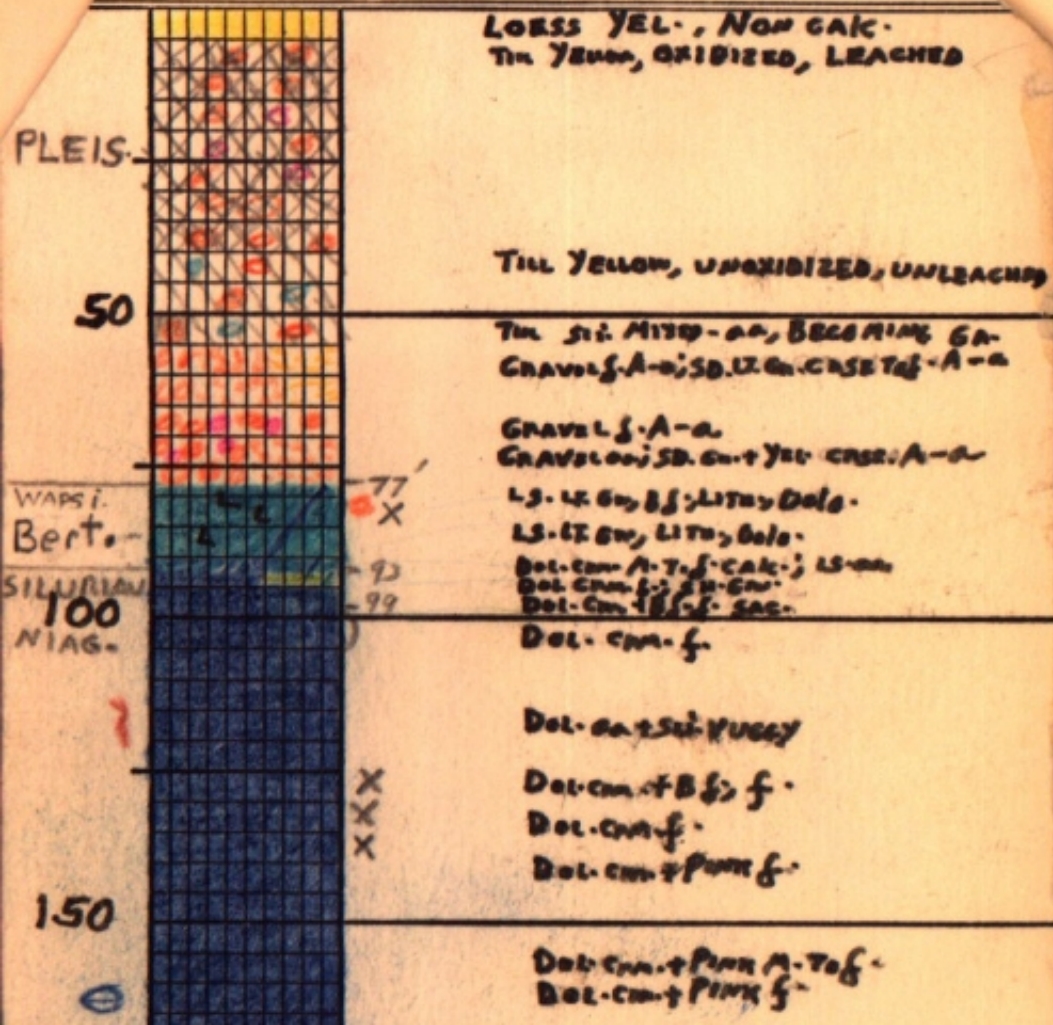
Kank.

Mag.
450

$$\begin{array}{r} 720 \\ 60 \\ \hline 660 \end{array}$$

$$\begin{array}{r} 722 \\ 436 \\ \hline 286 \end{array}$$

STATE		IOWA		CEDAR RAPIDS (LINN)													
NW NE SE NE		APP. C NE SE		CENTRAL IOWA POWER COOP #3													
SEC. 3		DAWN SE NE		(REA)													
TWP.	RGE.	COMMENCED	COMPLETED														
82N	7W	AUG. 21 - SEPT. 14, 1956															
<table border="1"> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>														HORG & AMES			
CASING RECORD																	
77' OF 20" CASING																	
99' OF 12" CASING (CEMENT)																	
LOGGED		FEB. 25, 1957		BY NORTHROP													
REMARKS		EL 722'															
TD		SWL 38.67'															
EKS-1		PL 144.9' @															
3/59		SWL 39.12'															
		SWL 145' @ 476 gpm															



Dol. Bl. + P. f.

Dol. Bl. f.; sil. porous - some P. f.

Dol. con. + P. f. + porous
Dol. P. f., VUGGY
Dol. con. + P. f., VUGGY
Dol. con. + P. f., sil. porous

Dol. con. f.

Dol. con. + P. f.
Dol. mostly con. f. - some P. f.
Dol. con. f., sil. VUGGY

Dol. con. + P. f. > sil. porous

CHZ. W. - Room, Tap; Dol. con. + P. f.
sil. porous
CHZ. con.; Dol. mostly con. f. sil. porous
Dol. con. + P. f. some P. f.

CHZ. W. - Room, Tap; Dol. con. + P. f.
CHZ. W. - Room, Tap, P. f.; Dol. con.
CHZ. W. - Room + S. m. Dol. con. + P. f.
CHZ. W. - Room, Tap; Dol. con. + P. f.
CHZ. W. - Room, S. m.; Dol. con.

CHZ. con. + Room, Tap; Dol. con. + P. f.

X Dol. con. + P. f.

CHZ. W. - Room, Tap, + S. m.; Dol. con. + P. f.
CHZ. con.; Dol. con. f.

CHZ. con.; Dol. con. + sil. SILTY, GUMMY
Dol. con. + P. f.; sil. GUMMY, GUM, Dol. con.
LUMPY

Vertical column of blue scribbles on the left side of the page.

200

250

300

350

400

450

500

722 722
95 77
627 645

Note: The location of this

The location of this well should be checked. The map provided by the Company indicates the plant is in the

NE 1/4 sec. 3-82-7W

Elev. should be checked also.

A set of geophysical logs was run 3-23-76. Caliper and radiation logs gave indications of major cavities from 200-220' and 300-320'. These

logs are on file with the Carbonate Hydrology Project data.

3-24-76

Bunker.

LB

722
+30

292

STATE
IOWA

Cedar Rapids Polk (Linw) #1

SESE-NE-NE
SEC. **3**

TWP. **82N** RGE. **7W**

COMENCED **May 5, 1999** R.E.A. COMPLETED **June 1, 1999**

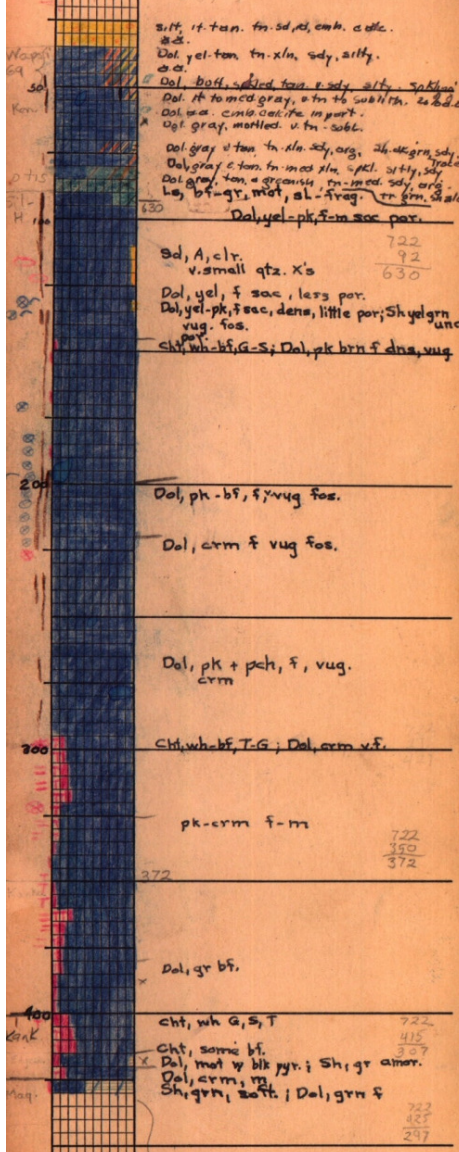
Hoes & Gmes - Ed Martin

CASING RECORD
110' of 12" casing cemented in

LOGGED BY **M. Parker**

REMARKS
Pump setting 290'
2nd Prod. Test after 1st acid.
SWL. 24.50'

CE10-6
for 1/2 hrs. when rate
was increased to 250 gpm
well started pumping air



Driller reports shale
at 432' - TD 439'.
When measured hole
was found to be
5' deeper than
shown on samples.

722
425
297

STATE Iowa CEDAR RAPIDS (LINN)

NW-SW-NW Central Iowa Power Co-op #3(47)
 SEC. 2

TWP. 82N RGE. 7W COMMENCED August 13, 1947 COMPLETED

		2	

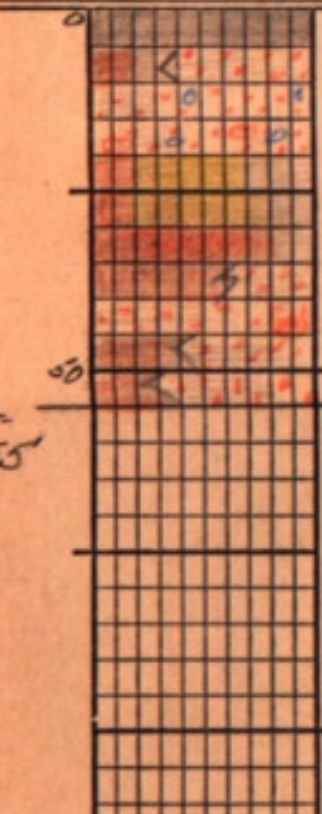
Pella Tank & Pipe Co. Bruner-Kool
 CASING RECORD
cased with 5 3/16" casing (retained)

LOGGED Aug. 25, 1947 BY M. Parker

REMARKS El. 715.5
No water level data

T.O. 55'
Test hole abandoned

CB8-1



Top soil dk. brn. silty sdy.
 sd. fn-med. r.-a dirty clay tan v. sdy.
 so med-crse r.-a. dirty.
 sd. a. a. some gravel
 clay H. gray silty sdy v. silty calc
 a. a.
 Clay H. gray-tan v. sdy.
 clay a. a. r' sd. fn-med a-r.
 sd. med-crse a-r. dirty some gravel

715
 55

 660

FORM NO. 79 - In stock and for sale by Mid-West Prtg. Co., Tulsa W-2955

STATE <i>Iowa</i>	<i>CEDAR RAPIDS (LIVAK)</i>
NE-SE-NE SEC. <i>3</i>	<i>Central Iowa Power Coop. Test hole #</i>
TWP. RGE. <i>82N 7W</i>	COMMENCED COMPLETED

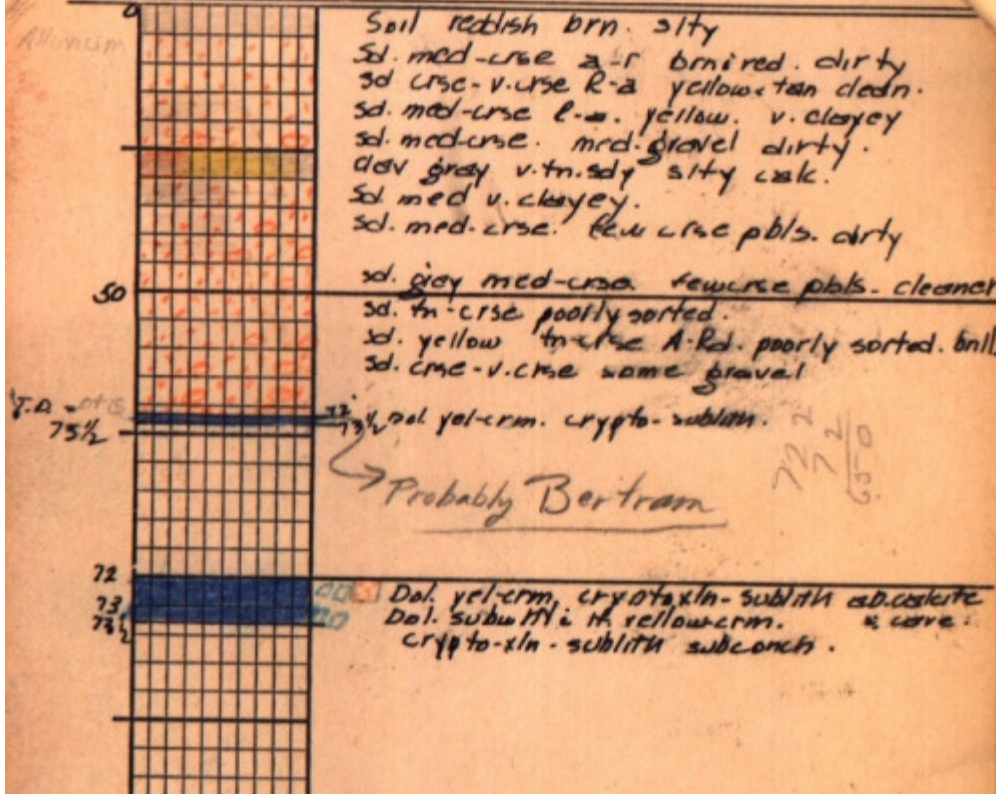
	<i>3</i>		

Art Bruinekool
CASING RECORD
5 3/4" casing tubed rock

LOGGED BY
Aug 13, 1947 M Parker

EL. 722[±]
T.D. 73 1/2

CB7-9



General	Construction	Logs	Stratigraphy	Water	Storage
---------	--------------	------	--------------	-------	---------

Identification

Date Received
Owner Name New Shack Tavern, The
Alt Name
WNumber 38138
PWTS ID
Storet ID
SDWIS ID 2409013
USGS ID
Project SOURCE WATER PROTECTION
Operator Unknown

Location

State Iowa
County Linn
Quadrangle Cedar Rapids South, Iowa
Township T82N
Range R7W
Section 2
Quarter NW SW NE
Latitude 41.9431790000
Longitude -91.6330300000
Accuracy GPS
UTM X 613311
UTM Y 4644371

Site

Site Type Drilled hole
Well Status Not Used
Field Located
Elevation 728 ft
Elevation Accuracy Digital Elevation Model Accurate to 5 ft
Landscape Position Valley

Drilling

Drilling Company Unknown
Drilling Date
Drill Method Unknown
Bedrock Depth
Well Depth 120 ft
Total Depth 120 ft
Well Types Public Access
Aquifers Silurian

Identification

Date Received
Owner Name New Shack Tavern, The
Alt Name
WNumber 53968
PWTS ID
Storet ID
SDWIS ID 2413414
USGS ID
Project SOURCE WATER PROTECTION
Operator Unknown

Site

Site Type Drilled hole
Well Status Not Used
Field Located
Elevation 731 ft
Elevation Accuracy Digital Elevation Model
 Accurate to 5 ft
Landscape Position Valley

Location

State Iowa
County Linn
Quadrangle Cedar Rapids South, Iowa
Township T82N
Range R7W
Section 2
Quarter NW SW NE
Latitude 41.9431730000
Longitude -91.6332960000
Accuracy GPS +/- 20 m.
UTM X 613289
UTM Y 4644370

Drilling

Drilling Company Unknown
Drilling Date
Drill Method Unknown
Bedrock Depth
Well Depth 40 ft
Total Depth 40 ft
Well Types Public Access
Aquifers Alluvium

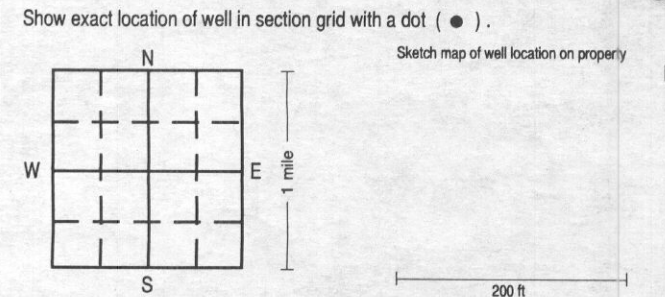
Site identification
 Property Owner Kloubec Aquaculture Well Number _____
 Address 3800 cst SW C.R.
 Tenant _____
 Well Depth 335 ft Date Completed 7 / 25 / 96

Drill method rotary auger cable other _____
Hole size
 18 inch from 0 ft to 20 ft hole size continued
 6 inch from 100 ft to 335 ft
 8 inch from 20 ft to 100 ft _____ inch from _____ ft to _____ ft

Record all depth measurements from ground level (GL). Use (+) for above GL measurements.

Location County Linn
 _____ mi. N and _____ mi. E of intersection of _____ and _____
 _____ mi. S and _____ mi. W
 1/4 of the _____ 1/4 of the _____ 1/4 of Sec 3 TWP 82 RNG 7 W

Casing Drive shoe (yes/no) Pitless adaptor (yes/no)
 Size (ID/OD) Type / Wt Depth top Depth bottom Amount (length)
6 SDR 21 PVC +1 100 101
~~5 1/2 SDR 21 PVC~~
4 1/2 SCH 40 PVC 95 215 120



Perforated or slotted casing? (yes/no)
 Perforated / slotted from 175 ft to 215 ft
 Perforated / slotted from _____ ft to _____ ft

upland hillside valley Elevation (if known) _____

Casing grouted? (yes/no)
 Type Depth Top Depth Bottom Amount
Benscol 0 20 25ACKS
Bentonite + DeLanth 20 100

Formation log

From	To	Color	Hardness	Formation description
0	38	Yellow		Clay
38	78			Limestone
78	170			Devonian
170	335			Silurian

Well screen? (yes/no)
 Diameter Slot size Depth Top Depth Bottom Length Material

Bottom capped (yes/no) with _____
 Seals / Packers (yes/no) kind _____ depth _____ ft
 Gravel packed (yes/no) from _____ ft to _____ ft
 type _____ amount _____

Well developed? (yes/no)
 Explain A.R.

Pump installed? (yes/no) Date _____ / _____ / _____
 Installer's name SAVE
 Type of pump sub Depth to intake 200 ft
 Pump diameter 4 Rated capacity 70 GPM

Water information Aquifer: sand/gravel limestone sandstone
 Main water-supply zone from 175 ft to 335 ft
 Final water level (static water level) 110 ft below / above GL.
 Pumping water level 170 ft below GL; tape airline E-line EST
 At yield of 100 GPM; orifice volumetric estimate Date 7/25

Remarks (including depth of lost drilling fluids, materials, or tools)

Water quality test? (yes/no) Date tested _____ / _____ / _____
 Tested by _____
 Test results _____

Well use
 Domestic Municipal Industrial
 Livestock Public Supply Monitoring
 Test Well Irrigation Other _____ (explain)

Contractor Gingerich Well & Pump
 Address 13210 Locust Ave, Kalona
 Driller Kel Gingerich Certification no. 40046

Bedrock Aquifers

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

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

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

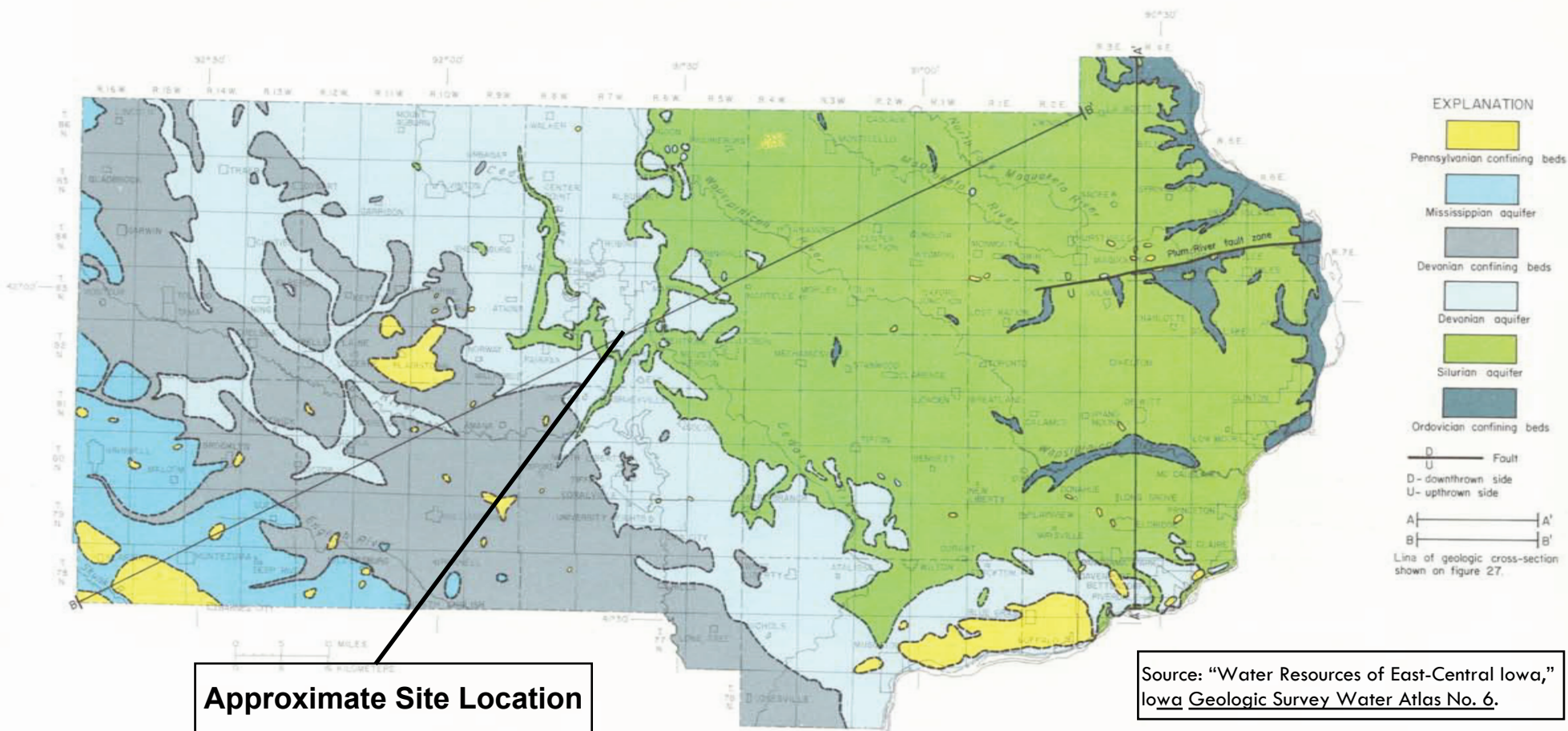


Figure 26.—Bedrock hydrogeologic map

The Cambrian-Ordovician aquifer and the underlying Dresbach aquifer are not at the bedrock surface in east-central Iowa. These aquifers are shallowest in the northeastern part of the area; they slope southwest and become progressively deeper in the subsurface. Figure 27 shows that all the rock units are approximately parallel to each other and dip (slope) toward the southwest.

A major structural feature, the Plum River fault zone, extends approximately 30 miles through southern Jackson County and northwest Clinton County. This structure continues eastward approximately 40 miles into northwest Illinois, where it was originally recognized and mapped (Kolata and Buschbach, 1976). As much as 400 feet of vertical displacement has been inferred by the Illinois State Geological Survey in the vicinity of Savannah, Illinois, and similar displacements may occur in Iowa between Preston and Maquoketa. In the vicinity of Preston, an uplifted area south of the fault zone

is indicated by the anomalous presence of the Ordovician confining beds at the land surface. Preliminary results from an ongoing research drilling program in the Devonian and Silurian aquifers have indicated a possible extension of the structure as far west as southern Linn County, Iowa. The Plum River fault zone is probably quiescent, as no evidence of geologically recent movement along the fault has been found.

The fault zone has cut the various bedrock aquifers and confining beds, and faulting has placed them adjacent to rock units of dissimilar hydrologic characteristics (fig. 27). Depending on the local displacement or associated fracturing, the fault may serve either as a barrier to or a conduit for ground water movement. Where an aquifer is placed against a confining bed the fault may serve as an impediment to ground-water movement. Where two different aquifers are placed against one another by the fault there may be continuity between the two aquifers.

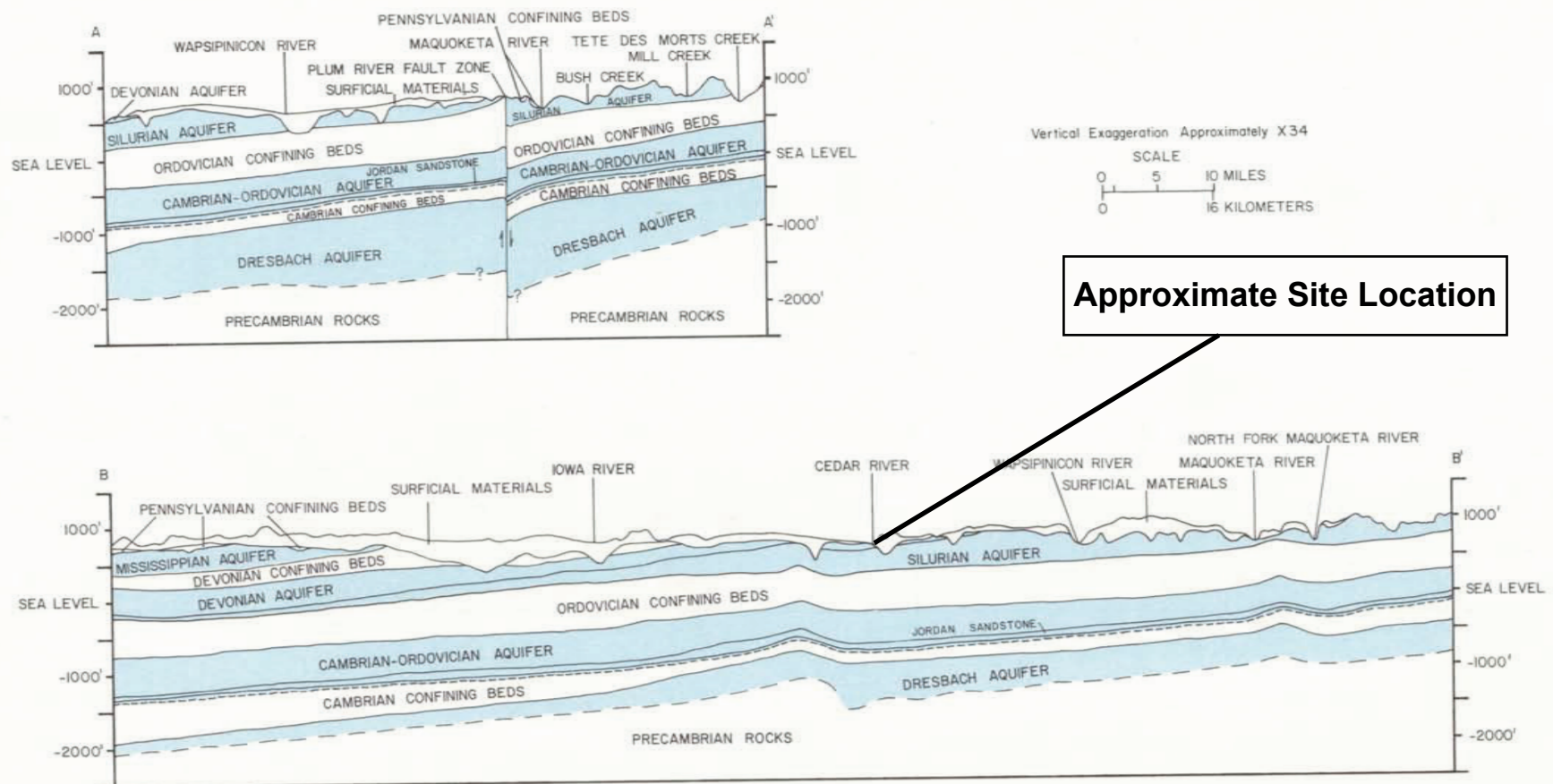



Figure 27.—Hydrogeologic cross sections

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



Appendix B
Boring Logs and Well Construction Documentation

SCS ENGINEERS

Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25215135.60		License/Permit/Monitoring Number		Boring Number MW-301	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling		Date Drilling Started 10/31/2016		Date Drilling Completed 10/31/2016	
Unique Well No.		DNR Well ID No.		Common Well Name MW-301	
Final Static Water Level Feet		Surface Elevation 730.0 Feet		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		Local Grid Location			
State Plane 3,447,401 N, 5,426,409 E S/C/N		Lat _____ "		<input type="checkbox"/> N <input type="checkbox"/> E	
SW 1/4 of NE 1/4 of Section 3, T 82 N, R 7 W		Long _____ "		<input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	TOPSOIL.											
S1	19	3 4 4 6	3 4	SILT WITH SAND, very dark grayish brown (10YR 3/2).	ML			0.5		M					
S2	24	2 7 6 9	6 7	LEAN CLAY WITH SAND, dark grayish brown (10YR 4/2).	CL			0.3		M					
S3	22	3 3 4 6	8 9	POORLY GRADED SAND WITH SILT, dark yellowish brown (10YR 3/4), medium grained.	SP			0.4		M					
S4	23	3 4 4 5	11 12	SANDY SILT, dark yellowish brown (10YR 3/4).	ML			0.3		M					
S5	12	4 9 11 12	13 14	POORLY GRADED GRAVEL, dark yellowish brown (10YR 3/4), coarse grained.	GP			0.3		W					water at 12.5 ft bgs.

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

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

Facility/Project Name Prairie Creek Generating Station SCS#: 25220057		License/Permit/Monitoring Number		Boring Number MW301A	
Boring Drilled By: Name of crew chief (first, last) and Firm Roy Buckenberger Cascade		Date Drilling Started 6/23/2020		Date Drilling Completed 6/23/2020	
Unique Well No.		DNR Well ID No.		Common Well Name MW301A	
Final Static Water Level Feet		Surface Elevation Feet		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat ° ' " Long ° ' "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of		1/4 of Section		T N, R	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids, Iowa	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1	36		1	Topsoil. 10YR3/4.	ML									
			2	Silt with trace fine sand. 10YR3/4.	ML				1.0	M				
2	36		3											
			4											
	0		5											
			6											
			7											
			8											
			9											
			10	No Return.										
			11											
			12											
			13											
			14											
			15											

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


Signature <i>Zach Watson</i>	Firm SCS Engineers 2830 Dairy Dr., Madison, WI, 53718	Tel: Fax:
---------------------------------	--	--------------

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

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25215135.60		License/Permit/Monitoring Number		Boring Number MW-302	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling		Date Drilling Started 10/31/2016		Date Drilling Completed 10/31/2016	
Unique Well No.		DNR Well ID No.		Common Well Name MW-302	
Final Static Water Level Feet		Surface Elevation 720.3 Feet		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,447,399 N, 5,426,146 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
SW 1/4 of NE 1/4 of Section 3, T 82 N, R 7 W		Lat _____ ' _____ "		Long _____ ' _____ "	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	TOPSOIL.											
			2	SILT WITH SAND, very dark grayish brown (10YR 3/2).											
S1	5	14 89	3		ML			0.5		M					
			4												
			5	SILTY SAND, greenish gray (5GY6/1).	SM										
S2	14	23 37	6	POORLY GRADED SAND, greenish gray (5GY 6/1), coarse grained.				1.0		W					
			7												
			8	Same as above except, dark yellowish brown (10YR 3/4).											
S3	12	12 22	9					0.7		W					
			10												
S4	24	23 46	11		SP			0.5		W					
			12												
			13												
S5	14	12 22	14					0.5		W					
			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 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
---	---	-----------------------------

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

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25215135.60		License/Permit/Monitoring Number		Boring Number MW-303	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling		Date Drilling Started 12/6/2016		Date Drilling Completed 12/6/2016	
Unique Well No.		DNR Well ID No.		Common Well Name MW-303	
Final Static Water Level Feet		Surface Elevation 707.0 Feet		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,448,275 N, 5,425,166 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NE 1/4 of Section 3, T 82 N, R 7 W		Lat _____"		Long _____"	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	20	20 20 27 34	1	SILT, very dark grayish brown (10YR 3/2).	ML			0.2	M					
			2											
S2	12	2 17 20 21	3	POORLY GRADED SAND, very dark grayish brown (10YR 3/2), coarse grained.	SP			0.2	W					saturation @ 5ft.
			4											
			5											
S3	16	7 8 8 6	6	Same as above except, brown (10YR 5/3), trace fine gravel.	SP			0.2	W					
			7											
S4	17	4 3 3 3	8	End of boring at 15.5 ft bgs.				0.2	W					
			9											
S5	17	1 1 2 3	10											
			11											

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

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

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25215135.60		License/Permit/Monitoring Number		Boring Number MW-304	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling		Date Drilling Started 12/6/2016		Date Drilling Completed 12/6/2016	
Unique Well No.		DNR Well ID No.		Common Well Name MW-304	
Final Static Water Level Feet		Surface Elevation 707.1 Feet		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,448,415 N, 5,425,664 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NE 1/4 of Section 3, T 82 N, R 7 W		Lat _____ ' _____ "		Long _____ ' _____ "	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	6	50/0.2	1-3	SILT, very dark grayish brown (10YR 3/2),	ML			0.2		M				water in borehole at 3 ft bgs.
S2	5	65/77	4-6					0.3		W				saturation @ 5ft.
S3	5	34/69	7-9	POORLY GRADED SAND, very dark grayish brown, medium to coarse grained.						W				
S4	12	12/22	10-12		SP					W				
S5	23	46/68	13-15	SILTY CLAY, gray.	CL					W				
				End of boring at 15.5 ft bgs.										

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

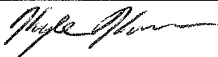
Signature <i>Mike Mueller</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25215135.60		License/Permit/Monitoring Number		Boring Number MW-305	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling		Date Drilling Started 12/5/2016		Date Drilling Completed 12/5/2016	
Unique Well No.		DNR Well ID No.		Common Well Name MW-305	
Final Static Water Level Feet		Surface Elevation 707.1 Feet		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,448,467 N, 5,425,930 E S/C/N		Local Grid Location	
NW 1/4 of NE 1/4 of Section 3, T 82 N, R 7 W		Lat _____ " _____ "		_____ N <input type="checkbox"/> E <input type="checkbox"/>	
		Long _____ " _____ "		Feet <input type="checkbox"/> S <input type="checkbox"/> Feet <input type="checkbox"/> W <input type="checkbox"/>	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	17	13 5 6	1 2 3 4	SILT, very dark grayish brown (10YR 3/2), trace sand.	ML			0.2		M				water in borehole at 3 ft bgs.
S2	12	13 4 5	5 6 7	POORLY GRADED SAND, dark brown (10YR 3/3), coarse sand.				0.1		W				saturation @ 5ft.
S3	18	11 3 4	8 9		SP			0.9		W				
S4	14	9 13 21 19	10 11 12					0.4		W				
S5	16	14 15 23	13 14 15	LEAN CLAY, very dark gray (10YR 3/1).	CL					W				
				End of boring at 15.5 ft bgs.										

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

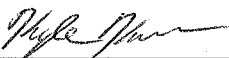
Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Route To: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25215135.60		License/Permit/Monitoring Number		Boring Number MW-306	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling		Date Drilling Started 11/2/2016		Date Drilling Completed 11/2/2016	
Unique Well No.		DNR Well ID No.		Common Well Name MW-306	
Final Static Water Level Feet		Surface Elevation 710.1 Feet		Borehole Diameter 8.5 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,448,572 N, 5,426,326 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NE 1/4 of Section 3 , T 82 N, R 7 W		Lat _____"		Long _____"	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	9.5	4 5 5 5	1	SILT, dark yellowish brown (10YR 3/4).	ML	[Hatched]	[Hatched]	0.7	-	W	-	-	-	Plastic debris- water at 4 ft bgs
			4	POORLY GRADED SAND, very dark grayish brown (10YR 3/2), coarse grained.										
S2	14	1 1 1 1	6	SILT, very dark grayish brown (10YR 3/2).	ML	[Hatched]	[Hatched]	0.5	-	W	-	-	-	plastic debris
S3	NR	3 2 1 1	9											
S4	NR	1 1 2 3	11		ML	[Hatched]	[Hatched]	-	-	-	-	-	-	
S5	10	1 2 3 3	13	POORLY GRADED SAND, very dark gray (10YR 3/1), coarse grained.										

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

Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Boring Number MW-306

Page 2 of 2

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S6	22	21 11	17	POORLY GRADED SAND, very dark gray (10YR 3/1), coarse grained. (continued)				0.4	W				plastic debris	
			18											
S7	19	21 11	19					0.3	W					
S8	6	21 12	21					0.2	W					
S9	14	8 4 4 12	23	Same as above except, dark gray (5Y 4/1).	SP			0.6	W					
			24											
S10	20	4 4 15 22	26					0.3	W					
S11	12	8 8 20 31	28					0.2	W					
			29											
			30											
				End of boring at 30.5 ft bgs.										

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

Facility/Project Name Prairie Creek Generating Station		SCS#: 25220057		License/Permit/Monitoring Number		Boring Number MW306A	
Boring Drilled By: Name of crew chief (first, last) and Firm Roy Buckenberger Cascade				Date Drilling Started 6/23/2020		Date Drilling Completed 6/23/2020	
Unique Well No.		DNR Well ID No.		Common Well Name MW306A		Final Static Water Level Feet	
						Surface Elevation Feet	
						Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N				Lat _____ ° ' _____ "		Local Grid Location	
1/4 of _____		1/4 of Section _____, T _____ N, R _____		Long _____ ° ' _____ "		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids, Iowa			



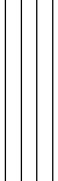





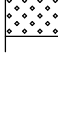

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1	60		0	Topsoil. Organic Material.	ML									
			1	Waste. Plastic wrapping. Soil.										
			2											
			3	Tan/Brown soil/silt. 10YR3/4.	ML									
2	60		4											
			5	Dark Black Sand and Silt. Well Graded. 10YR2/1.	SW									
			6											
			7											
			8											
			9											
			10	Well Graded Sand. Light Grey. 2.5Y3/1.	SW									
			11											
3	60		12	Silt with fine sand.	ML									
			13											
			14											
			15											

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

Signature <i>Zach Watson</i>	Firm SCS Engineers 2830 Dairy Dr., Madison, WI, 53718	Tel: Fax:
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Boring Number MW306A

Page 2 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
4	60		16	Well graded sand. 2.5Y3/1.	SW									
			17											
			18											
			19											
5	60		20	Silt with Sand. 5Y4/2.	ML									
			21											
			22											
			23											
6	60		24	Well Graded Sand.	SW									
			25											
			26											
			27											
7	60		28	Well Graded Sand.	SW									
			29											
			30											
			31											
8	60		32	Finer sand than above.	SW									
			33											
			34											
			35											

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

Facility/Project Name Prairie Creek Generating Station SCS#: 25218184		License/Permit/Monitoring Number	Boring Number MW-307	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling, LP		Date Drilling Started 11/27/2018	Date Drilling Completed 11/27/2018	Drilling Method sonic
	Common Well Name MW-307	Final Static Water Level 708.5 Feet	Surface Elevation 718.9 Feet	Borehole Diameter 6.5 in

Local Grid Origin (estimated:) or Boring Location

State Plane **3,448,497 N, 5,426,934 E** S/C/N Lat _____ " N E
NE 1/4 of NE 1/4 of Section 3, T 83 N, R 7 W Long _____ " Feet S Feet W

Facility ID _____ County **Linn** Civil Town/City/ or Village **Cedar Rapids**

Sample	Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments			
										Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200				
	S1			1-5	Topsoil and clay, black, (10YR 2/1), (Fill).													
	S2			6-8	Black ash? (Fill). LEAN CLAY, black (10YR 2/1), (Fill). SILT, dark gray/black, (5YR 3/1).	CL ML												
	S3			9-10	LEAN CLAY, dark gray, (5YR 2.5/2).													
	S4			11-12		CL												
	S5			13-14	SILTY SAND, coarse sand, light brown, (2.5YR 3/1).	SM												

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


Signature  Firm **SCS Engineers** 3900 Kilroy Airport Way Long Beach, CA 90806 Tel: _____ Fax: _____

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

Facility/Project Name Prairie Creek Generating Station		License/Permit/Monitoring Number SCS#: 25218184		Boring Number MW-308	
Boring Drilled By: Name of crew chief (first, last) and Firm Mike Mueller Cascade Drilling, LP		Date Drilling Started 11/27/2018		Date Drilling Completed 11/27/2018	
Common Well Name MW-308		Final Static Water Level 711.5 Feet		Surface Elevation 717.5 Feet	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		Final Static Water Level		Borehole Diameter 6.5 in	
State Plane 3,448,434 N, 5,426,646 E		S/C/N S/C/N		Local Grid Location	
NE 1/4 of NE 1/4 of Section 3, T 83 N, R 7 W		Lat _____"		<input type="checkbox"/> N <input type="checkbox"/> E	
		Long _____"		<input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	Topsoil, black.											
S1			2	LEAN CLAY, black, (2.5YR 2.5/1), (Fill).	CL										
S2			4	LEAN CLAY, brown, (2.5YR 4/4), (Fill).	CL				1.5						
S3			6	Ash, black, (2.5YR 3/1), (Fill).											
S4			8	LEAN CLAY with silt, gray, (5YR 5/1).											
S5			9		CL										
S6			11	SANDY SILT, dark gray, (5YR 2.5/1).											
			12		ML										
S7			14	Same as above but (5YR 2.5/2).											
			15												

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

Signature:  Firm: **SCS Engineers**
 3900 kilroy Airport Way Long Beach, CA 90806

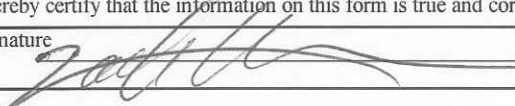
Tel: _____ Fax: _____

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

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25218218.00		License/Permit/Monitoring Number		Boring Number MW-309	
Boring Drilled By: Name of crew chief (first, last) and Firm Jeff Crank Roberts Environmental Drilling, Inc.		Date Drilling Started 8/5/2019		Date Drilling Completed 8/5/2019	
Unique Well No.		DNR Well ID No.		Common Well Name MW-309	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		Final Static Water Level Feet MSL		Surface Elevation 708.1 Feet MSL	
State Plane 3,448,466 N, 5,425,409 E S/C/N		Lat _____ ' _____ ''		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NE 1/4 of Section 3 , T 82 N, R 7 W		Long _____ ' _____ ''		Feet _____ Feet _____	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments				
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200					
S1	8	13 34	1	SILT, dark brown, (10YR 2/1), with sand, trace gravel.	ML													
S2	18	33 23	2	SILTY SAND.	SM													
S3	12	11 12	3	SILT, with sand, brown, (10YR 3/2), soft.	ML													
S4	12	22 12	4	SILTY SAND, mottled grey, tan, and brown.	SM													
S5	20	01 21	5	Variable color - grey, rust, and tan.	SM													
S6	12	00 11	6	Coarser sand.	SM													
S7	12	11 33	7	POORLY GRADED SAND, coarse, some fine and medium sand.	SP													
			8	With organic material.														
			9															
			10															
			11															
			12															
			13															
			14															
			15															

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

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

Facility/Project Name IPL - Prairie Creek Generating Station SCS#: 25218218.00		License/Permit/Monitoring Number		Boring Number MW-310	
Boring Drilled By: Name of crew chief (first, last) and Firm Jeff Crank Roberts Environmental Drilling, Inc.		Date Drilling Started 8/6/2019		Date Drilling Completed 8/6/2019	
Drilling Method 4 1/4" hollow stem auger		Final Static Water Level Feet MSL		Surface Elevation 708.09 Feet MSL	
WI Unique Well No.	DNR Well ID No.	Common Well Name MW-310		Borehole Diameter 8.5 in.	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,448,623 N, 5,425,792 E S/C/N		Local Grid Location	
NW 1/4 of NE 1/4 of Section 3, T 82 N, R 7 W		Lat _____ ' _____ "		Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Long _____ ' _____ "		County Linn		County Code	
Facility ID		Civil Town/City/ or Village Cedar Rapids			



Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments			
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200					
S1	12	12 24	1	SILTY SAND, brown, (10YR 2/1), (topsoil).	SM													
S2	2	66 44	3	LEAN CLAY, brown, (10YR 2/1), some lenses of silty sand, organic material.	CL													
S3	10	44 23	5															
S4	6	31 12	7	SILTY SAND, coarse.	SM													
S5	20	32 11	9															
S6	18	32 11	11	SILTY GRAVEL, with sand.	GM													
S7	12	11 22	13															

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

Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53718	Tel: 608-224-2830 Fax:
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **MW-310** Use only as an attachment to Form 4400-122. 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					RQD/ Comments	
										Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
58		12	15 4	16 17	End of Boring.	GM										Blind drilled from 16' to 17'

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

Facility/Project Name Prairie Creek Generating Station SCS#: 25220057		License/Permit/Monitoring Number		Boring Number MW310A	
Boring Drilled By: Name of crew chief (first, last) and Firm Roy Buckenberger Cascade		Date Drilling Started 7/23/2020		Date Drilling Completed 7/23/2020	
Unique Well No.		DNR Well ID No.		Common Well Name MW310A	
Final Static Water Level Feet		Surface Elevation Feet		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat ° ' " Long ° ' "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of Section T N, R		Facility ID		County Linn	
				Civil Town/City/ or Village Cedar Rapids, Iowa	










Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments							
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200								
1	60		1	Topsoil. Organic material, roots and plant material.	ML																
			2	Lean Clay. Soft, trace coarse material. 2.5Y3/2.	CL				0.5	W											
2	60		3	Fine to Coarse Sand. Well Graded Sand. 2.5Y3/1.	SW																
3	60	4																			
		5																			

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

Signature <i>Zach Watson</i>	Firm SCS Engineers 2830 Dairy Dr., Madison, WI 53718	Tel: Fax:
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Boring Number MW310A

Page 2 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
4	60		16	Lean Clay, trace coarse material (Fine Sand). 5Y4/1.	CL				1.5	W				
			17											
			18											
			19											
5	60		20	Well graded sand with silt and gravel. 5Y4/2.	SW-SM					W				
			21											
			22											
			23											
			24											
			25											
6	60		26	Well graded sand with silt and gravel. 5Y4/2.	SW-SM					W				
			27											
			28											
			29											
			30											
			31											
7	60		32	Silt with gravel.	ML					W				
			33											
			34											
			35											
8	60		36	Well graded sand with silt and gravel. 5Y4/2.	SW-SM					W				
			37											
			38											
			39											
			40											



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

Disposal Site Name: IPL - Prairie Creek Generating Station Permit No.: _____
 Well or Piezometer No: MW-301
 Dates Started: 10/31/16 Date Completed: 10/31/16

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): _____
 Specify corner of site: SE of parcel 19031-51001-00000
 Distance & direction along boundary: 145' W
 Distance & direction from boundary to wall: 76' N
 Elevations (± 0.01 ft MSL): _____
 Ground Surface: 729.95
 Top of protective casing: 732.97
 Top of well casing: _____ 732.55
 Benchmark elevation: _____
 Benchmark description: _____

B. SOIL BORING INFORMATION

Name & Address of Construction Company: _____
Cascade Drilling, LP
301 Alderson St
Schofield, WI 54476
 Name of Driller: Mike Mueller
 Drilling Method: HSA
 Drilling Fluid: NA
 Bore Hole Diameter: 8.5 inch
 Soil Sampling Method: Spoon
 Depth of Boring: 23.5 ft

C. MONITORING WELL INSTALLATION

Casing material: _____ PVC sch 40
 Length of casing: _____ 12.5 ft
 Outside casing diameter: _____ 2.38"
 Inside casing diameter: _____ 2"
 Casing joint type: _____ threaded
 Casing/screen joint type: threaded
 Screen material: _____ PVC
 Screen opening size: 0.010"
 Screen length: _____ 10 ft
 Depth of well: _____ 22.5 ft
 Filter Pack: _____
 Material: _____ Red Flint
 Grain size: _____ #40
 Volume: _____ 300 lbs
 Seal (minimum 3 ft length above filter pack): _____
 Material: 3/8 inch bentonite chips

Placement method: Gravity
 Volume: 200 lbs
 Backfill (if different from seal): _____
 Material: _____
 Placement method: _____
 Volume: _____
 Surface seal design: _____
 Material of protective casing: Steel 6 inch
 Material of grout between protective casing and well casing: sand
 Protective cap: _____
 Material: Steel, vented
 Vented: Yes No Locking: Yes No
 Well Cap: _____
 Material: PVC
 Vented: Yes No

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

Water level: 16.27 Stabilization Time: ~5 min
 Well development method: Pump and surge block
 Average depth of frostline: _____

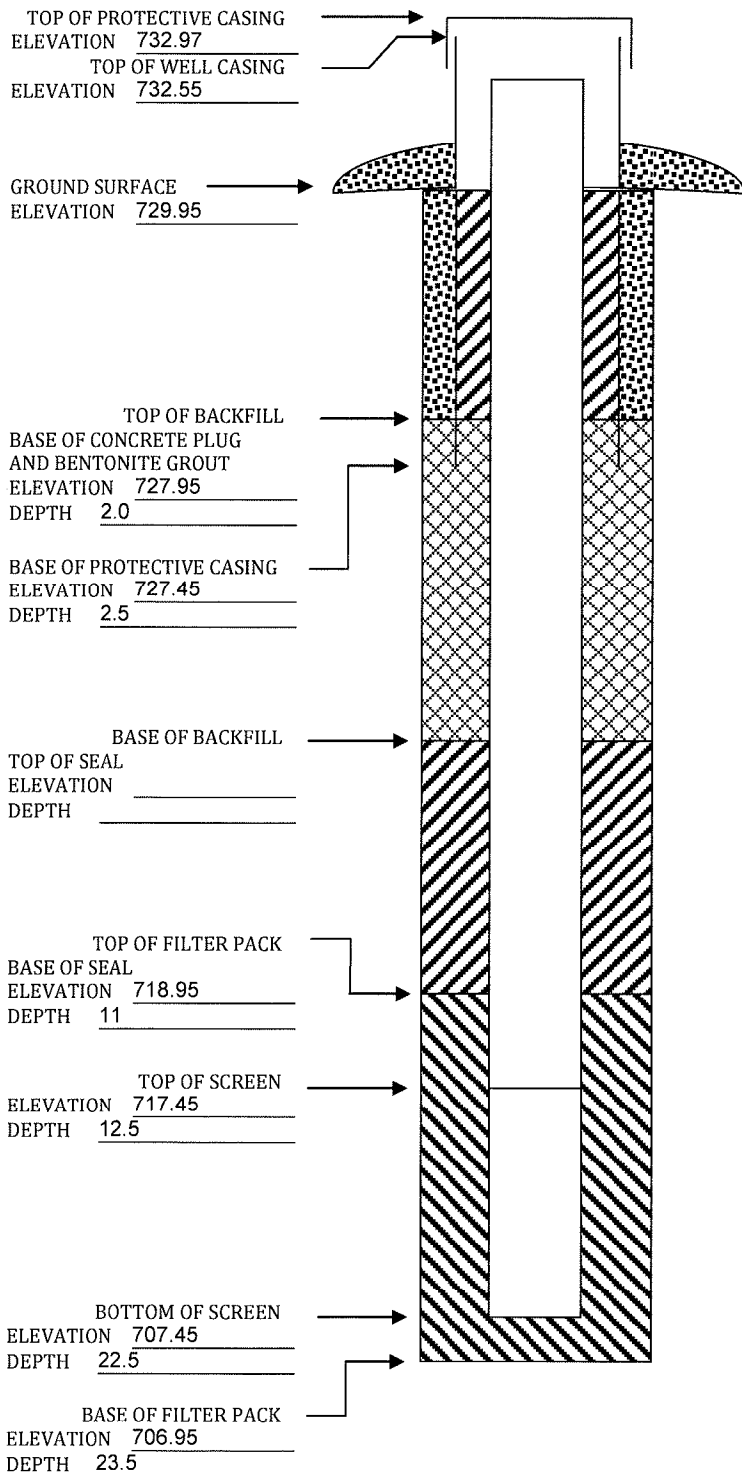
Attachments: Driller's log, Pipe schedules and grouting schedules, 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL - Prairie Creek Generating Station Permit No.: _____

Well or Piezometer No: MW-302

Dates Started: 10/31/16 Date Completed: 10/31/16

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): _____

Specify corner of site: SE of parcel 19031-51001-00000

Distance & direction along boundary: 462' W

Distance & direction from boundary to wall: 79' N

Elevations (± 0.01 ft MSL): _____

Ground Surface: 720.29

Top of protective casing: 723.27

Top of well casing: _____ 722.68

Benchmark elevation: _____

Benchmark description: _____

B. SOIL BORING INFORMATION

Name & Address of Construction Company: _____

Cascade Drilling, LP

301 Alderson St

Schofield, WI 54476

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: NA

Bore Hole Diameter: 8.5 inch

Soil Sampling Method: Spoon

Depth of Boring: 23.5 ft

C. MONITORING WELL INSTALLATION

Casing material: _____ PVC sch 40

Length of casing: _____ 5 ft

Outside casing diameter: _____ 2.38"

Inside casing diameter: _____ 2"

Casing joint type: _____ threaded

Casing/screen joint type: threaded

Screen material: _____ PVC

Screen opening size: 0.010"

Screen length: _____ 10 ft

Depth of well: _____ 15 ft

Filter Pack: _____

Material: _____ Red Flint

Grain size: _____ #40

Volume: _____ 300 lbs

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

Material: 3/8 inch bentonite chips

Placement method: Gravity

Volume: 50 lbs

Backfill (if different from seal): _____

Material: _____

Placement method: _____

Volume: _____

Surface seal design: _____

Material of protective casing: Steel 6 inch

Material of grout between protective casing and well casing: sand

Protective cap: _____

Material: Steel, vented

Vented: Yes No Locking: Yes No

Well Cap: _____

Material: PVC

Vented: Yes No

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

Water level: 6.39 Stabilization Time: ~5 min

Well development method: Pump and surge block

Average depth of frostline: _____

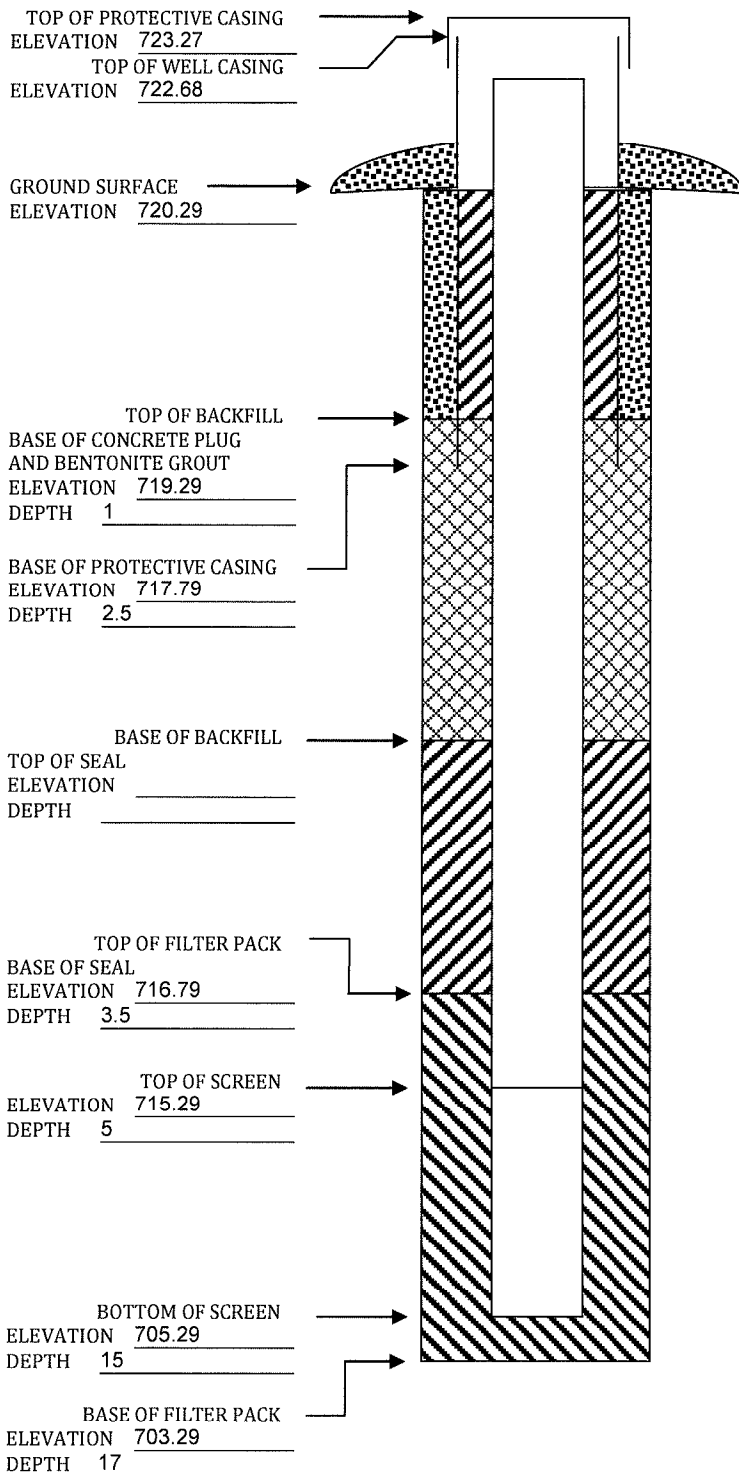
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL - Prairie Creek Generating Station Permit No.: _____
 Well or Piezometer No: MW-303
 Dates Started: 12/6/16 Date Completed: 12/6/16

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): _____
 Specify corner of site: NE of parcel 19032-01001-00000
 Distance & direction along boundary: 2,348' NW
 Distance & direction from boundary to wall: 1,477' S
 Elevations (± 0.01 ft MSL): _____
 Ground Surface: 706.95
 Top of protective casing: 709.85
 Top of well casing: _____ 709.46
 Benchmark elevation: _____
 Benchmark description: _____

B. SOIL BORING INFORMATION

Name & Address of Construction Company: _____
Cascade Drilling, LP
301 Alderson St
Schofield, WI 54476
 Name of Driller: Mike Mueller
 Drilling Method: HSA
 Drilling Fluid: NA
 Bore Hole Diameter: 8.5 inch
 Soil Sampling Method: Spoon
 Depth of Boring: 15.5 ft

C. MONITORING WELL INSTALLATION

<p>Casing material: _____ <u>PVC sch 40</u> Length of casing: _____ <u>4.5 ft</u> Outside casing diameter: _____ <u>2.38"</u> Inside casing diameter: _____ <u>2"</u> Casing joint type: _____ <u>threaded</u> Casing/screen joint type: <u>threaded</u> Screen material: _____ <u>PVC</u> Screen opening size: <u>0.010"</u> Screen length: _____ <u>10 ft</u> Depth of well: _____ <u>14.5 ft</u> Filter Pack: _____ Material: _____ <u>Red Flint</u> Grain size: _____ <u>#40</u> Volume: _____ <u>300 lbs</u> Seal (minimum 3 ft length above filter pack): _____ Material: <u>3/8 inch bentonite chips</u></p>	<p>Placement method: <u>Gravity</u> Volume: <u>50 lbs</u> Backfill (if different from seal): _____ Material: _____ Placement method: _____ Volume: _____ Surface seal design: _____ Material of protective casing: <u>Steel 6 inch</u> Material of grout between protective casing and well casing: <u>sand</u> Protective cap: _____ Material: <u>Steel, vented</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input type="checkbox"/> Yes <input type="checkbox"/> No Well Cap: _____ Material: <u>PVC</u> Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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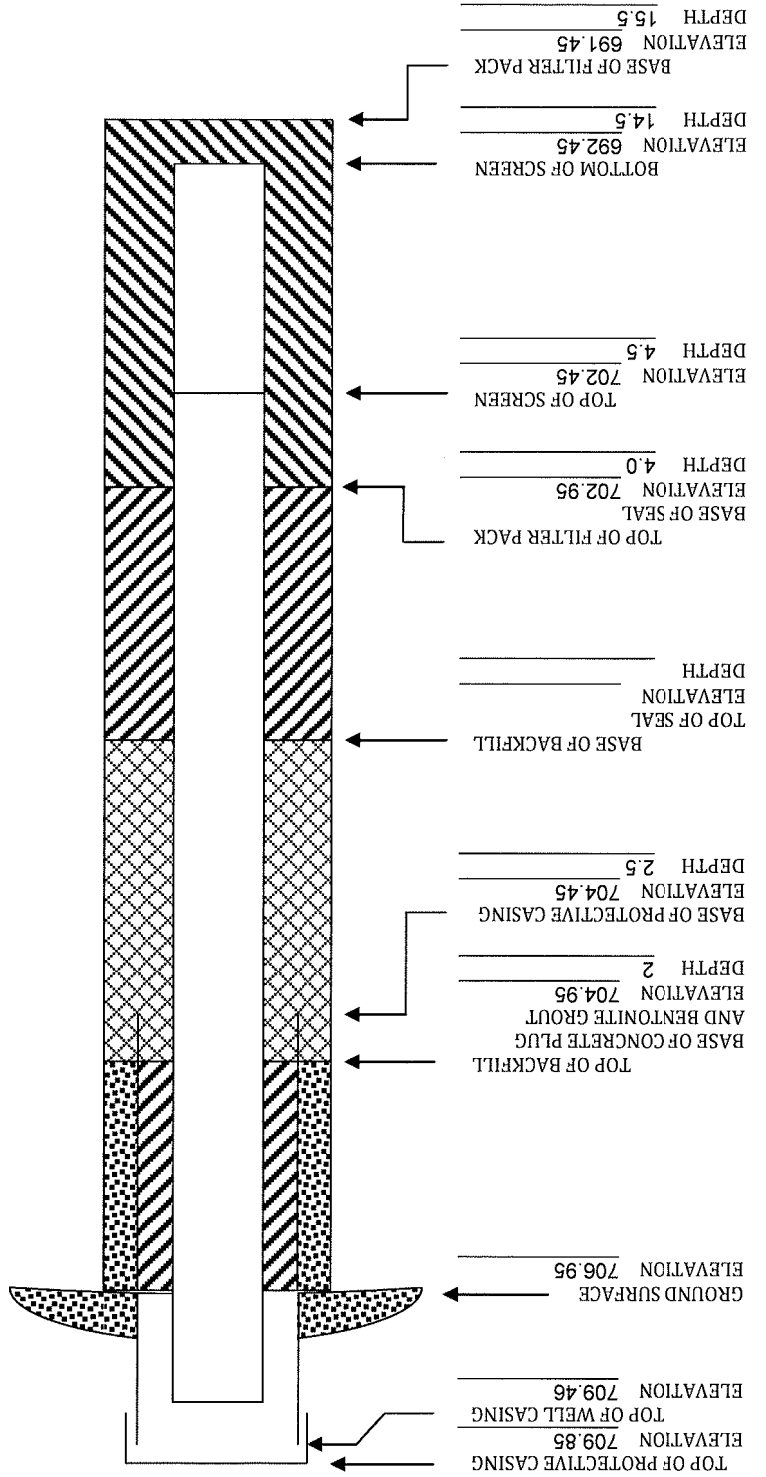
D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)

Water level: 5.81 Stabilization Time: ~ 5 min
 Well development method: Pump and surge block
 Average depth of frostline: _____

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

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

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



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

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



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

Disposal Site Name: IPL - Prairie Creek Generating Station Permit No.: _____
 Well or Piezometer No: MW-304
 Dates Started: 12/6/16 Date Completed: 12/6/16

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): _____
 Specify corner of site: NE of parcel 19032-01001-00000
 Distance & direction along boundary: 1878' NW
 Distance & direction from boundary to wall: 1,317' S
 Elevations (± 0.01 ft MSL): _____
 Ground Surface: 707.07
 Top of protective casing: 710.12
 Top of well casing: _____ 709.66
 Benchmark elevation: _____
 Benchmark description: _____

B. SOIL BORING INFORMATION

Name & Address of Construction Company: _____
Cascade Drilling, LP
301 Alderson St
Schofield, WI 54476
 Name of Driller: Mike Mueller
 Drilling Method: HSA
 Drilling Fluid: NA
 Bore Hole Diameter: 8.5 inch
 Soil Sampling Method: Spoon
 Depth of Boring: 15.5 ft

C. MONITORING WELL INSTALLATION

Casing material: <u>PVC sch 40</u>	Placement method: <u>Gravity</u>
Length of casing: <u>4.5 ft</u>	Volume: <u>50 lbs</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): _____
Inside casing diameter: <u>2"</u>	Material: _____
Casing joint type: <u>threaded</u>	Placement method: _____
Casing/screen joint type: <u>threaded</u>	Volume: _____
Screen material: <u>PVC</u>	Surface seal design: _____
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel 6 inch</u>
Screen length: <u>10 ft</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>14.5 ft</u>	Protective cap: _____
Filter Pack: _____	Material: <u>Steel, vented</u>
Material: <u>Red Flint</u>	Vented: <input type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#40</u>	Well Cap: _____
Volume: <u>300 lbs</u>	Material: <u>PVC</u>
Seal (minimum 3 ft length above filter pack): _____	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8 inch bentonite chips</u>	

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

Water level: 5.89 Stabilization Time: ~ 5 min
 Well development method: Bailer and surge block
 Average depth of frostline: _____

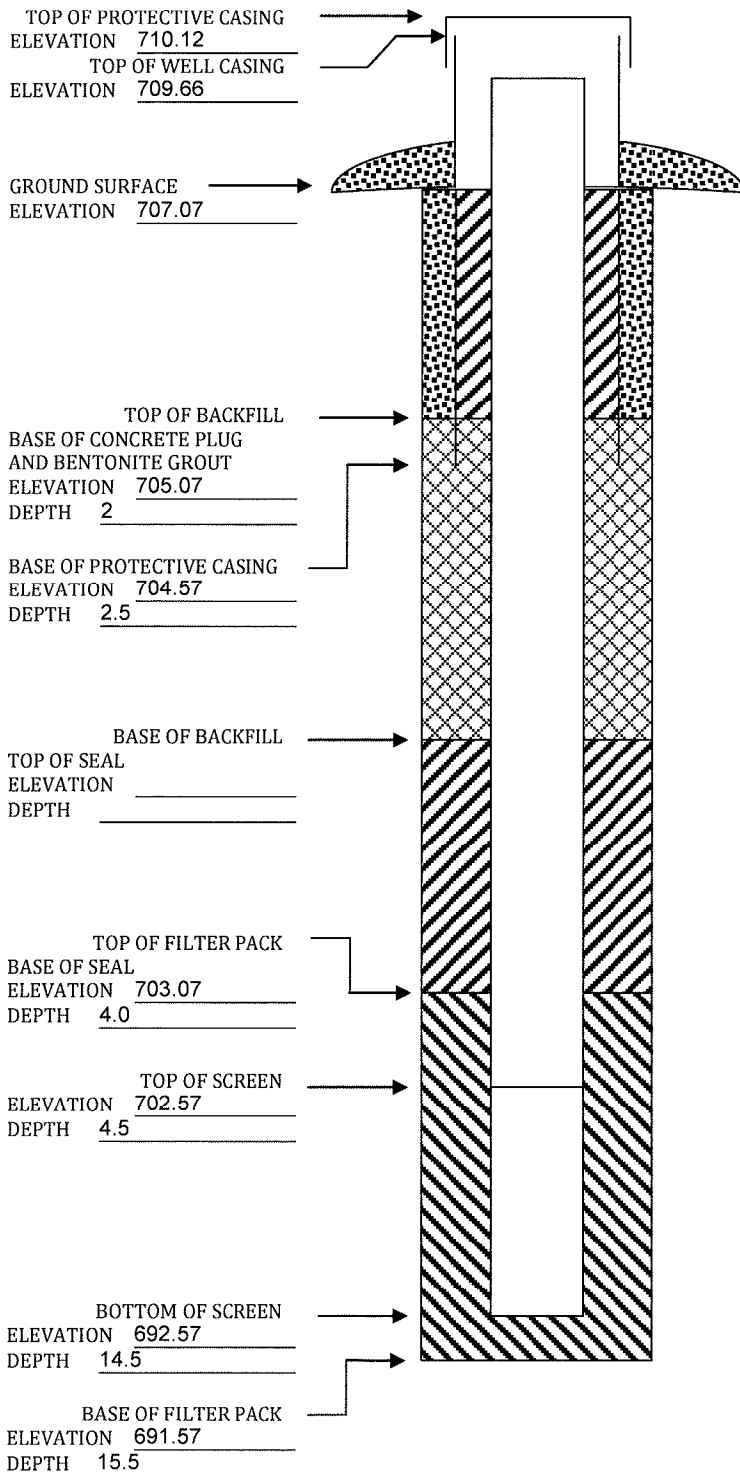
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL - Prairie Creek Generating Station Permit No.: _____

Well or Piezometer No: MW-305

Dates Started: 12/5/16 Date Completed: 12/5/16

A. SURVEYED LOCATIONS AND ELEVATIONS	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): Specify corner of site: <u>NE of parcel 19032-01001-00000</u>	Name & Address of Construction Company: <u>Cascade Drilling, LP</u>
Distance & direction along boundary: <u>1,594' NW</u>	<u>301 Alderson St</u>
Distance & direction from boundary to wall: <u>1,274' S</u>	<u>Schofield, WI 54476</u>
Elevations (± 0.01 ft MSL):	Name of Driller: <u>Mike Mueller</u>
Ground Surface: <u>707.11</u>	Drilling Method: <u>HSA</u>
Top of protective casing: <u>710.11</u>	Drilling Fluid: <u>NA</u>
Top of well casing: _____ <u>709.61</u>	Bore Hole Diameter: <u>8.5 inch</u>
Benchmark elevation: _____	Soil Sampling Method: <u>Spoon</u>
Benchmark description: _____	Depth of Boring: <u>15.5 ft</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC sch 40</u>	Placement method: <u>Gravity</u>
Length of casing: <u>4.5 ft</u>	Volume: <u>50 lbs</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): _____
Inside casing diameter: <u>2"</u>	Material: _____
Casing joint type: <u>threaded</u>	Placement method: _____
Casing/screen joint type: <u>threaded</u>	Volume: _____
Screen material: <u>PVC</u>	Surface seal design: _____
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel 6 inch</u>
Screen length: <u>10 ft</u>	Material of grout between protective casing and well casing: <u>sand</u>
Depth of well: <u>14.5 ft</u>	Protective cap: _____
Filter Pack: _____	Material: <u>Steel, vented</u>
Material: <u>Red Flint</u>	Vented: <input type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#40</u>	Well Cap: _____
Volume: <u>250 lbs</u>	Material: <u>PVC</u>
Seal (minimum 3 ft length above filter pack): _____	Vented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Material: <u>3/8 inch bentonite chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>5.68</u>	Stabilization Time: <u>~5 min</u>
Well development method: <u>Bailer and surge block</u>	
Average depth of frostline: _____	

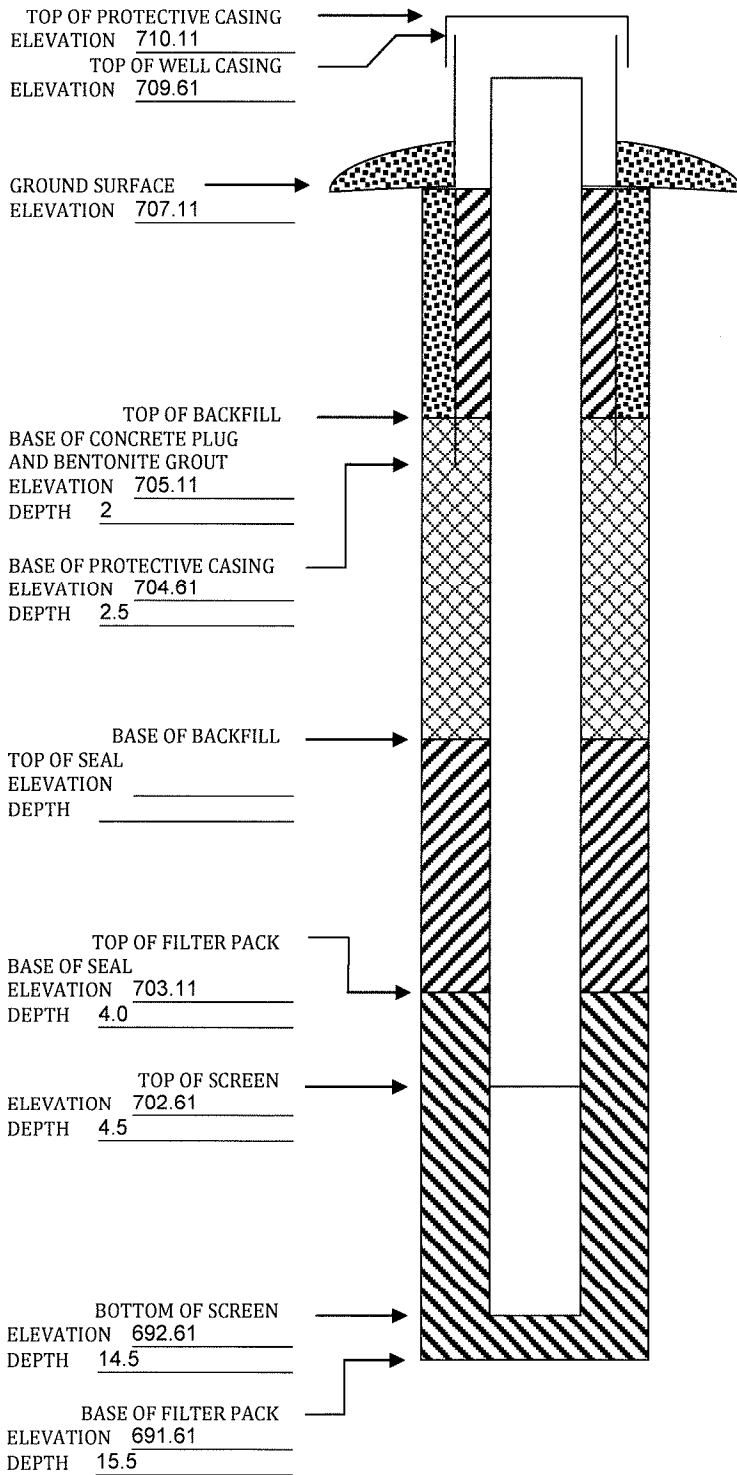
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL - Prairie Creek Generating Station Permit No.: _____

Well or Piezometer No: MW-306

Dates Started: 11/2/16 Date Completed: 11/2/16

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): _____

Specify corner of site: NE of parcel 19032-01001-00000

Distance & direction along boundary: 1,203' NW

Distance & direction from boundary to wall: 1,205' S

Elevations (± 0.01 ft MSL): _____

Ground Surface: 710.13

Top of protective casing: 712.9

Top of well casing: _____ 712.54

Benchmark elevation: _____

Benchmark description: _____

B. SOIL BORING INFORMATION

Name & Address of Construction Company: _____

Cascade Drilling, LP

301 Alderson St

Schofield, WI 54476

Name of Driller: Mike Mueller

Drilling Method: HSA

Drilling Fluid: NA

Bore Hole Diameter: 8.5 inch

Soil Sampling Method: Spoon

Depth of Boring: 30.5 ft

C. MONITORING WELL INSTALLATION

Casing material: PVC sch 40

Length of casing: 24.5 ft

Outside casing diameter: 2.38"

Inside casing diameter: 2"

Casing joint type: threaded

Casing/screen joint type: threaded

Screen material: PVC

Screen opening size: 0.010"

Screen length: 5 ft

Depth of well: 29.5 ft

Filter Pack: _____

Material: Red Flint

Grain size: #40

Volume: 150 lbs

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

Material: 3/8 inch bentonite chips

Placement method: Gravity

Volume: 500 lbs

Backfill (if different from seal): _____

Material: _____

Placement method: _____

Volume: _____

Surface seal design: _____

Material of protective casing: Steel 6 inch

Material of grout between protective casing and well casing: sand

Protective cap: _____

Material: Steel, vented

Vented: Yes No Locking: Yes No

Well Cap: _____

Material: PVC

Vented: Yes No

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

Water level: 8.75 Stabilization Time: ~ 5 min

Well development method: Bailer and surge block

Average depth of frostline: _____

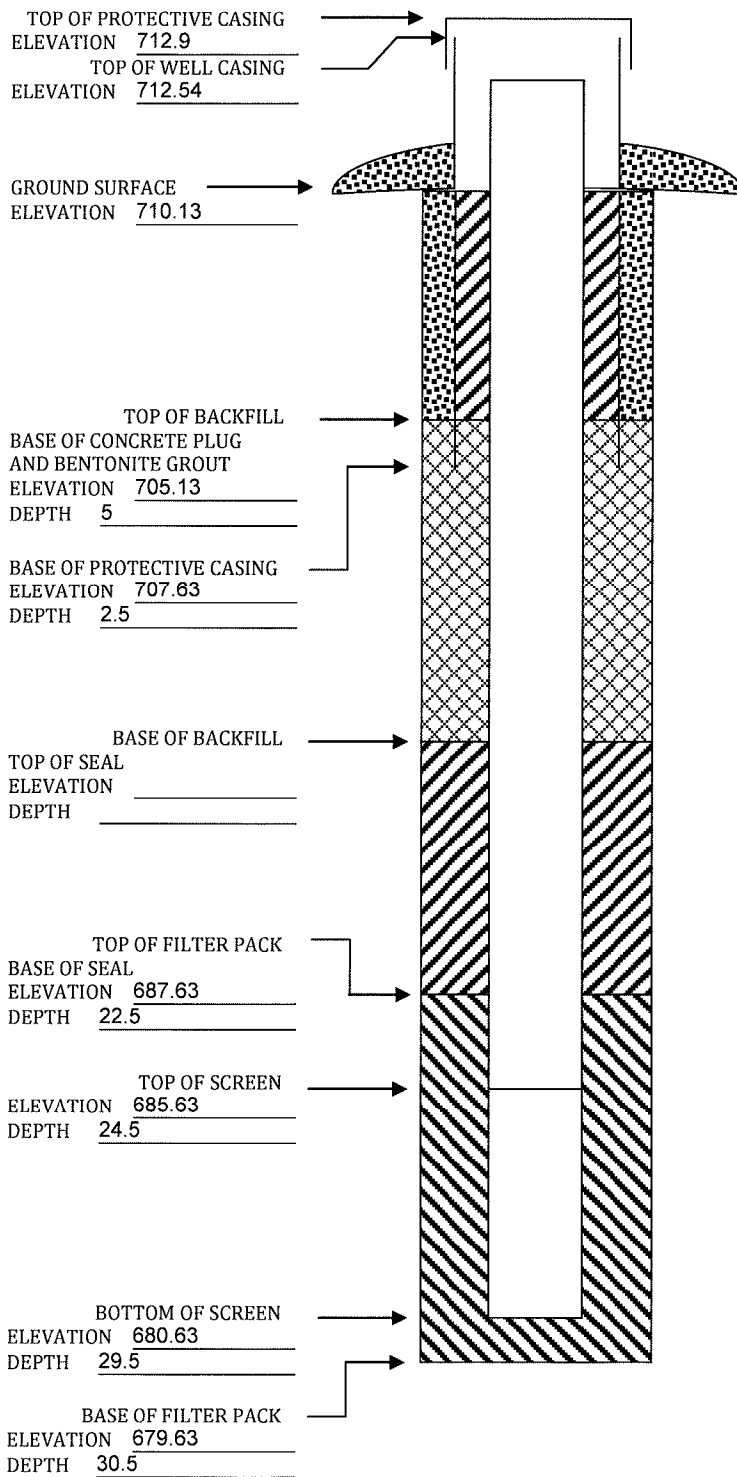
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL Prairie Creek Generating Station Permit No. PPW18-0051
Well or Piezometer No. MW-307 Dates Started 11/27/2018 Date Completed 11/27/2018

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

Specify corner of site NE Distance and direction along boundary 1,140 W
Distance and direction from boundary to surface monitoring well 5 S
Elevation (+0.01 ft. MSL) _____
Ground Surface 718.89 Top of protective casing 721.35
Top of well casing 721.16 Benchmark elevation 718.58
Benchmark description CP #5

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling LP
Address 301 Anderson St City, State, Zip Code Schofield, WI 54476
Name of driller Mike Mueller
Drilling method Sonic Drilling fluid NA Bore Hole diameter 6.5"
Soil sampling method Sonic soil core Depth of boring 21

C. MONITORING WELL INSTALLATION

Casing material PVC Sch. 40 Placement method Gravity
Length of casing 13.3' Volume 1.8 cu. ft
Outside casing diameter 2.38" Backfill (if different from seal): NA
Inside casing diameter 2" Material _____
Casing joint type Threaded Placement method _____
Casing/screen joint type Threaded Volume _____
Screen material PVC Sch. 40 Surface seal design: _____
Screen opening size 0.01" Material of protective casing: 6 inch Steel
Material of grout between
protective casing and well casing: Bent. chips below grade
Screen length 10 ft Protective cap: _____
Depth of Well 21' Material Steel
Filter Pack: _____ Vented?: Y N Locking?: Y N
Material Red Flint Sand Well cap: _____
Grain Size #40 Material PVC
Volume 2.5 cu. ft Vented?: Y N
Seal (minimum 3 ft. length above filter pack): _____
Material 3/8" Bentonite Chips

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

Water level 13.12' Stabilization time <5 minutes
Well development method Surged and pumped until water ran clear, removed ~400 gallons.
Average depth of frost line 4'

DRILLER'S CERTIFICATION

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

Signature  Certification # 9362 Date 11/27/18

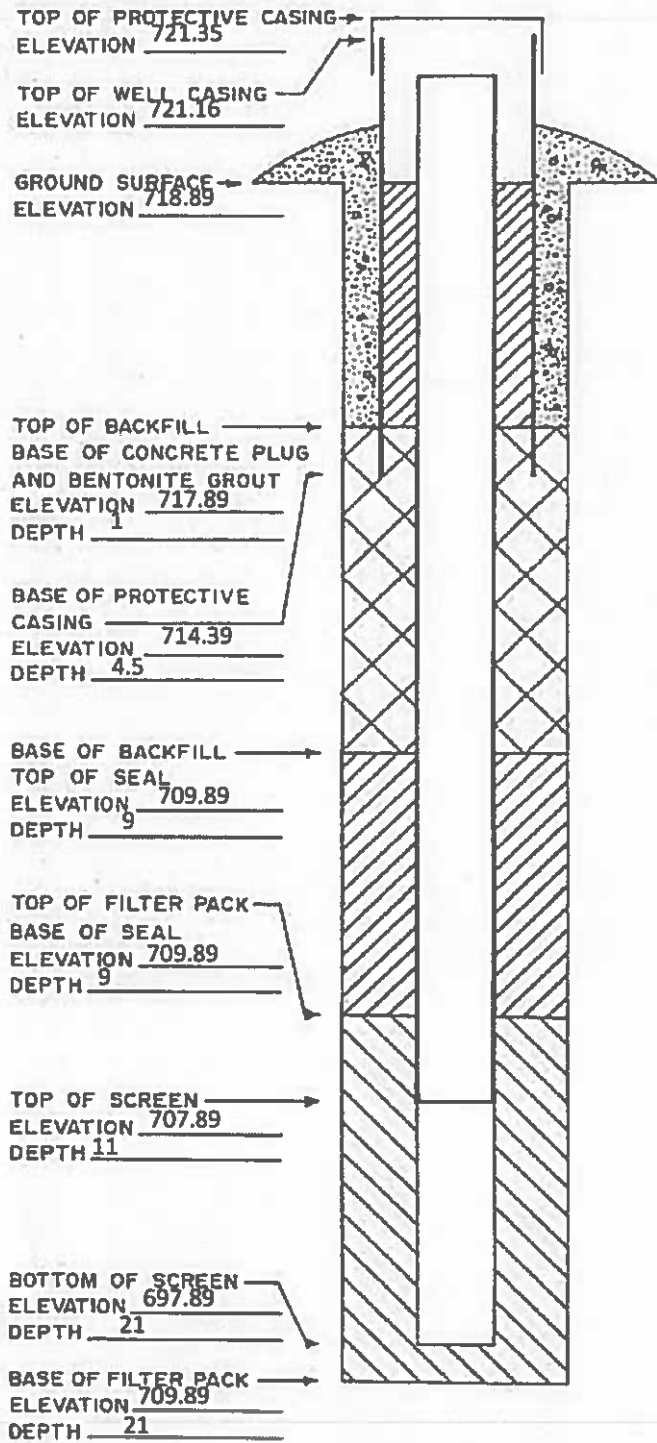
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL Prairie Creek Generating Station Permit No. PPW18-0051
Well or Piezometer No. MW-308 Dates Started 11/27/2018 Date Completed 11/27/2018

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

Specify corner of site NE Distance and direction along boundary 950' W
Distance and direction from boundary to surface monitoring well 5 S
Elevation (+0.01 ft. MSL) _____
Ground Surface 717.46 Top of protective casing 719.98
Top of well casing 719.67 Benchmark elevation 718.58
Benchmark description CP #5

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling LP
Address 301 Anderson St City, State, Zip Code Schofield, WI 54476
Name of driller Mike Mueller
Drilling method Sonic Drilling fluid NA Bore Hole diameter 6.5"
Soil sampling method Sonic soil core Depth of boring 21

C. MONITORING WELL INSTALLATION

Casing material <u>PVC Sch. 40</u>	Placement method <u>Gravity</u>
Length of casing <u>13.2'</u>	Volume <u>1.8 cu. ft</u>
Outside casing diameter <u>2.38"</u>	Backfill (if different from seal): <u>NA</u>
Inside casing diameter <u>2"</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type <u>Threaded</u>	Volume _____
Screen material <u>PVC Sch. 40</u>	Surface seal design: _____
Screen opening size <u>0.01"</u>	Material of protective casing: <u>6 inch Steel</u>
Screen length <u>10 ft</u>	Material of grout between protective casing and well casing: <u>Bent. chips below grade</u>
Depth of Well <u>21'</u>	Protective cap: _____
Filter Pack: _____	Material <u>Steel</u>
Material <u>Red Flint Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#40</u>	Well cap: _____
Volume <u>2.5 cu. ft</u>	Material <u>PVC</u>
Seal (minimum 3 ft. length above filter pack): _____	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>3/8" Bentonite Chips</u>	

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

Water level 14.49' Stabilization time <5 minutes
Well development method Surged and pumped until water ran clear, removed ~475 gallons.
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.

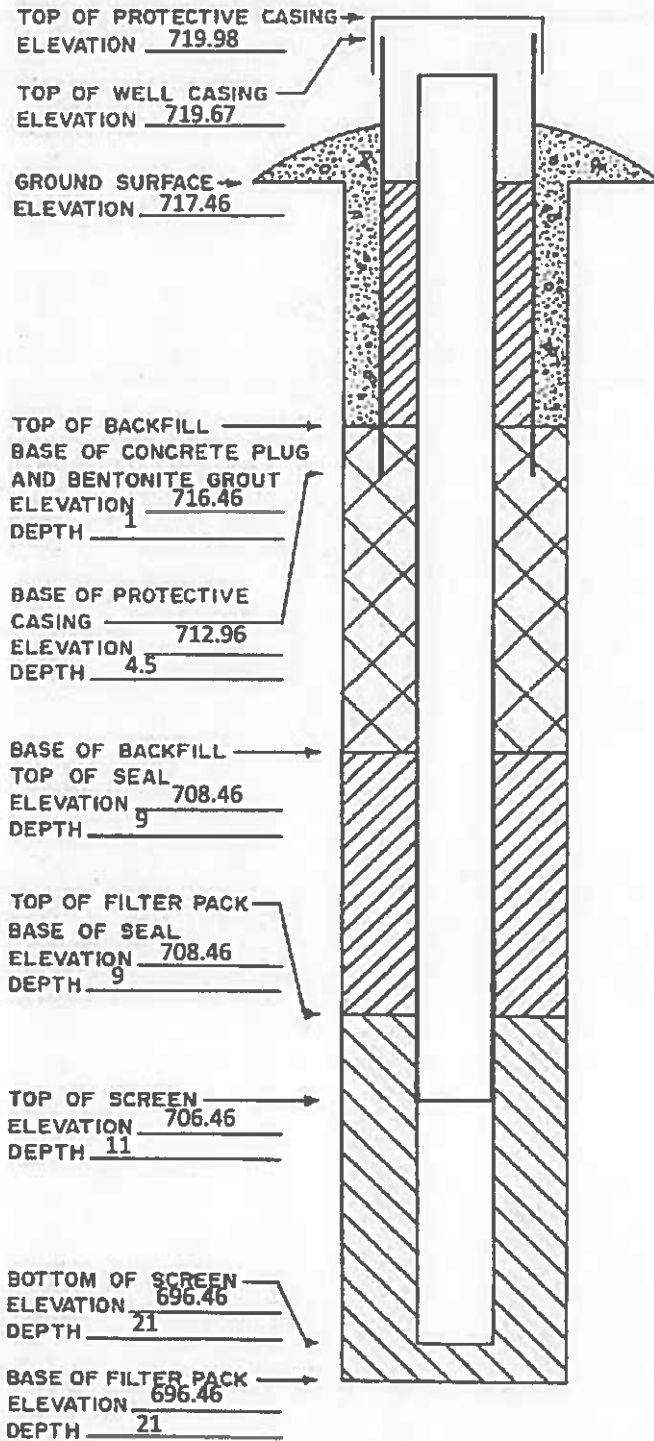
Signature [Signature] Certification # 9362 Date 11/27/18

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW301A Dates Started 6/23/2020 Date Completed 6/24/2020

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

Specify corner of site SE of parcel 19031-51001-00 Distance and direction along boundary 145' W
Distance and direction from boundary to surface monitoring well 80' N
Elevation (+0.01 ft. MSL) _____
Ground Surface 729.40 Top of protective casing 732.45
Top of well casing 732.07 Benchmark elevation _____
Benchmark description On-site benchmark. NAVD_88 datum elevations.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 54 feet

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Tremie Pipe</u>
Length of casing <u>56 feet</u>	Volume <u>7.5 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cememt</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>53 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Plastic</u>
Volume <u>1.3 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Grout</u>	
Material <u>Bentonite Grout</u>	

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

Water level 27.75 Stabilization time <5 minutes
Well development method Surged & purged
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 # 9362 Date 6-24-2020

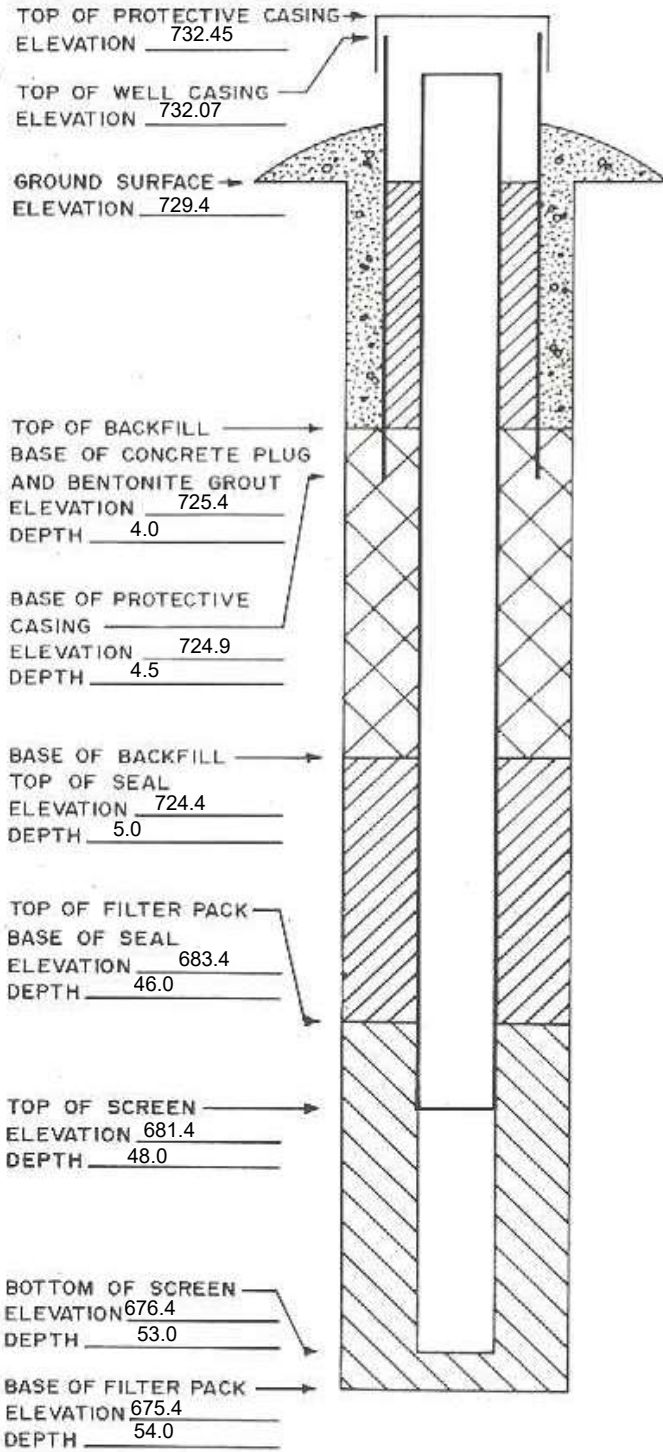
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW306A Dates Started 6/23/2020 Date Completed 6/24/2020

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

Specify corner of site NE of parcel 19032-01001-0 Distance and direction along boundary 1,210' W
Distance and direction from boundary to surface monitoring well 1,205' S
Elevation (+0.01 ft. MSL) _____
Ground Surface 708.9 Top of protective casing 712.50
Top of well casing 711.50 Benchmark elevation _____
Benchmark description On-site benchmark, NAVD_88 datum.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 61 feet

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Tremie Pipe</u>
Length of casing <u>63 feet</u>	Volume <u>8.5 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cememt</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>60 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Plastic</u>
Volume <u>1.3 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Grout</u>	
Material <u>Bentonite Grout</u>	

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

Water level 9.07 Stabilization time <5 minutes
Well development method Surged and purged
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 # 9362 Date 6-24-2020

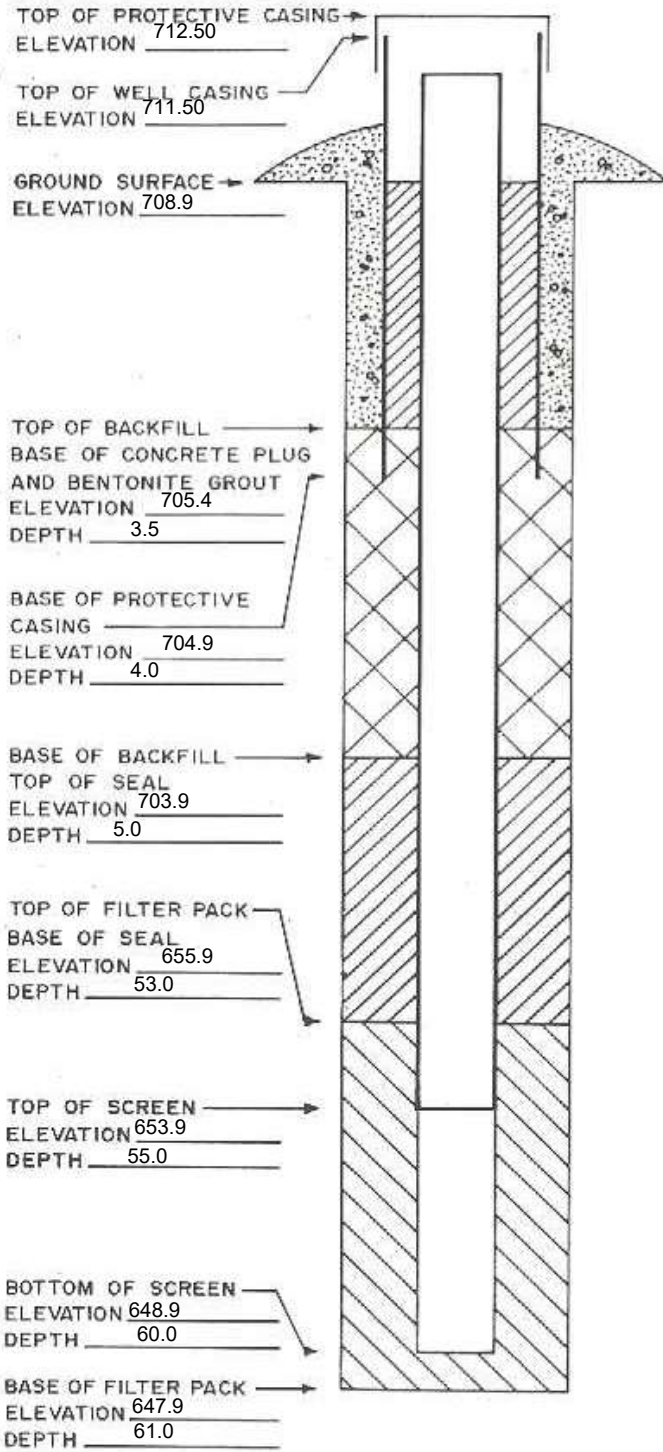
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW309A Dates Started 7/23/2020 Date Completed 7/23/2020

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

Specify corner of site NW of parcel 19031-7600-2 Distance and direction along boundary 320' E
Distance and direction from boundary to surface monitoring well 295' N
Elevation (+0.01 ft. MSL) _____
Ground Surface 708.0 Top of protective casing 711.05
Top of well casing 710.54 Benchmark elevation _____
Benchmark description On-site benchmark, NAVD_88 datum.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 46 feet

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Gravity</u>
Length of casing <u>47.5 feet</u>	Volume <u>5.9 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cement</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>45 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Rubber</u>
Volume <u>1.4 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Chips</u>	
Material <u>Bentonite Chips</u>	

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

Water level 8.37 Stabilization time < 5 minutes
Well development method Surged and purged
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 # 9362 Date 7-23-2020

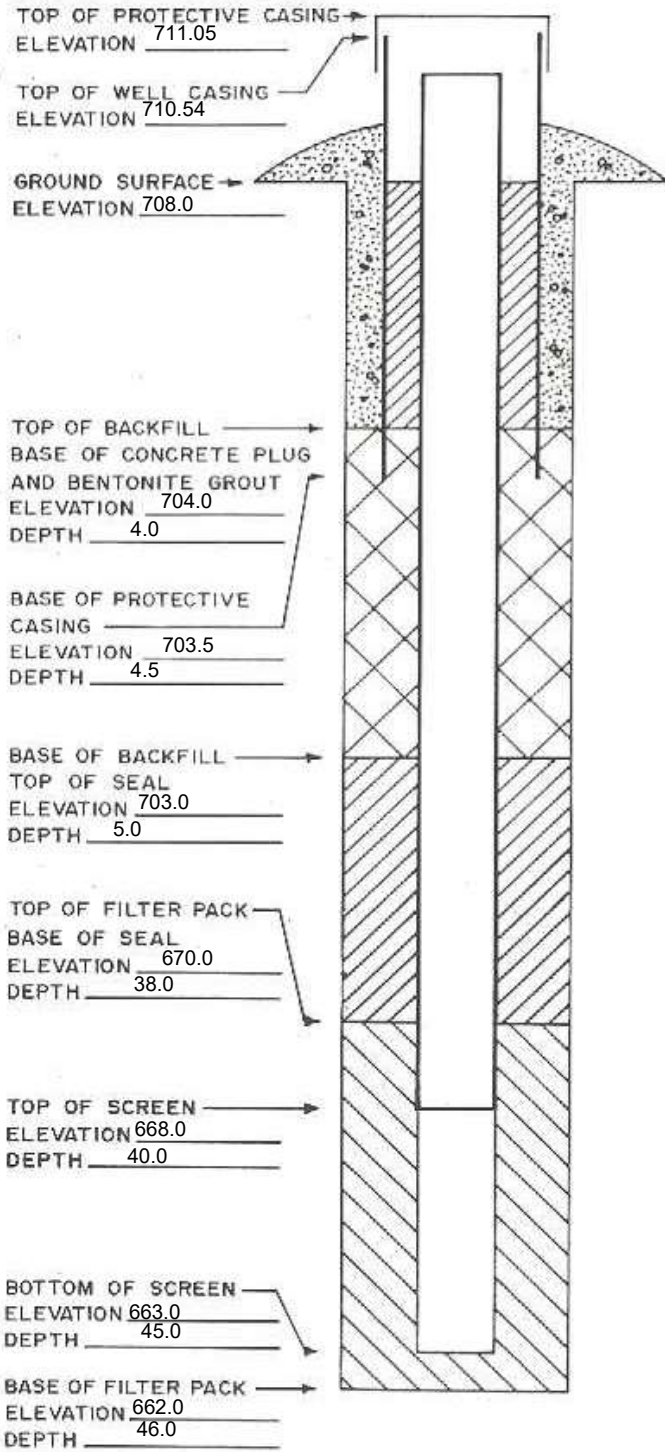
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW310A Dates Started 7/23/2020 Date Completed 7/23/2020

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

Specify corner of site NW of parcel 19031-7600-2 Distance and direction along boundary 600' E
Distance and direction from boundary to surface monitoring well 345' N
Elevation (+0.01 ft. MSL) _____
Ground Surface 708.2 Top of protective casing 711.01
Top of well casing 710.68 Benchmark elevation _____
Benchmark description On-site benchmark, NAVD_88 datum.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 46 feet

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Gravity</u>
Length of casing <u>47.5 feet</u>	Volume <u>5.9 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cement</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>45 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Rubber</u>
Volume <u>1.4 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Chips</u>	
Material <u>Bentonite Chips</u>	

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

Water level 8.68 Stabilization time < 5 minutes
Well development method Surged and purged
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 # 9362 Date 7-23-2020

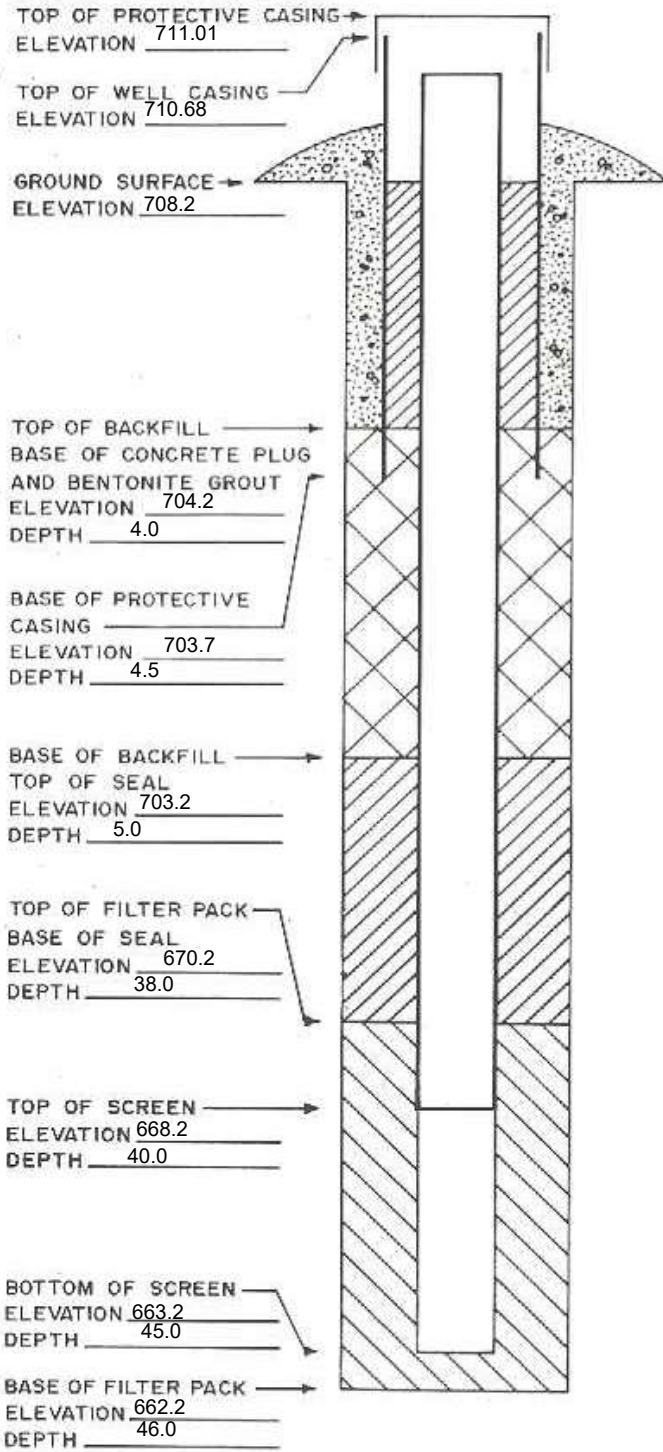
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



March 12, 2021
File No. 25220057.00

Ms. Jennifer Hynek
Prairie Creek Generating Station
3300 C St SW
Cedar Rapids, IA 52404

Subject: Prairie Creek Generating Station – Monitoring Well Construction Documentation

Dear Ms. Hynek:

SCS Engineers (SCS) has completed the installation of four groundwater monitoring wells at the Prairie Creek Generating Station in Cedar Rapids, Iowa (**Figure 1**). These wells were installed to support compliance with the final Coal Combustion Residuals Rule (40 CFR 257.50-107). The monitoring well locations are shown on **Figure 2**.

BORING LOGS

Monitoring wells MW-301A and MW-306A were installed on June 23 and 24, 2020, by Cascade Environmental (Cascade) of Schofield, Wisconsin. Monitoring wells MW-309A and MW-310A were installed on July 23, 2020, by Cascade. All drilling and well construction was performed under the supervision of SCS. Boring logs are included in **Appendix A**.

The monitoring wells were installed to intersect the uppermost aquifer at the site. The uppermost aquifer has been identified as the shallow alluvium, consisting of Cedar River Valley clay, silt, sand, and gravel deposits. Soils encountered in monitoring well borings MW-301A, MW-306A, MW-309A, and MW-310A were sand, silt, and clay.

MONITORING WELL CONSTRUCTION/DEVELOPMENT

Monitoring wells MW-301A and MW-306A were installed by Cascade on June 24 and 25, 2020. Monitoring wells MW-309A and MW-310A were installed by Cascade on July 23, 2020. The wells were surveyed by Mohn Surveying of Lansing, Iowa, on September 23, 2020.

Well construction forms for the new wells are included in **Appendix B**. Well development of MW-306A was performed by SCS on July 23, 2020. Well development of MW-309A and MW-310A was performed on August 5, 2020. Well development of MW-301A was performed on July 23 and August 5, 2020. Due to slow recharge at MW-301A well development has yet to be completed. Photographs of the monitoring wells are included in **Appendix C**.

Hydraulic conductivity testing at MW-306A, MW-309A, and MW-310A was completed on August 5 and 6, 2020. Hydraulic conductivity testing at MW-301A was delayed due to very slow recharge in the well and was completed in January 2021. Conductivity test results are included in **Appendix D** and are summarized below. These values are within the typical range for the soil types observed in the borings.



Ms. Jennifer Hynek

March 12, 2021

Page 2

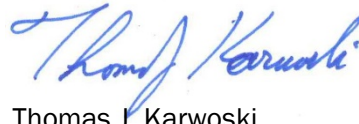
Well	Calculated Hydraulic Conductivity (cm/sec)
MW-301A	1.93×10^{-7}
MW-306A	1.22×10^{-2}
MW-309A	1.07×10^{-1}
MW-310A	5.12×10^{-2}

Please contact us at 608-224-2830 if you have any questions about the well documentation.

Sincerely,



Zach Watson
Associate Scientist
SCS Engineers



Thomas J. Karwoski
Project Manager
SCS Engineers

ZTW/MDB/AJR/TK

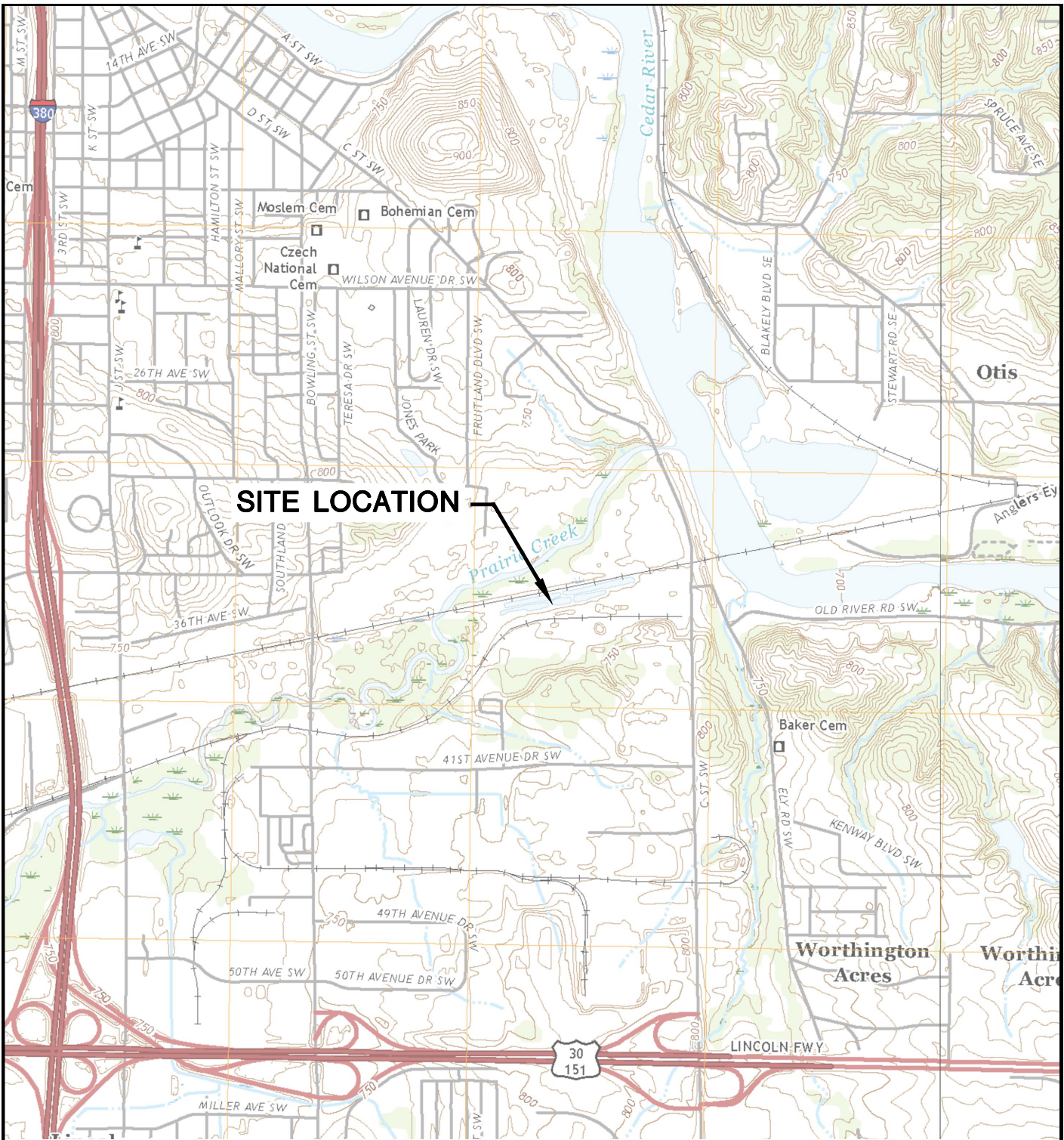
cc: Jennifer Hynek, IPL – Prairie Creek Generating Station
John Watts, IPL – Prairie Creek Generating Station

Encl. Figure 1 – Site Location Map
Figure 2 – Site Plan and Monitoring Well Location Map
Appendix A – Boring Logs
Appendix B – Well Construction Forms
Appendix C – Site Photographs
Appendix D – Hydraulic Conductivity Testing Results

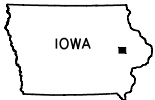
I:\25220057.00\Deliverables\Monitoring Well Documentation Letter\210312_Maxted_Well Documentation Letter_PCS.docx

Figures

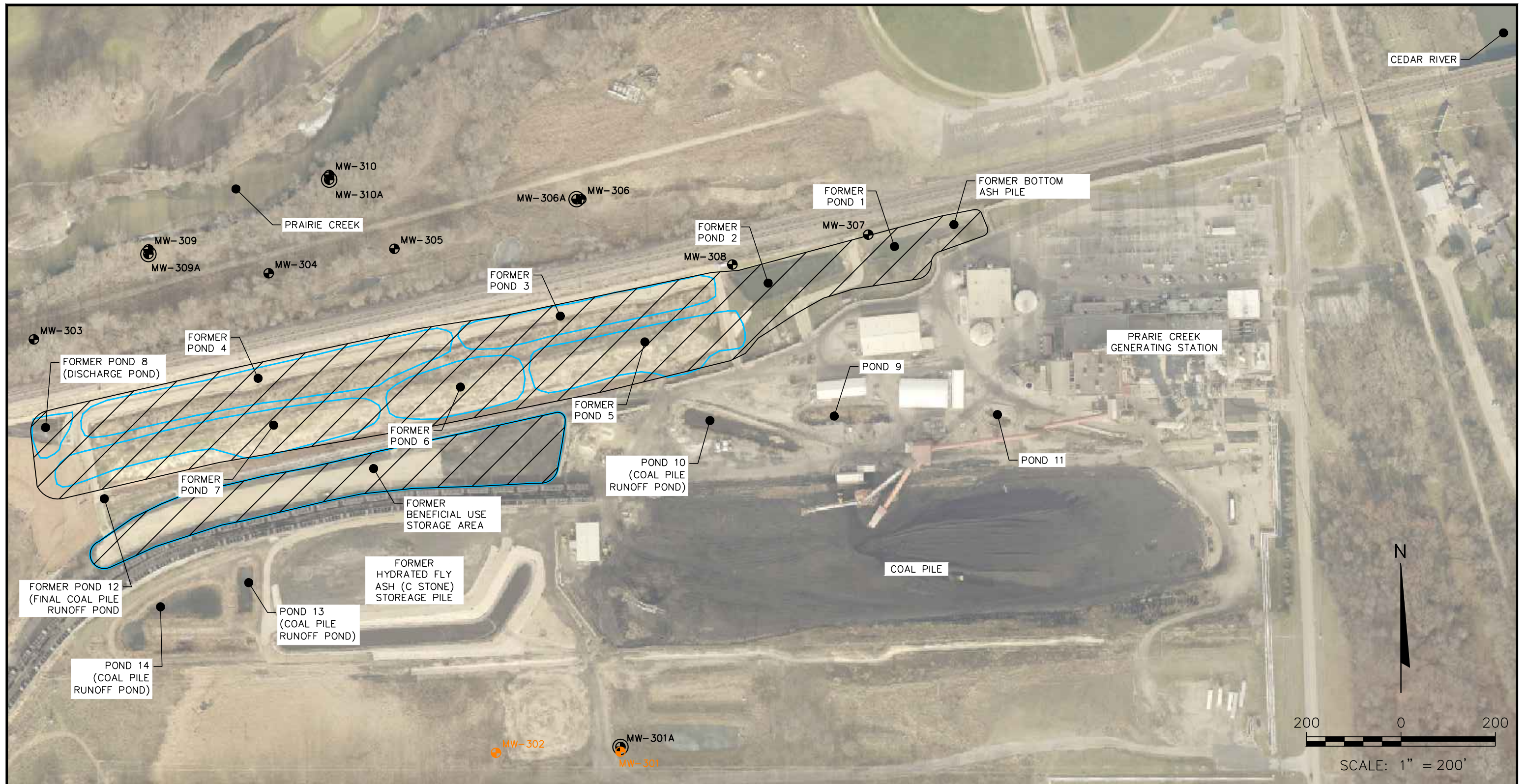
- 1 Site Location Map
- 2 Site Plan and Monitoring Well Location Map



CEDAR RAPIDS SOUTH QUADRANGLE
 IOWA-LINN CO.
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 2018
 SCALE: 1" = 2,000'



CLIENT	ALLIANT ENERGY 4902 N. BILTMORE LANE, #1000 MADISON, WI 53718		SITE	ALLIANT ENERGY PRAIRIE CREEK GENERATING STATION CEDAR RAPIDS, IA		ENGINEER	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830		FIGURE 1
	PROJECT NO.	25219074.00		DRAWN BY:	BSS		APPROVED BY:	TK 01/30/2020	
	DRAWN:	11/18/2019	CHECKED BY:	MDB					
	REVISED:	01/14/2020							



LEGEND

- MONITORING WELL
- BACKGROUND MONITORING WELL
- PIEZOMETER
- CCR UNITS
- APPROXIMATE CLOSURE AREA (SEE NOTE 1)

NOTES:

1. PCS PONDS 1-8, THE BOTTOM ASH PILE, AND THE BENEFICIAL USE STORAGE AREA WERE CLOSED IN DECEMBER 2018. LIMITS ARE APPROXIMATE.
2. AERIAL PHOTO IMPORTED FROM THE ARCMAP BASEMAP (CEDAR RAPIDS, IOWA GIS - DECEMBER 22, 2018).
3. MONITORING WELLS MW-301 THROUGH MW-306 INSTALLED BY CASCADE DRILLING BETWEEN OCTOBER 31 AND DECEMBER 6, 2016.
4. MONITORING WELLS MW-307 AND MW-308 INSTALLED BY CASCADE DRILLING ON NOVEMBER 27, 2018.
5. MONITORING WELLS MW-309 AND MW-310 INSTALLED BY ROBERTS ENVIRONMENTAL DRILLING ON AUGUST 5-6, 2019.
6. MONITORING WELLS MW-301A AND MW-306A INSTALLED BY CASCADE DRILLING ON JUNE 22-24, 2020.
7. MONITORING WELLS MW-309A AND MW-310A WERE INSTALLED BY CASCADE DRILLING ON JULY 23, 2020.
8. THE BACKGROUND MONITORING WELLS FOR THE PRAIRIE CREEK GENERATING STATION ARE: MW-301 AND MW-302.

PROJECT NO.	25219074.00	DRAWN BY:	BSS
DRAWN:	11/18/2019	CHECKED BY:	MDB
REVISED:	01/21/2021	APPROVED BY:	TK 01/28/2021

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

CLIENT ALLIANT ENERGY 4902 N. BILTMORE LANE, #1000 MADISON, WI 53718	SITE ALLIANT ENERGY PRAIRIE CREEK GENERATING STATION CEDAR RAPIDS, IA
---	--

SITE PLAN AND MONITORING WELL LOCATIONS	FIGURE 2
--	-------------

Appendix A

Boring Logs

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

Facility/Project Name Prairie Creek Generating Station SCS#: 25220057		License/Permit/Monitoring Number		Boring Number MW301A	
Boring Drilled By: Name of crew chief (first, last) and Firm Roy Buckenberger Cascade		Date Drilling Started 6/23/2020		Date Drilling Completed 6/23/2020	
Unique Well No.		DNR Well ID No.		Common Well Name MW301A	
Final Static Water Level Feet		Surface Elevation Feet		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat ° ' " Long ° ' "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of		1/4 of Section		T N, R	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids, Iowa	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1	36		1	Topsoil. 10YR3/4.	ML									
			2	Silt with trace fine sand. 10YR3/4.	ML				1.0	M				
2	36		3											
			4											
	0		5											
			6											
			7											
			8											
			9											
			10	No Return.										
			11											
			12											
			13											
			14											
			15											

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

Signature <i>Zach Watson</i>	Firm SCS Engineers 2830 Dairy Dr., Madison, WI, 53718	Tel: Fax:
---------------------------------	--	--------------

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

Facility/Project Name Prairie Creek Generating Station SCS#: 25220057		License/Permit/Monitoring Number		Boring Number MW306A	
Boring Drilled By: Name of crew chief (first, last) and Firm Roy Buckenberger Cascade		Date Drilling Started 6/23/2020		Date Drilling Completed 6/23/2020	
Unique Well No.		DNR Well ID No.		Common Well Name MW306A	
Final Static Water Level Feet		Surface Elevation Feet		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat ° ' "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of T N, R		1/4 of Section , T N, R		Long ° ' "	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids, Iowa	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	60		0-1	Topsoil. Organic Material.	ML										
			1-2	Waste. Plastic wrapping. Soil.											
2	60		2-3	Tan/Brown soil/silt. 10YR3/4.	ML										
			3-5	Dark Black Sand and Silt. Well Graded. 10YR2/1.	SW										
			5-10	Well Graded Sand. Light Grey. 2.5Y3/1.	SW										
3	60		10-12	Silt with fine sand.	ML										
			12-13												
			13-15												

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

Signature <i>Zach Watson</i>	Firm SCS Engineers 2830 Dairy Dr., Madison, WI, 53718	Tel: Fax:
---------------------------------	--	--------------

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

Facility/Project Name Prairie Creek Generating Station SCS#: 25220057		License/Permit/Monitoring Number		Boring Number MW309A	
Boring Drilled By: Name of crew chief (first, last) and Firm Roy Buckenberger Cascade		Date Drilling Started 7/23/2020		Date Drilling Completed 7/23/2020	
Unique Well No.		DNR Well ID No.		Common Well Name MW309A	
Final Static Water Level Feet		Surface Elevation Feet		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat ° ' "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of T N, R		1/4 of Section , T N, R		Long ° ' "	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids, Iowa	

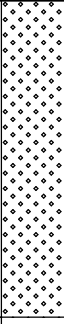
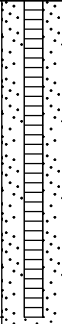
Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1	60		1	Topsoil. Organic material, roots, trace coarse material. 10YR2/1.	ML									
			2											
			3											
			4											
			5											
2	60		6	Silty Sand. Fine to medium grained sand. Well Graded. 10YR3/4.	SM									
			7											
			8											
			9											
			10											
3	60		11	Well graded Gravel with sand. Four inch lens of silt with sand. 7.5YR2/1. Well Graded sand with gravel towards base (14-15 feet).	GW									
			12											
			13											
			14											
			15											

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

Signature <i>Zach Watson</i>	Firm SCS Engineers 2830 Dairy Dr., Madison, WI, 53718	Tel: Fax:
---------------------------------	---	--------------

Boring Number MW309A

Page 3 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
9	60		41 42 43 44 45 46	Well graded Sand. Fine to coarse grained sand. 2.5Y3/2. <i>(continued)</i>	SW					W				

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

Facility/Project Name Prairie Creek Generating Station SCS#: 25220057		License/Permit/Monitoring Number		Boring Number MW310A	
Boring Drilled By: Name of crew chief (first, last) and Firm Roy Buckenberger Cascade		Date Drilling Started 7/23/2020		Date Drilling Completed 7/23/2020	
Unique Well No.		DNR Well ID No.		Common Well Name MW310A	
Final Static Water Level Feet		Surface Elevation Feet		Borehole Diameter 6.0 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat ° ' " Long ° ' "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of		1/4 of Section		T N, R	
Facility ID		County Linn		Civil Town/City/ or Village Cedar Rapids, Iowa	









Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1	60		1	Topsoil. Organic material, roots and plant material.	ML									
			2	Lean Clay. Soft, trace coarse material. 2.5Y3/2.	CL									
2	60		3						0.5	W				
			4											
3	60		5	Fine to Coarse Sand. Well Graded Sand. 2.5Y3/1.	SW						W			
			6											


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

Signature <i>Zach Watson</i>	Firm SCS Engineers 2830 Dairy Dr., Madison, WI 53718	Tel: Fax:
---------------------------------	---	--------------

Boring Number MW310A

Page 2 of 3

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
4	60		16	Lean Clay, trace coarse material (Fine Sand). 5Y4/1.	CL				1.5	W				
			17											
			18											
			19											
5	60		20	Well graded sand with silt and gravel. 5Y4/2.	SW-SM					W				
			21											
			22											
			23											
			24											
			25											
6	60		26	Well graded sand with silt and gravel. 5Y4/2.	SW-SM					W				
			27											
			28											
			29											
			30											
			31											
7	60		32	Silt with gravel.	ML					W				
			33											
			34											
			35											
8	60		36	Well graded sand with silt and gravel. 5Y4/2.	SW-SM					W				
			37											
			38											
			39											
			40											



Appendix B
Well Construction Forms

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW301A Dates Started 6/23/2020 Date Completed 6/24/2020

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

Specify corner of site SE of parcel 19031-51001-00 Distance and direction along boundary 145' W
Distance and direction from boundary to surface monitoring well 80' N
Elevation (+0.01 ft. MSL) _____
Ground Surface 729.40 Top of protective casing 732.45
Top of well casing 732.07 Benchmark elevation _____
Benchmark description On-site benchmark. NAVD_88 datum elevations.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 54 feet

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Tremie Pipe</u>
Length of casing <u>56 feet</u>	Volume <u>7.5 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cememt</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>53 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Plastic</u>
Volume <u>1.3 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Grout</u>	
Material <u>Bentonite Grout</u>	

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

Water level 27.75 Stabilization time <5 minutes
Well development method Surged & purged
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 # 9362 Date 6-24-2020

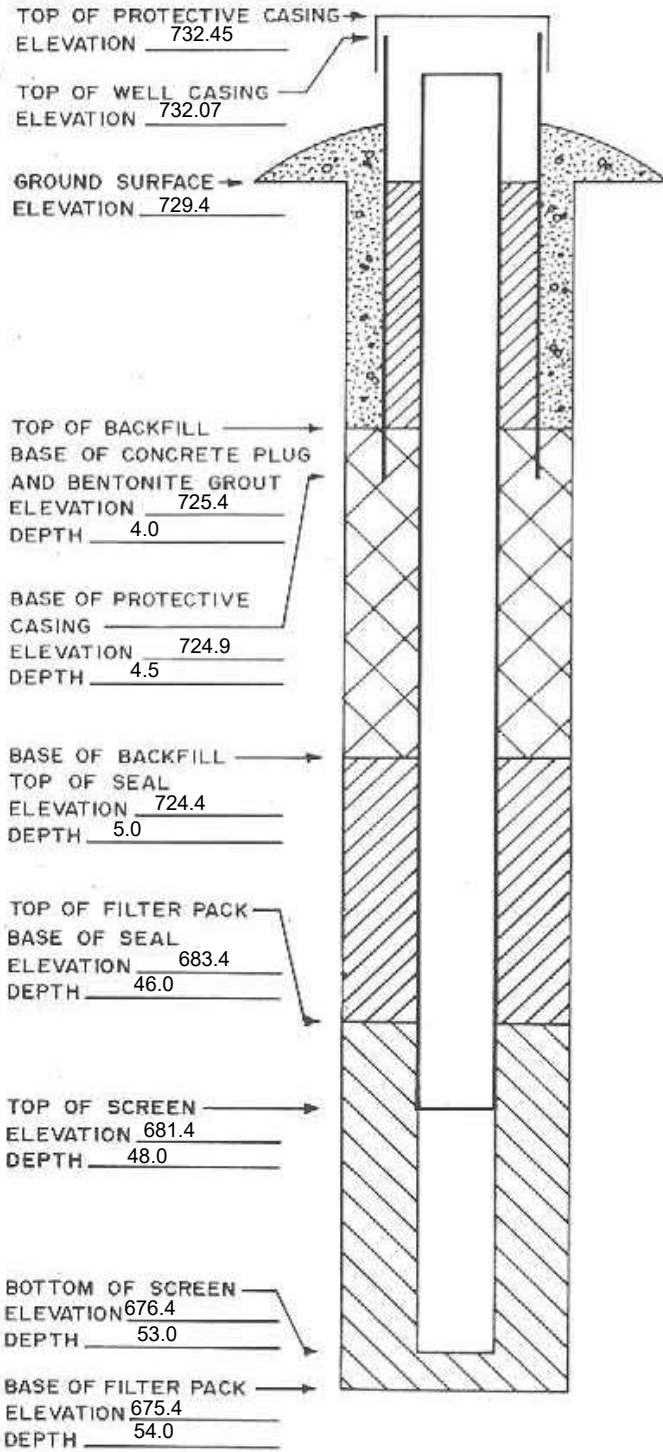
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW306A Dates Started 6/23/2020 Date Completed 6/24/2020

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

Specify corner of site NE of parcel 19032-01001-0 Distance and direction along boundary 1,210' W
Distance and direction from boundary to surface monitoring well 1,205' S
Elevation (+0.01 ft. MSL) _____
Ground Surface 708.9 Top of protective casing 712.50
Top of well casing 711.50 Benchmark elevation _____
Benchmark description On-site benchmark, NAVD_88 datum.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 61 feet

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Tremie Pipe</u>
Length of casing <u>63 feet</u>	Volume <u>8.5 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cememt</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>60 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Plastic</u>
Volume <u>1.3 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Grout</u>	
Material <u>Bentonite Grout</u>	

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

Water level 9.07 Stabilization time <5 minutes
Well development method Surged and purged
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 # 9362 Date 6-24-2020

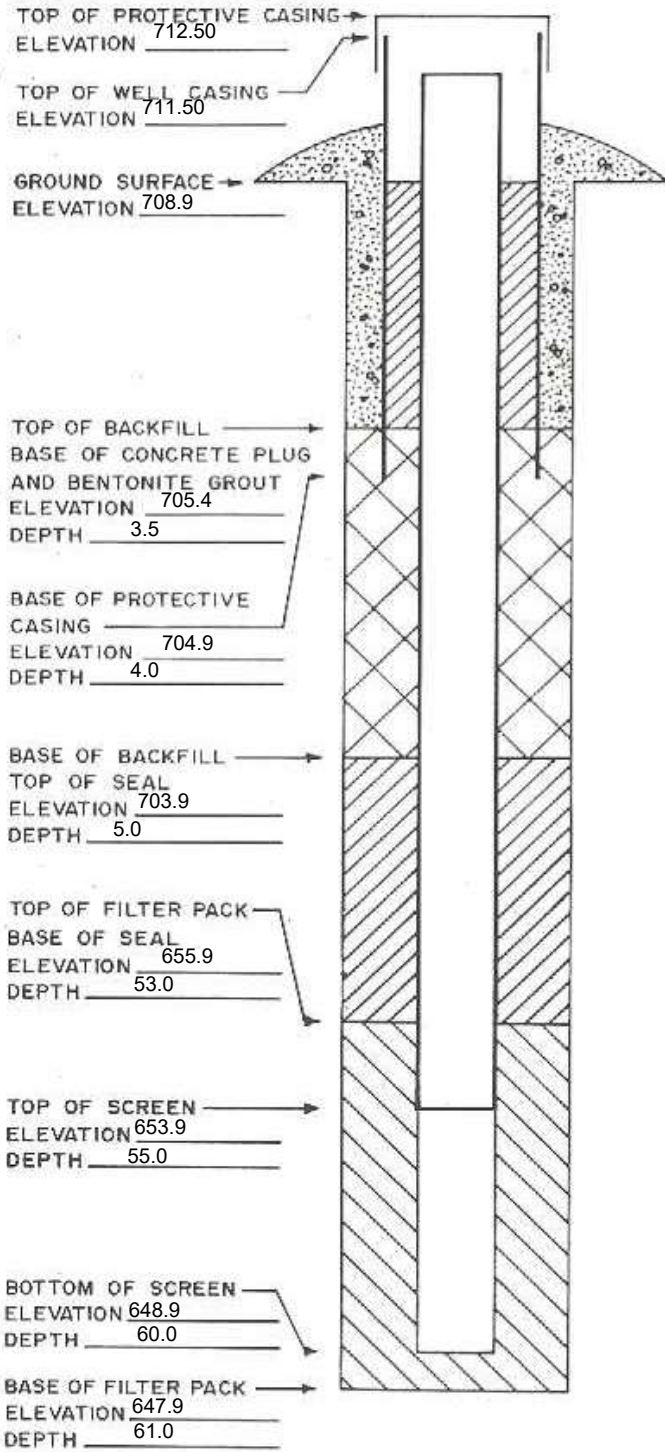
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW309A Dates Started 7/23/2020 Date Completed 7/23/2020

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

Specify corner of site NW of parcel 19031-7600-2 Distance and direction along boundary 320' E
Distance and direction from boundary to surface monitoring well 295' N
Elevation (+0.01 ft. MSL) _____
Ground Surface 708.0 Top of protective casing 711.05
Top of well casing 710.54 Benchmark elevation _____
Benchmark description On-site benchmark, NAVD_88 datum.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 46 feet

C. MONITORING WELL INSTALLATION


Casing material <u>PVC</u>	Placement method <u>Gravity</u>
Length of casing <u>47.5 feet</u>	Volume <u>5.9 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cement</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>45 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Rubber</u>
Volume <u>1.4 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Chips</u>	
Material <u>Bentonite Chips</u>	

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

Water level 8.37 Stabilization time < 5 minutes
Well development method Surged and purged
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 # 9362 Date 7-23-2020

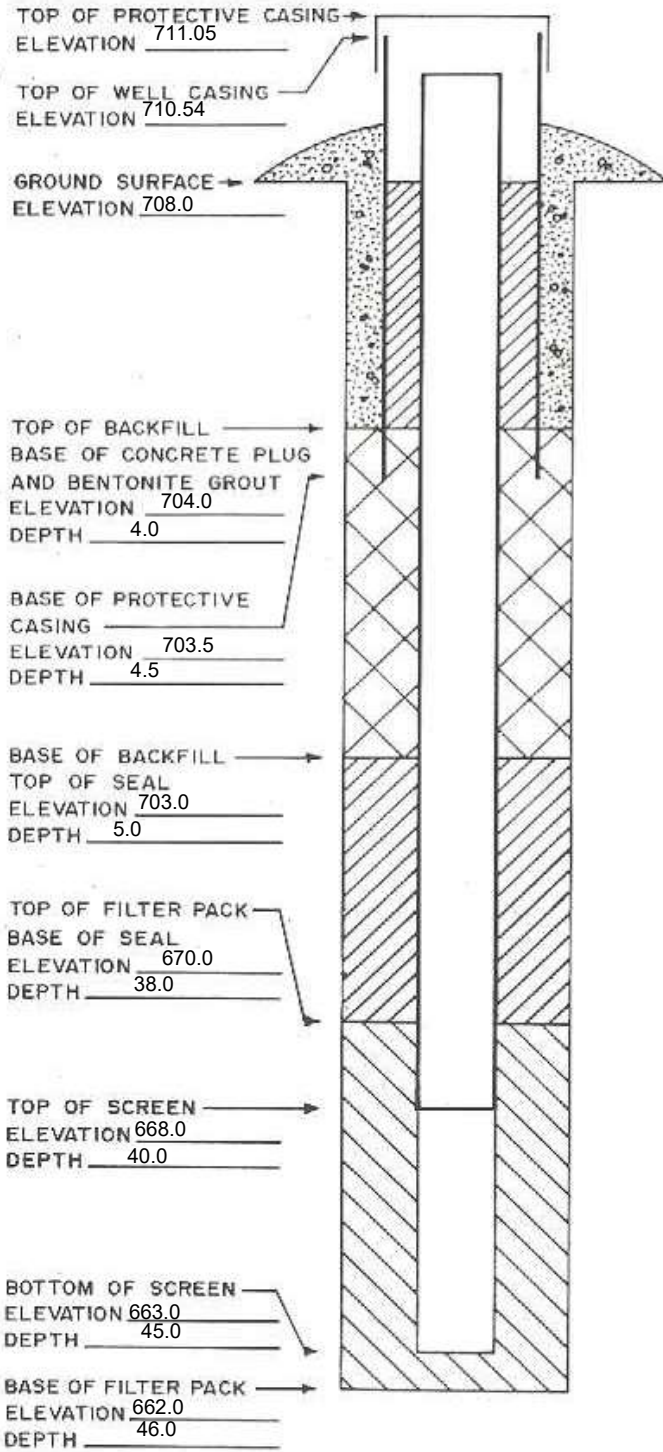
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Prairie Creek Generating Station Permit No. _____
Well or Piezometer No. MW310A Dates Started 7/23/2020 Date Completed 7/23/2020

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

Specify corner of site NW of parcel 19031-7600-2 Distance and direction along boundary 600' E
Distance and direction from boundary to surface monitoring well 345' N
Elevation (+0.01 ft. MSL) _____
Ground Surface 708.2 Top of protective casing 711.01
Top of well casing 710.68 Benchmark elevation _____
Benchmark description On-site benchmark, NAVD_88 datum.

B. SOIL BORING INFORMATION

Construction Company Name Cascade Drilling
Address 301 Alderson St. City, State, Zip Code Schofield, WI, 54476
Name of driller Mike Mueller
Drilling method Rotosonic Drilling fluid Water Bore Hole diameter 6 inches
Soil sampling method 5 foot sections Depth of boring 46 feet

C. MONITORING WELL INSTALLATION

Casing material <u>PVC</u>	Placement method <u>Gravity</u>
Length of casing <u>47.5 feet</u>	Volume <u>5.9 cubic feet</u>
Outside casing diameter <u>2.4 inches</u>	Backfill (if different from seal): <u>None</u>
Inside casing diameter <u>2.0 inches</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type _____	Volume _____
Screen material <u>PVC</u>	Surface seal design: <u>Cement</u>
Screen opening size <u>0.01 inches</u>	Material of protective casing: <u>Steel</u>
	Material of grout between protective casing and well casing: <u>Bentonite and Filter Sand</u>
Screen length <u>5 feet</u>	Protective cap: _____
Depth of Well <u>45 feet below ground surface</u>	Material <u>Aluminium</u>
Filter Pack: <u>Red Flint Filter Pack Sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>Sand</u>	Well cap: _____
Grain Size _____	Material <u>Rubber</u>
Volume <u>1.4 cubic feet</u>	Vented?: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seal (minimum 3 ft. length above filter pack): <u>Bentonite Chips</u>	
Material <u>Bentonite Chips</u>	

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

Water level 8.68 Stabilization time < 5 minutes
Well development method Surged and purged
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 # 9362 Date 7-23-2020

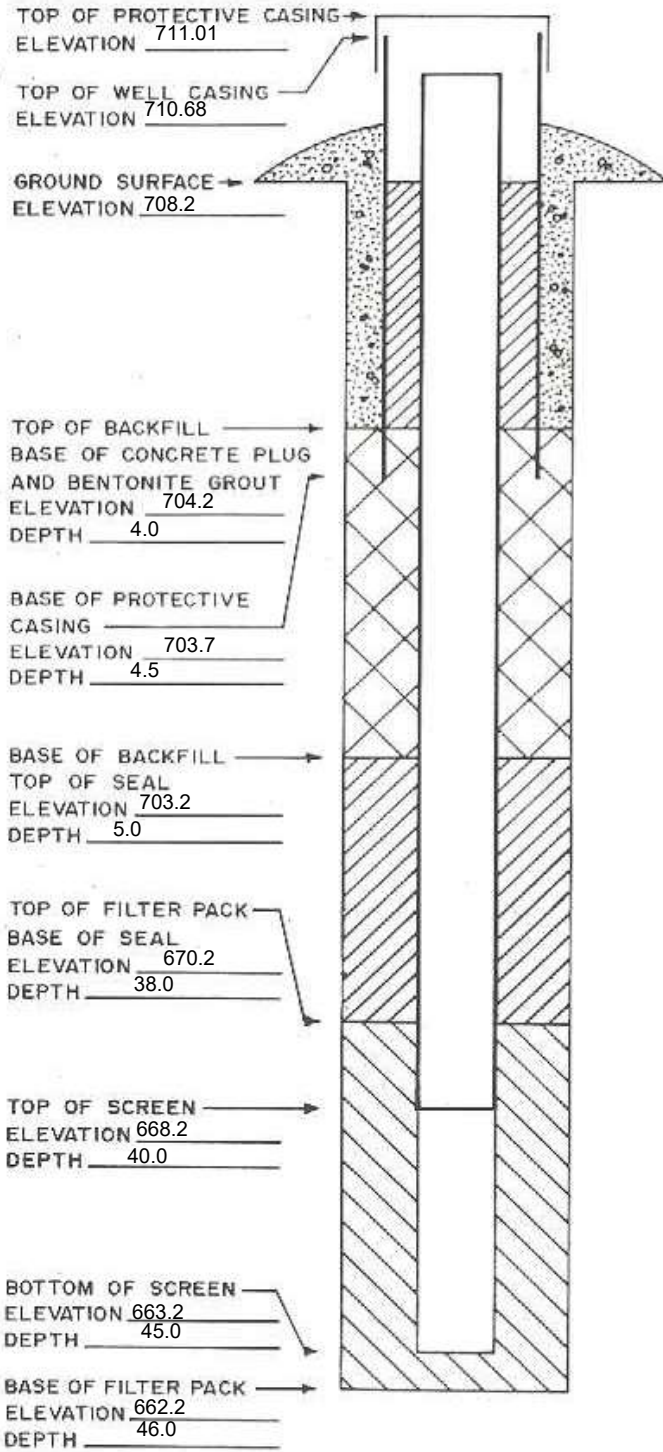
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.


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

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

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

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





Appendix C
Site Photographs

IPL – Prairie Creek Generating Station
Cedar Rapids, Iowa
SCS Engineers Project #25220057.00



Photo 1: MW-306A,
looking southeast.



Photo 2: MW-310A,
looking north.


IPL – Prairie Creek Generating Station
Cedar Rapids, Iowa
SCS Engineers Project #25220057.00



Photo 3: MW-309A,
looking northwest.

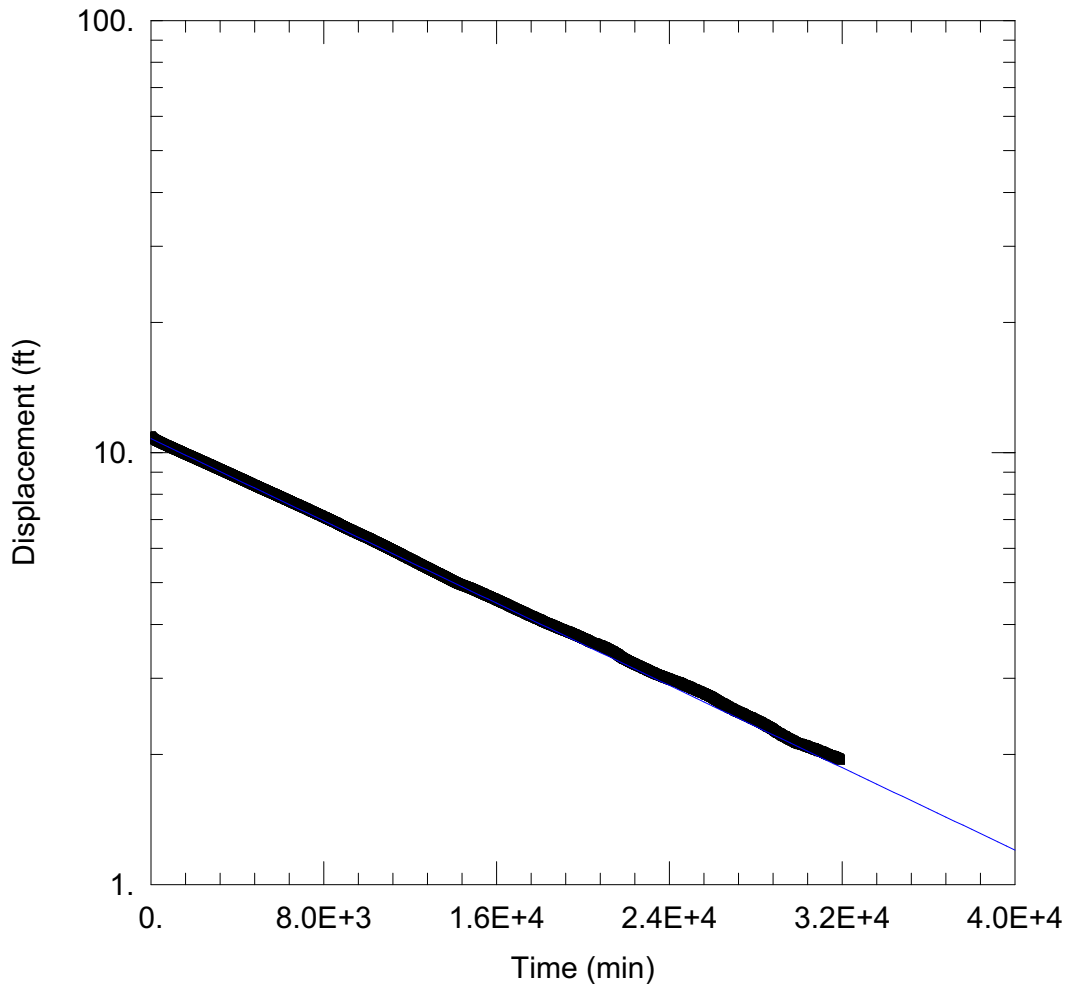


Photo 4: MW-301A,
looking northeast.



Appendix D

Hydraulic Conductivity Testing Results



WELL TEST ANALYSIS

Data Set: I:\25220057.00\Data and Calculations\K Tests\MW301A.aqt
 Date: 02/18/21 Time: 13:01:08

PROJECT INFORMATION

Company: SCS Engineers
 Client: IPL - Prairie Creek
 Project: 25220057
 Test Well: MW-301A
 Test Date: 1/5/2021

AQUIFER DATA

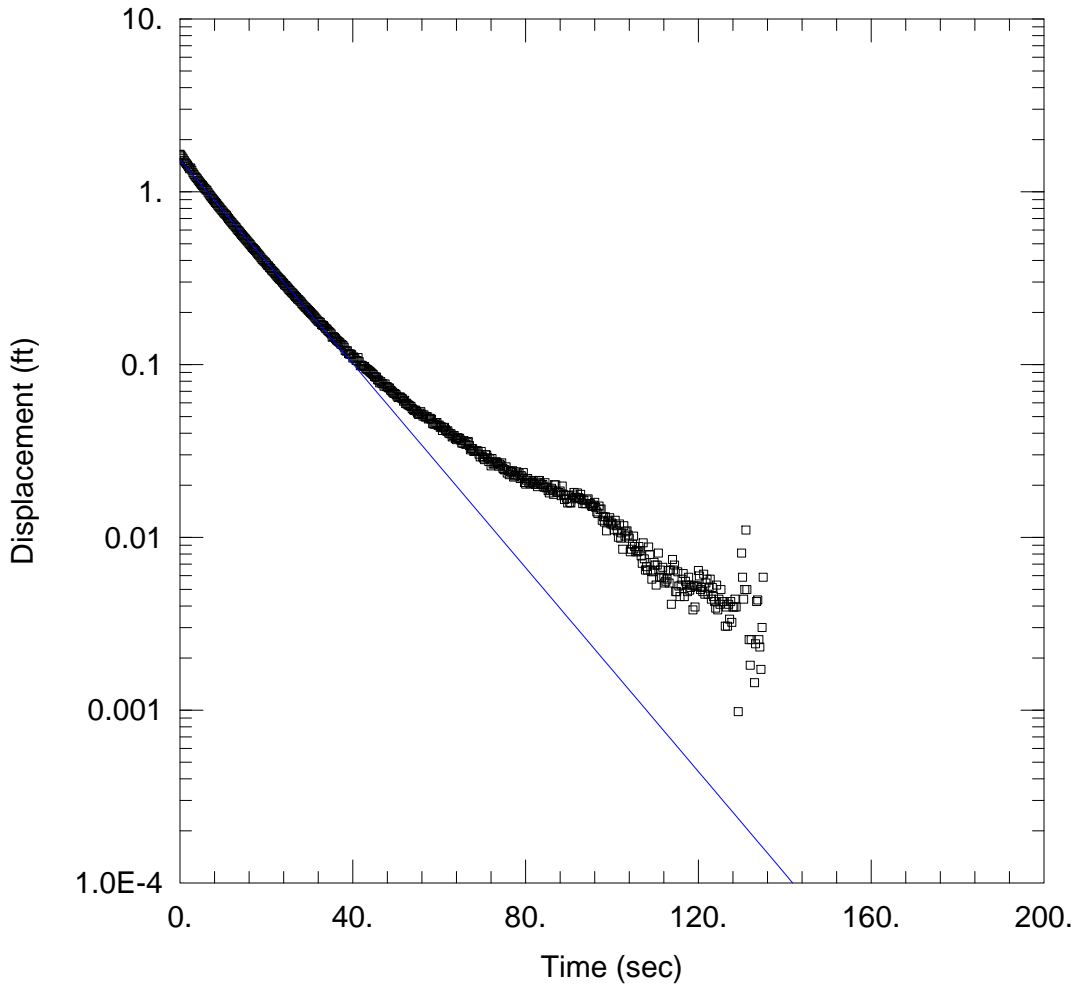
Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 0.01

WELL DATA (MW-301A)

Initial Displacement: 10.91 ft Static Water Column Height: 31.58 ft
 Total Well Penetration Depth: 31.58 ft Screen Length: 7. ft
 Casing Radius: 0.08 ft Well Radius: 0.25 ft
 Gravel Pack Porosity: 0.25

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 K = 1.934E-7 cm/sec y0 = 10.77 ft



WELL TEST ANALYSIS

Data Set: C:\Users\4034zwt\Desktop\MW306A.aqt
 Date: 08/07/20 Time: 13:57:17

PROJECT INFORMATION

Company: SCS Engineers
 Client: Alliant Energy
 Project: 25220057
 Location: Cedar Rapids
 Test Well: MW306A
 Test Date: 8/5/2020

AQUIFER DATA

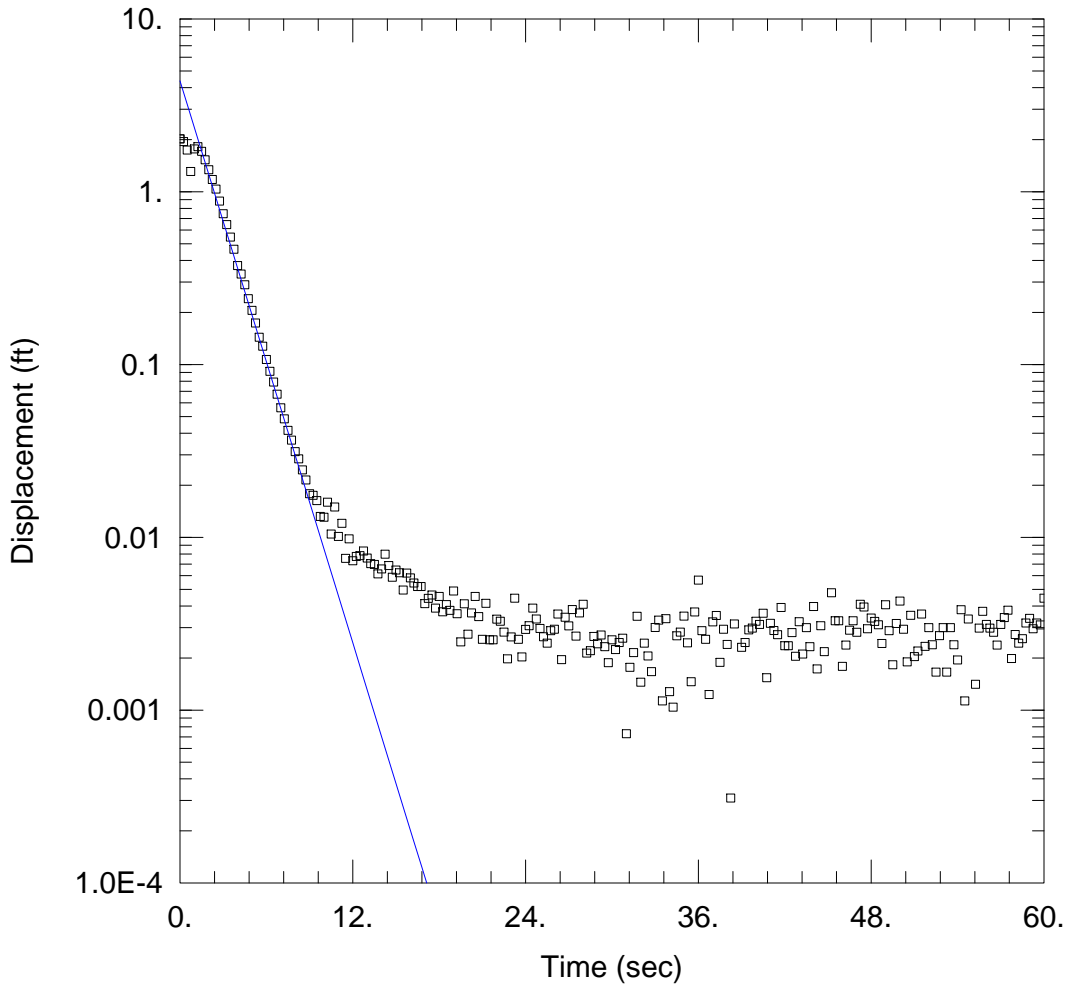
Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (New Well)

Initial Displacement: 1.644 ft Static Water Column Height: 54.4 ft
 Total Well Penetration Depth: 54.4 ft Screen Length: 5. ft
 Casing Radius: 0.08333 ft Well Radius: 0.25 ft
 Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.01223 cm/sec y0 = 1.53 ft



WELL TEST ANALYSIS

Data Set: C:\Users\4034zwt\Desktop\MW309A K Test.aqt
 Date: 08/07/20 Time: 13:35:58

PROJECT INFORMATION

Company: SCS Engineers
 Client: Alliant Energy
 Project: 25220057
 Location: Cedar Rapids
 Test Well: MW309A
 Test Date: 8/6/2020

AQUIFER DATA

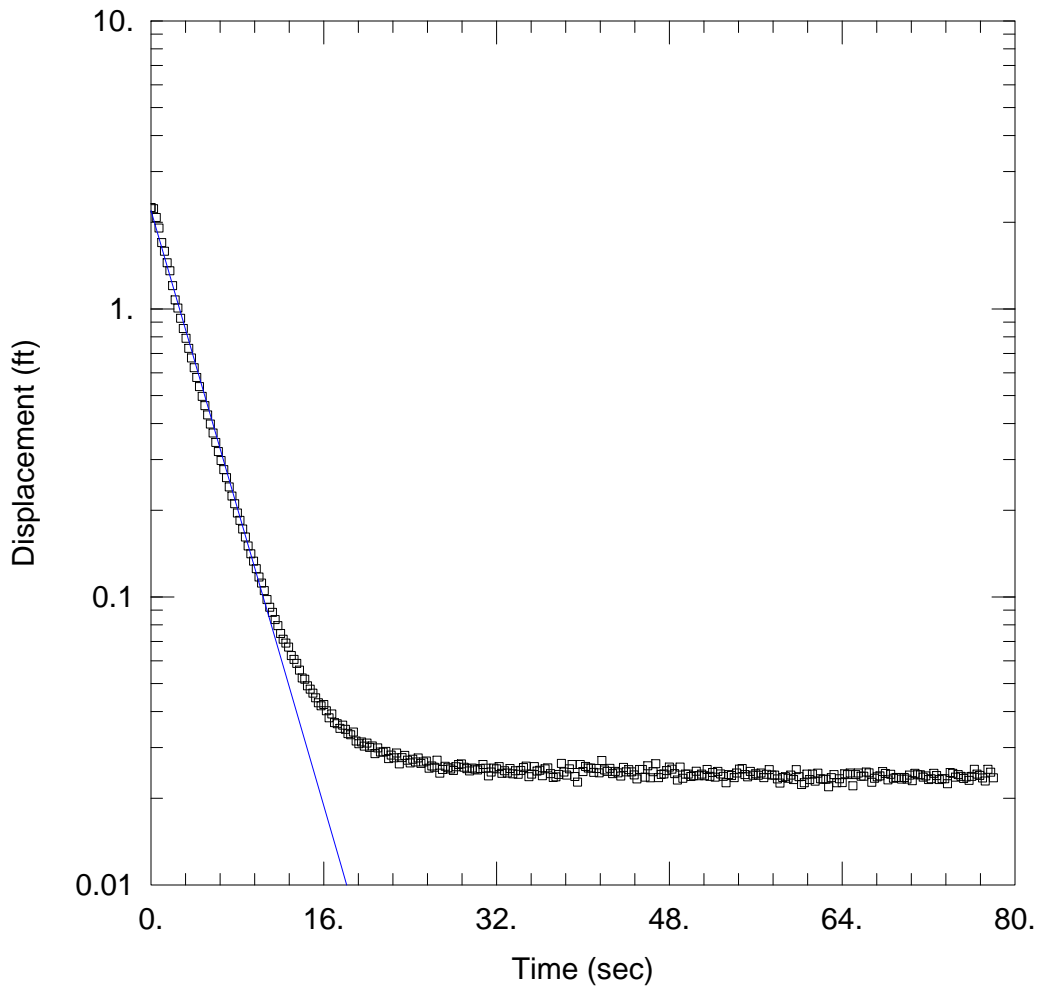
Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW309A)

Initial Displacement: 2.021 ft Static Water Column Height: 38.93 ft
 Total Well Penetration Depth: 38.93 ft Screen Length: 5. ft
 Casing Radius: 0.08333 ft Well Radius: 0.25 ft
 Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bower-Rice
 K = 0.1074 cm/sec y0 = 4.378 ft



WELL TEST ANALYSIS

Data Set: C:\Users\4034ztw\Desktop\MW310A.aqt

Date: 08/07/20

Time: 12:58:49

PROJECT INFORMATION

Company: SCS Engineers

Client: Alliant Energy

Project: 25220057

Location: Cedar Rapids

Test Well: MW310A

Test Date: 8/6/2020

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW310A)

Initial Displacement: 2.25 ft

Static Water Column Height: 38.77 ft

Total Well Penetration Depth: 38.77 ft

Screen Length: 5. ft

Casing Radius: 0.08333 ft

Well Radius: 0.25 ft

Gravel Pack Porosity: 0.3


SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 0.05116 cm/sec

y0 = 2.194 ft



Appendix C
Laboratory Reports

C1 April 2021, Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-205460-1
Client Project/Site: Prairie Creek CCR 25221074
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
6/1/2021 10:20:25 AM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Job ID: 310-205460-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-205460-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 5/13/2021. The report (revision 1) is being revised due to: Updated field data for sample MW-309A.

Receipt

The samples were received on 4/29/2021 5:40 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 2.3° C and 5.8° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: MW-302 (310-205460-3), MW-303 (310-205460-4), Cooler 3 and 4 samples are documented on temp sheet.

HPLC/IC

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-205460-1), MW-301A (310-205460-2), MW-302 (310-205460-3), MW-305 (310-205460-6), MW-306 (310-205460-7), MW-306A (310-205460-8), MW-308 (310-205460-10), MW-309A (310-205460-12) and MW-310A (310-205460-14). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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

Sample Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-205460-1	MW-301	Water	04/27/21 07:30	04/29/21 17:40	
310-205460-2	MW-301A	Water	04/28/21 06:11	04/29/21 17:40	
310-205460-3	MW-302	Water	04/27/21 09:12	04/29/21 17:40	
310-205460-4	MW-303	Water	04/27/21 11:36	04/29/21 17:40	
310-205460-5	MW-304	Water	04/27/21 14:36	04/29/21 17:40	
310-205460-6	MW-305	Water	04/27/21 17:45	04/29/21 17:40	
310-205460-7	MW-306	Water	04/27/21 19:35	04/29/21 17:40	
310-205460-8	MW-306A	Water	04/27/21 18:45	04/29/21 17:40	
310-205460-9	MW-307	Water	04/26/21 18:35	04/29/21 17:40	
310-205460-10	MW-308	Water	04/26/21 19:48	04/29/21 17:40	
310-205460-11	MW-309	Water	04/27/21 12:32	04/29/21 17:40	
310-205460-12	MW-309A	Water	04/27/21 13:25	04/29/21 17:40	
310-205460-13	MW-310	Water	04/27/21 15:40	04/29/21 17:40	
310-205460-14	MW-310A	Water	04/27/21 16:40	04/29/21 17:40	
310-205460-15	Field Blank	Water	04/27/21 06:14	04/29/21 17:40	

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-301

Lab Sample ID: 310-205460-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	58		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	93		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	250		2.0	0.30	ug/L	1		6020A	Total/NA
Cadmium	0.062	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	4.2	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	0.15	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	13		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	550		30	26	mg/L	1		SM 2540C	Total/NA
pH	6.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	715.84				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	168.40				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	3.76				mg/L	1		Field Sampling	Total/NA
pH, Field	6.81				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	931				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.40				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.04				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-301A

Lab Sample ID: 310-205460-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	5.3		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.87	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	160		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	71	J	100	58	ug/L	1		6020A	Total/NA
Calcium	68		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.2		0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.21	J	0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	3.1		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	250		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	716.76				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	11.70				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.68				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	930				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.70				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.04				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-205460-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	23		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	57		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	3.4		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	160		2.0	0.30	ug/L	1		6020A	Total/NA
Cadmium	0.065	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	76		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	1.4	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	0.37	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	6.3	J	10	2.5	ug/L	1		6020A	Total/NA
Selenium	0.96	J	5.0	0.96	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-302 (Continued)

Lab Sample ID: 310-205460-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	330		30	26	mg/L	1		SM 2540C	Total/NA
pH	6.8	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	715.36				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	24.10				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.12				mg/L	1		Field Sampling	Total/NA
pH, Field	6.96				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	889				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.00				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.70				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-205460-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.42	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	110		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	39		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	90		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	920		100	58	ug/L	1		6020A	Total/NA
Calcium	89		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.48	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	16		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	12		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	440		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.75				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	11.70				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.19				mg/L	1		Field Sampling	Total/NA
pH, Field	6.96				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	734				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.00				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.10				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-205460-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.41	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	140		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	13		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	120		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	790		100	58	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.91		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	14		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	25		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	610		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.80				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-15.80				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.21				mg/L	1		Field Sampling	Total/NA
pH, Field	6.90				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-304 (Continued)

Lab Sample ID: 310-205460-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance, Field	968				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.10				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.20				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-205460-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	260		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	7.9		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	120		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	1100		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.064	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.67		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	17		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	54		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	650		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.66				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	87.10				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.07				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	977				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.30				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.10				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-205460-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		10	4.3	mg/L	10		9056A	Total/NA
Sulfate	140		10	4.9	mg/L	10		9056A	Total/NA
Arsenic	1.0	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	72		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	2500		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.11		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	57		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.28	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lead	0.87		0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	240		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	360		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.75				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-104.70				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.34				mg/L	1		Field Sampling	Total/NA
pH, Field	7.47				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	580.0				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.40				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.20				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-306A

Lab Sample ID: 310-205460-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	66		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	350		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	160		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	2400		100	58	ug/L	1		6020A	Total/NA
Calcium	150		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.15	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	5.8	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	16		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	790		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	703.63				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-17.80				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.11				mg/L	1		Field Sampling	Total/NA
pH, Field	7.24				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	873				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.60				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.40				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-205460-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.31	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	42		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	6.5		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	36		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	1000		100	58	ug/L	1		6020A	Total/NA
Calcium	21		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	9.4	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	8.5		2.0	1.3	ug/L	1		6020A	Total/NA
Selenium	2.5	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	82		30	26	mg/L	1		SM 2540C	Total/NA
pH	9.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	706.38				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	11.60				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.11				mg/L	1		Field Sampling	Total/NA
pH, Field	7.20				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	857				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.00				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.80				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 310-205460-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.9		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	200		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	53		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	50		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	5900		400	230	ug/L	4		6020A	Total/NA
Cadmium	0.055	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	65		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	39		10	2.5	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-308 (Continued)

Lab Sample ID: 310-205460-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	53		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	430		30	26	mg/L	1		SM 2540C	Total/NA
pH	9.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	705.05				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	10.70				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.16				mg/L	1		Field Sampling	Total/NA
pH, Field	7.15				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	743				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.00				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	9.50				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 310-205460-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.36	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	110		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	100		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	190		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	1200		100	58	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.12	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	15		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	17		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	560		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.68				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-55.80				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.11				mg/L	1		Field Sampling	Total/NA
pH, Field	7.34				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	914				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.60				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.70				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309A

Lab Sample ID: 310-205460-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	26		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	130		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.98	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	190		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	780		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.30	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	5.8	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	9.1		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	490		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.92				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-36.10				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	4.80				mg/L	1		Field Sampling	Total/NA
pH, Field	7.10				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-309A (Continued)

Lab Sample ID: 310-205460-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance, Field	907				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.10				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	12.50				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-205460-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.36	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	140		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	25		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	160		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	850		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.098	J	0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	15		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	43		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	550		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.11				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-115.10				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.09				mg/L	1		Field Sampling	Total/NA
pH, Field	7.21				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	893				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.30				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	8.40				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310A

Lab Sample ID: 310-205460-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	44		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	240		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	200		2.0	0.30	ug/L	1		6020A	Total/NA
Boron	290		100	58	ug/L	1		6020A	Total/NA
Calcium	160		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	4.4		0.50	0.091	ug/L	1		6020A	Total/NA
Lithium	4.9	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	24		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	690		30	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.69				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	11.60				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.12				mg/L	1		Field Sampling	Total/NA
pH, Field	7.19				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	862				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.60				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-205460-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-301

Lab Sample ID: 310-205460-1

Date Collected: 04/27/21 07:30

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58		5.0	2.2	mg/L			05/10/21 14:53	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 14:53	5
Sulfate	93		5.0	2.5	mg/L			05/10/21 14:53	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:54	1
Arsenic	<0.75		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 16:54	1
Barium	250		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 16:54	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 16:54	1
Boron	<58		100	58	ug/L		04/30/21 09:00	05/12/21 16:54	1
Cadmium	0.062	J	0.10	0.051	ug/L		04/30/21 09:00	05/12/21 16:54	1
Calcium	130		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 16:54	1
Chromium	4.2	J	5.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:54	1
Cobalt	0.15	J	0.50	0.091	ug/L		04/30/21 09:00	05/12/21 16:54	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 16:54	1
Lithium	13		10	2.5	ug/L		04/30/21 09:00	05/12/21 16:54	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 16:54	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 16:54	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 16:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	550		30	26	mg/L			05/03/21 14:39	1
pH	6.9	HF	0.1	0.1	SU			04/29/21 21:56	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	715.84				ft			04/27/21 07:30	1
Oxidation Reduction Potential	168.40				millivolts			04/27/21 07:30	1
Oxygen, Dissolved, Client Supplied	3.76				mg/L			04/27/21 07:30	1
pH, Field	6.81				SU			04/27/21 07:30	1
Specific Conductance, Field	931				umhos/cm			04/27/21 07:30	1
Temperature, Field	10.40				Degrees C			04/27/21 07:30	1
Turbidity, Field	2.04				NTU			04/27/21 07:30	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-301A

Lab Sample ID: 310-205460-2

Date Collected: 04/28/21 06:11

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.2		5.0	2.2	mg/L			05/10/21 16:10	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 16:10	5
Sulfate	5.3		5.0	2.5	mg/L			05/10/21 16:10	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:57	1
Arsenic	0.87	J	2.0	0.75	ug/L		04/30/21 09:00	05/12/21 16:57	1
Barium	160		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 16:57	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 16:57	1
Boron	71	J	100	58	ug/L		04/30/21 09:00	05/12/21 16:57	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 16:57	1
Calcium	68		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 16:57	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:57	1
Cobalt	1.2		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 16:57	1
Lead	0.21	J	0.50	0.21	ug/L		04/30/21 09:00	05/12/21 16:57	1
Lithium	<2.5		10	2.5	ug/L		04/30/21 09:00	05/12/21 16:57	1
Molybdenum	3.1		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 16:57	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 16:57	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 16:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	250		30	26	mg/L			05/03/21 14:39	1
pH	7.1	HF	0.1	0.1	SU			04/29/21 21:58	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	716.76				ft			04/28/21 06:11	1
Oxidation Reduction Potential	11.70				millivolts			04/28/21 06:11	1
Oxygen, Dissolved, Client Supplied	1.68				mg/L			04/28/21 06:11	1
pH, Field	7.17				SU			04/28/21 06:11	1
Specific Conductance, Field	930				umhos/cm			04/28/21 06:11	1
Temperature, Field	9.70				Degrees C			04/28/21 06:11	1
Turbidity, Field	2.04				NTU			04/28/21 06:11	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-302

Lab Sample ID: 310-205460-3

Date Collected: 04/27/21 09:12

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		5.0	2.2	mg/L			05/10/21 16:26	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 16:26	5
Sulfate	57		5.0	2.5	mg/L			05/10/21 16:26	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:59	1
Arsenic	3.4		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 16:59	1
Barium	160		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 16:59	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 16:59	1
Boron	<58		100	58	ug/L		04/30/21 09:00	05/12/21 16:59	1
Cadmium	0.065	J	0.10	0.051	ug/L		04/30/21 09:00	05/12/21 16:59	1
Calcium	76		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 16:59	1
Chromium	1.4	J	5.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:59	1
Cobalt	0.37	J	0.50	0.091	ug/L		04/30/21 09:00	05/12/21 16:59	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 16:59	1
Lithium	6.3	J	10	2.5	ug/L		04/30/21 09:00	05/12/21 16:59	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 16:59	1
Selenium	0.96	J	5.0	0.96	ug/L		04/30/21 09:00	05/12/21 16:59	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 16:59	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		30	26	mg/L			05/03/21 14:39	1
pH	6.8	HF	0.1	0.1	SU			04/29/21 21:59	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	715.36				ft			04/27/21 09:12	1
Oxidation Reduction Potential	24.10				millivolts			04/27/21 09:12	1
Oxygen, Dissolved, Client Supplied	0.12				mg/L			04/27/21 09:12	1
pH, Field	6.96				SU			04/27/21 09:12	1
Specific Conductance, Field	889				umhos/cm			04/27/21 09:12	1
Temperature, Field	9.00				Degrees C			04/27/21 09:12	1
Turbidity, Field	2.70				NTU			04/27/21 09:12	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-303

Lab Sample ID: 310-205460-4

Date Collected: 04/27/21 11:36

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.2	mg/L			05/10/21 16:42	5
Fluoride	0.42	J	0.50	0.28	mg/L			05/10/21 16:42	5
Sulfate	110		5.0	2.5	mg/L			05/10/21 16:42	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:02	1
Arsenic	39		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:02	1
Barium	90		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:02	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:02	1
Boron	920		100	58	ug/L		04/30/21 09:00	05/12/21 17:02	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:02	1
Calcium	89		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:02	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:02	1
Cobalt	0.48	J	0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:02	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:02	1
Lithium	16		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:02	1
Molybdenum	12		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:02	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:02	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	440		30	26	mg/L			05/03/21 13:37	1
pH	7.3	HF	0.1	0.1	SU			04/29/21 22:00	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.75				ft			04/27/21 11:36	1
Oxidation Reduction Potential	11.70				millivolts			04/27/21 11:36	1
Oxygen, Dissolved, Client Supplied	0.19				mg/L			04/27/21 11:36	1
pH, Field	6.96				SU			04/27/21 11:36	1
Specific Conductance, Field	734				umhos/cm			04/27/21 11:36	1
Temperature, Field	9.00				Degrees C			04/27/21 11:36	1
Turbidity, Field	2.10				NTU			04/27/21 11:36	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-304

Lab Sample ID: 310-205460-5

Date Collected: 04/27/21 14:36

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.2	mg/L			05/10/21 16:57	5
Fluoride	0.41	J	0.50	0.28	mg/L			05/10/21 16:57	5
Sulfate	140		5.0	2.5	mg/L			05/10/21 16:57	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:04	1
Arsenic	13		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:04	1
Barium	120		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:04	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:04	1
Boron	790		100	58	ug/L		04/30/21 09:00	05/12/21 17:04	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:04	1
Calcium	120		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:04	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:04	1
Cobalt	0.91		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:04	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:04	1
Lithium	14		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:04	1
Molybdenum	25		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:04	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:04	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	610		30	26	mg/L			05/03/21 13:37	1
pH	7.2	HF	0.1	0.1	SU			04/29/21 22:01	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.80				ft			04/27/21 14:36	1
Oxidation Reduction Potential	-15.80				millivolts			04/27/21 14:36	1
Oxygen, Dissolved, Client Supplied	0.21				mg/L			04/27/21 14:36	1
pH, Field	6.90				SU			04/27/21 14:36	1
Specific Conductance, Field	968				umhos/cm			04/27/21 14:36	1
Temperature, Field	9.10				Degrees C			04/27/21 14:36	1
Turbidity, Field	1.20				NTU			04/27/21 14:36	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-305

Lab Sample ID: 310-205460-6

Date Collected: 04/27/21 17:45

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	2.2	mg/L			05/10/21 17:13	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 17:13	5
Sulfate	260		5.0	2.5	mg/L			05/10/21 17:13	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:20	1
Arsenic	7.9		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:20	1
Barium	120		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:20	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:20	1
Boron	1100		100	58	ug/L		04/30/21 09:00	05/12/21 17:20	1
Cadmium	0.064	J	0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:20	1
Calcium	120		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:20	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:20	1
Cobalt	0.67		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:20	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:20	1
Lithium	17		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:20	1
Molybdenum	54		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:20	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:20	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	650		30	26	mg/L			05/03/21 13:37	1
pH	7.4	HF	0.1	0.1	SU			04/29/21 22:02	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.66				ft			04/27/21 17:45	1
Oxidation Reduction Potential	87.10				millivolts			04/27/21 17:45	1
Oxygen, Dissolved, Client Supplied	0.10				mg/L			04/27/21 17:45	1
pH, Field	7.07				SU			04/27/21 17:45	1
Specific Conductance, Field	977				umhos/cm			04/27/21 17:45	1
Temperature, Field	9.30				Degrees C			04/27/21 17:45	1
Turbidity, Field	1.10				NTU			04/27/21 17:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-306

Lab Sample ID: 310-205460-7

Date Collected: 04/27/21 19:35

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		10	4.3	mg/L			05/10/21 17:28	10
Fluoride	<0.28		0.50	0.28	mg/L			05/11/21 09:44	5
Sulfate	140		10	4.9	mg/L			05/10/21 17:28	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:23	1
Arsenic	1.0	J	2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:23	1
Barium	72		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:23	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:23	1
Boron	2500		100	58	ug/L		04/30/21 09:00	05/12/21 17:23	1
Cadmium	0.11		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:23	1
Calcium	57		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:23	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:23	1
Cobalt	0.28	J	0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:23	1
Lead	0.87		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:23	1
Lithium	<2.5		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:23	1
Molybdenum	240		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:23	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:23	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	360		30	26	mg/L			05/03/21 13:37	1
pH	7.7	HF	0.1	0.1	SU			04/29/21 22:04	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.75				ft			04/27/21 19:35	1
Oxidation Reduction Potential	-104.70				millivolts			04/27/21 19:35	1
Oxygen, Dissolved, Client Supplied	0.34				mg/L			04/27/21 19:35	1
pH, Field	7.47				SU			04/27/21 19:35	1
Specific Conductance, Field	580.0				umhos/cm			04/27/21 19:35	1
Temperature, Field	13.40				Degrees C			04/27/21 19:35	1
Turbidity, Field	1.20				NTU			04/27/21 19:35	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-306A

Lab Sample ID: 310-205460-8

Date Collected: 04/27/21 18:45

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66		5.0	2.2	mg/L			05/10/21 17:44	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 17:44	5
Sulfate	350		5.0	2.5	mg/L			05/10/21 17:44	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:25	1
Arsenic	<0.75		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:25	1
Barium	160		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:25	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:25	1
Boron	2400		100	58	ug/L		04/30/21 09:00	05/12/21 17:25	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:25	1
Calcium	150		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:25	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:25	1
Cobalt	0.15 J		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:25	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:25	1
Lithium	5.8 J		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:25	1
Molybdenum	16		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:25	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:25	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	790		30	26	mg/L			05/03/21 13:37	1
pH	7.5	HF	0.1	0.1	SU			04/29/21 22:05	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	703.63				ft			04/27/21 18:45	1
Oxidation Reduction Potential	-17.80				millivolts			04/27/21 18:45	1
Oxygen, Dissolved, Client Supplied	0.11				mg/L			04/27/21 18:45	1
pH, Field	7.24				SU			04/27/21 18:45	1
Specific Conductance, Field	873				umhos/cm			04/27/21 18:45	1
Temperature, Field	13.60				Degrees C			04/27/21 18:45	1
Turbidity, Field	2.40				NTU			04/27/21 18:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-307

Lab Sample ID: 310-205460-9

Date Collected: 04/26/21 18:35

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		5.0	2.2	mg/L			05/10/21 18:15	5
Fluoride	0.31	J	0.50	0.28	mg/L			05/10/21 18:15	5
Sulfate	42		5.0	2.5	mg/L			05/10/21 18:15	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:30	1
Arsenic	6.5		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:30	1
Barium	36		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:30	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:30	1
Boron	1000		100	58	ug/L		04/30/21 09:00	05/12/21 17:30	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:30	1
Calcium	21		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:30	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:30	1
Cobalt	<0.091		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:30	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:30	1
Lithium	9.4	J	10	2.5	ug/L		04/30/21 09:00	05/12/21 17:30	1
Molybdenum	8.5		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:30	1
Selenium	2.5	J	5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:30	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	82		30	26	mg/L			05/03/21 13:37	1
pH	9.6	HF	0.1	0.1	SU			04/29/21 22:06	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	706.38				ft			04/26/21 18:35	1
Oxidation Reduction Potential	11.60				millivolts			04/26/21 18:35	1
Oxygen, Dissolved, Client Supplied	0.11				mg/L			04/26/21 18:35	1
pH, Field	7.20				SU			04/26/21 18:35	1
Specific Conductance, Field	857				umhos/cm			04/26/21 18:35	1
Temperature, Field	9.00				Degrees C			04/26/21 18:35	1
Turbidity, Field	2.80				NTU			04/26/21 18:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-308

Lab Sample ID: 310-205460-10

Date Collected: 04/26/21 19:48

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.9		5.0	2.2	mg/L			05/10/21 19:02	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 19:02	5
Sulfate	200		5.0	2.5	mg/L			05/10/21 19:02	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:33	1
Arsenic	53		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:33	1
Barium	50		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:33	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:33	1
Boron	5900		400	230	ug/L		04/30/21 09:00	05/13/21 12:10	4
Cadmium	0.055	J	0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:33	1
Calcium	65		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:33	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:33	1
Cobalt	<0.091		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:33	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:33	1
Lithium	39		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:33	1
Molybdenum	53		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:33	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:33	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:33	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	430		30	26	mg/L			05/03/21 13:37	1
pH	9.1	HF	0.1	0.1	SU			04/29/21 22:12	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	705.05				ft			04/26/21 19:48	1
Oxidation Reduction Potential	10.70				millivolts			04/26/21 19:48	1
Oxygen, Dissolved, Client Supplied	0.16				mg/L			04/26/21 19:48	1
pH, Field	7.15				SU			04/26/21 19:48	1
Specific Conductance, Field	743				umhos/cm			04/26/21 19:48	1
Temperature, Field	9.00				Degrees C			04/26/21 19:48	1
Turbidity, Field	9.50				NTU			04/26/21 19:48	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-309

Lab Sample ID: 310-205460-11

Date Collected: 04/27/21 12:32

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.2	mg/L			05/10/21 19:18	5
Fluoride	0.36	J	0.50	0.28	mg/L			05/10/21 19:18	5
Sulfate	110		5.0	2.5	mg/L			05/10/21 19:18	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:36	1
Arsenic	100		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:36	1
Barium	190		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:36	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:36	1
Boron	1200		100	58	ug/L		04/30/21 09:00	05/12/21 17:36	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:36	1
Calcium	120		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:36	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:36	1
Cobalt	0.12	J	0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:36	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:36	1
Lithium	15		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:36	1
Molybdenum	17		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:36	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:36	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:36	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	560		30	26	mg/L			05/03/21 13:37	1
pH	7.7	HF	0.1	0.1	SU			04/29/21 22:19	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.68				ft			04/27/21 12:32	1
Oxidation Reduction Potential	-55.80				millivolts			04/27/21 12:32	1
Oxygen, Dissolved, Client Supplied	0.11				mg/L			04/27/21 12:32	1
pH, Field	7.34				SU			04/27/21 12:32	1
Specific Conductance, Field	914				umhos/cm			04/27/21 12:32	1
Temperature, Field	13.60				Degrees C			04/27/21 12:32	1
Turbidity, Field	0.70				NTU			04/27/21 12:32	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-309A

Lab Sample ID: 310-205460-12

Date Collected: 04/27/21 13:25

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26		5.0	2.2	mg/L			05/10/21 19:33	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 19:33	5
Sulfate	130		5.0	2.5	mg/L			05/10/21 19:33	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:38	1
Arsenic	0.98	J	2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:38	1
Barium	190		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:38	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:38	1
Boron	780		100	58	ug/L		04/30/21 09:00	05/12/21 17:38	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:38	1
Calcium	110		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:38	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:38	1
Cobalt	0.30	J	0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:38	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:38	1
Lithium	5.8	J	10	2.5	ug/L		04/30/21 09:00	05/12/21 17:38	1
Molybdenum	9.1		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:38	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:38	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	490		30	26	mg/L			05/03/21 13:37	1
pH	7.3	HF	0.1	0.1	SU			04/29/21 22:20	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.92				ft			04/27/21 13:25	1
Oxidation Reduction Potential	-36.10				millivolts			04/27/21 13:25	1
Oxygen, Dissolved, Client Supplied	4.80				mg/L			04/27/21 13:25	1
pH, Field	7.10				SU			04/27/21 13:25	1
Specific Conductance, Field	907				umhos/cm			04/27/21 13:25	1
Temperature, Field	14.10				Degrees C			04/27/21 13:25	1
Turbidity, Field	12.50				NTU			04/27/21 13:25	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-310

Lab Sample ID: 310-205460-13

Date Collected: 04/27/21 15:40

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		5.0	2.2	mg/L			05/10/21 20:04	5
Fluoride	0.36	J	0.50	0.28	mg/L			05/10/21 20:04	5
Sulfate	140		5.0	2.5	mg/L			05/10/21 20:04	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:41	1
Arsenic	25		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:41	1
Barium	160		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:41	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:41	1
Boron	850		100	58	ug/L		04/30/21 09:00	05/12/21 17:41	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:41	1
Calcium	110		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:41	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:41	1
Cobalt	0.098	J	0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:41	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:41	1
Lithium	15		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:41	1
Molybdenum	43		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:41	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:41	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	550		30	26	mg/L			05/03/21 13:37	1
pH	7.5	HF	0.1	0.1	SU			04/29/21 22:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.11				ft			04/27/21 15:40	1
Oxidation Reduction Potential	-115.10				millivolts			04/27/21 15:40	1
Oxygen, Dissolved, Client Supplied	0.09				mg/L			04/27/21 15:40	1
pH, Field	7.21				SU			04/27/21 15:40	1
Specific Conductance, Field	893				umhos/cm			04/27/21 15:40	1
Temperature, Field	13.30				Degrees C			04/27/21 15:40	1
Turbidity, Field	8.40				NTU			04/27/21 15:40	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-310A

Lab Sample ID: 310-205460-14

Date Collected: 04/27/21 16:40

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		5.0	2.2	mg/L			05/10/21 20:36	5
Fluoride	<0.28		0.50	0.28	mg/L			05/10/21 20:36	5
Sulfate	240		5.0	2.5	mg/L			05/10/21 20:36	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:43	1
Arsenic	<0.75		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:43	1
Barium	200		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:43	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:43	1
Boron	290		100	58	ug/L		04/30/21 09:00	05/12/21 17:43	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:43	1
Calcium	160		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:43	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:43	1
Cobalt	4.4		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:43	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:43	1
Lithium	4.9	J	10	2.5	ug/L		04/30/21 09:00	05/12/21 17:43	1
Molybdenum	24		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:43	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:43	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:43	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	690		30	26	mg/L			05/03/21 13:37	1
pH	7.4	HF	0.1	0.1	SU			04/29/21 22:24	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.69				ft			04/27/21 16:40	1
Oxidation Reduction Potential	11.60				millivolts			04/27/21 16:40	1
Oxygen, Dissolved, Client Supplied	0.12				mg/L			04/27/21 16:40	1
pH, Field	7.19				SU			04/27/21 16:40	1
Specific Conductance, Field	862				umhos/cm			04/27/21 16:40	1
Temperature, Field	13.60				Degrees C			04/27/21 16:40	1
Turbidity, Field	1.00				NTU			04/27/21 16:40	1

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: Field Blank

Lab Sample ID: 310-205460-15

Date Collected: 04/27/21 06:14

Matrix: Water

Date Received: 04/29/21 17:40

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			05/10/21 21:07	1
Fluoride	<0.055		0.10	0.055	mg/L			05/10/21 21:07	1
Sulfate	<0.49		1.0	0.49	mg/L			05/10/21 21:07	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:59	1
Arsenic	<0.75		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 17:59	1
Barium	<0.30		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 17:59	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 17:59	1
Boron	<58		100	58	ug/L		04/30/21 09:00	05/12/21 17:59	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 17:59	1
Calcium	<0.19		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 17:59	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 17:59	1
Cobalt	<0.091		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 17:59	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 17:59	1
Lithium	<2.5		10	2.5	ug/L		04/30/21 09:00	05/12/21 17:59	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 17:59	1
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 17:59	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 17:59	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			05/03/21 13:37	1
pH	7.4	HF	0.1	0.1	SU			04/29/21 22:31	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Qualifiers

HPLC/IC

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

Metals

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

General Chemistry

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

Glossary

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

QC Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-315644/3
Matrix: Water
Analysis Batch: 315644

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			05/10/21 13:35	1
Fluoride	<0.055		0.10	0.055	mg/L			05/10/21 13:35	1
Sulfate	<0.49		1.0	0.49	mg/L			05/10/21 13:35	1

Lab Sample ID: LCS 310-315644/4
Matrix: Water
Analysis Batch: 315644

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	9.86		mg/L		99	90 - 110
Fluoride	2.00	2.01		mg/L		100	90 - 110
Sulfate	10.0	9.89		mg/L		99	90 - 110

Lab Sample ID: 310-205460-1 MS
Matrix: Water
Analysis Batch: 315644

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	58		25.0	82.6		mg/L		99	80 - 120
Fluoride	<0.28		5.00	4.57		mg/L		91	80 - 120
Sulfate	93		25.0	116		mg/L		89	80 - 120

Lab Sample ID: 310-205460-1 MSD
Matrix: Water
Analysis Batch: 315644

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	58		25.0	82.3		mg/L		97	80 - 120	0	15
Fluoride	<0.28		5.00	4.69		mg/L		94	80 - 120	3	15
Sulfate	93		25.0	116		mg/L		89	80 - 120	0	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-314451/1-A
Matrix: Water
Analysis Batch: 315910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314451

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:20	1
Arsenic	<0.75		2.0	0.75	ug/L		04/30/21 09:00	05/12/21 16:20	1
Barium	<0.30		2.0	0.30	ug/L		04/30/21 09:00	05/12/21 16:20	1
Beryllium	<0.27		1.0	0.27	ug/L		04/30/21 09:00	05/12/21 16:20	1
Boron	<58		100	58	ug/L		04/30/21 09:00	05/12/21 16:20	1
Cadmium	<0.051		0.10	0.051	ug/L		04/30/21 09:00	05/12/21 16:20	1
Calcium	<0.19		0.50	0.19	mg/L		04/30/21 09:00	05/12/21 16:20	1
Chromium	<1.1		5.0	1.1	ug/L		04/30/21 09:00	05/12/21 16:20	1
Cobalt	<0.091		0.50	0.091	ug/L		04/30/21 09:00	05/12/21 16:20	1
Lead	<0.21		0.50	0.21	ug/L		04/30/21 09:00	05/12/21 16:20	1
Lithium	<2.5		10	2.5	ug/L		04/30/21 09:00	05/12/21 16:20	1
Molybdenum	<1.3		2.0	1.3	ug/L		04/30/21 09:00	05/12/21 16:20	1

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QC Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

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

Lab Sample ID: MB 310-314451/1-A
Matrix: Water
Analysis Batch: 315910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314451

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.96		5.0	0.96	ug/L		04/30/21 09:00	05/12/21 16:20	1
Thallium	<0.26		1.0	0.26	ug/L		04/30/21 09:00	05/12/21 16:20	1

Lab Sample ID: LCS 310-314451/2-A
Matrix: Water
Analysis Batch: 315910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314451

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	200	199		ug/L		100	80 - 120
Arsenic	200	200		ug/L		100	80 - 120
Barium	100	105		ug/L		105	80 - 120
Beryllium	100	104		ug/L		104	80 - 120
Boron	200	191		ug/L		95	80 - 120
Cadmium	100	102		ug/L		102	80 - 120
Calcium	2.00	1.96		mg/L		98	80 - 120
Chromium	100	100		ug/L		100	80 - 120
Cobalt	100	103		ug/L		103	80 - 120
Lead	200	205		ug/L		102	80 - 120
Lithium	200	213		ug/L		106	80 - 120
Molybdenum	200	201		ug/L		101	80 - 120
Selenium	400	393		ug/L		98	80 - 120
Thallium	200	203		ug/L		101	80 - 120

Lab Sample ID: 310-205460-8 DU
Matrix: Water
Analysis Batch: 315910

Client Sample ID: MW-306A
Prep Type: Total/NA
Prep Batch: 314451

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.1		<1.1		ug/L		NC	20
Arsenic	<0.75		<0.75		ug/L		NC	20
Barium	160		158		ug/L		1	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Boron	2400		2380		ug/L		1	20
Cadmium	<0.051		<0.051		ug/L		NC	20
Calcium	150		149		mg/L		0.6	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	0.15	J	0.142	J	ug/L		4	20
Lead	<0.21		<0.21		ug/L		NC	20
Lithium	5.8	J	5.84	J	ug/L		0.3	20
Molybdenum	16		15.4		ug/L		6	20
Selenium	<0.96		<0.96		ug/L		NC	20
Thallium	<0.26		<0.26		ug/L		NC	20

QC Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-314865/1-A
Matrix: Water
Analysis Batch: 315032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314865

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		05/04/21 14:56	05/05/21 14:45	1

Lab Sample ID: LCS 310-314865/2-A
Matrix: Water
Analysis Batch: 315032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314865

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.67	1.57		ug/L		94	80 - 120

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

Lab Sample ID: MB 310-314721/1
Matrix: Water
Analysis Batch: 314721

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			05/03/21 13:37	1

Lab Sample ID: LCS 310-314721/2
Matrix: Water
Analysis Batch: 314721

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	962		mg/L		96	90 - 110

Lab Sample ID: 310-205460-6 DU
Matrix: Water
Analysis Batch: 314721

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	650		674		mg/L		4	20

Lab Sample ID: MB 310-314734/1
Matrix: Water
Analysis Batch: 314734

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		30	26	mg/L			05/03/21 14:39	1

Lab Sample ID: LCS 310-314734/2
Matrix: Water
Analysis Batch: 314734

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	962		mg/L		96	90 - 110

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-314409/1
Matrix: Water
Analysis Batch: 314409

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

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

Lab Sample ID: 310-205460-1 DU
Matrix: Water
Analysis Batch: 314409

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.9	HF	6.9		SU		0.1	20

Lab Sample ID: 310-205460-10 DU
Matrix: Water
Analysis Batch: 314409

Client Sample ID: MW-308
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.1	HF	9.2		SU		0.2	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

QC Association Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

HPLC/IC

Analysis Batch: 315644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	9056A	
310-205460-2	MW-301A	Total/NA	Water	9056A	
310-205460-3	MW-302	Total/NA	Water	9056A	
310-205460-4	MW-303	Total/NA	Water	9056A	
310-205460-5	MW-304	Total/NA	Water	9056A	
310-205460-6	MW-305	Total/NA	Water	9056A	
310-205460-7	MW-306	Total/NA	Water	9056A	
310-205460-7	MW-306	Total/NA	Water	9056A	
310-205460-8	MW-306A	Total/NA	Water	9056A	
310-205460-9	MW-307	Total/NA	Water	9056A	
310-205460-10	MW-308	Total/NA	Water	9056A	
310-205460-11	MW-309	Total/NA	Water	9056A	
310-205460-12	MW-309A	Total/NA	Water	9056A	
310-205460-13	MW-310	Total/NA	Water	9056A	
310-205460-14	MW-310A	Total/NA	Water	9056A	
310-205460-15	Field Blank	Total/NA	Water	9056A	
MB 310-315644/3	Method Blank	Total/NA	Water	9056A	
LCS 310-315644/4	Lab Control Sample	Total/NA	Water	9056A	
310-205460-1 MS	MW-301	Total/NA	Water	9056A	
310-205460-1 MSD	MW-301	Total/NA	Water	9056A	

Metals

Prep Batch: 314451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	3010A	
310-205460-2	MW-301A	Total/NA	Water	3010A	
310-205460-3	MW-302	Total/NA	Water	3010A	
310-205460-4	MW-303	Total/NA	Water	3010A	
310-205460-5	MW-304	Total/NA	Water	3010A	
310-205460-6	MW-305	Total/NA	Water	3010A	
310-205460-7	MW-306	Total/NA	Water	3010A	
310-205460-8	MW-306A	Total/NA	Water	3010A	
310-205460-9	MW-307	Total/NA	Water	3010A	
310-205460-10	MW-308	Total/NA	Water	3010A	
310-205460-11	MW-309	Total/NA	Water	3010A	
310-205460-12	MW-309A	Total/NA	Water	3010A	
310-205460-13	MW-310	Total/NA	Water	3010A	
310-205460-14	MW-310A	Total/NA	Water	3010A	
310-205460-15	Field Blank	Total/NA	Water	3010A	
MB 310-314451/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-314451/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-205460-8 DU	MW-306A	Total/NA	Water	3010A	

Prep Batch: 314865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	7470A	
310-205460-2	MW-301A	Total/NA	Water	7470A	
310-205460-3	MW-302	Total/NA	Water	7470A	
310-205460-4	MW-303	Total/NA	Water	7470A	
310-205460-5	MW-304	Total/NA	Water	7470A	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Metals (Continued)

Prep Batch: 314865 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-6	MW-305	Total/NA	Water	7470A	
310-205460-7	MW-306	Total/NA	Water	7470A	
310-205460-8	MW-306A	Total/NA	Water	7470A	
310-205460-9	MW-307	Total/NA	Water	7470A	
310-205460-10	MW-308	Total/NA	Water	7470A	
310-205460-11	MW-309	Total/NA	Water	7470A	
310-205460-12	MW-309A	Total/NA	Water	7470A	
310-205460-13	MW-310	Total/NA	Water	7470A	
310-205460-14	MW-310A	Total/NA	Water	7470A	
310-205460-15	Field Blank	Total/NA	Water	7470A	
MB 310-314865/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-314865/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 315032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	7470A	314865
310-205460-2	MW-301A	Total/NA	Water	7470A	314865
310-205460-3	MW-302	Total/NA	Water	7470A	314865
310-205460-4	MW-303	Total/NA	Water	7470A	314865
310-205460-5	MW-304	Total/NA	Water	7470A	314865
310-205460-6	MW-305	Total/NA	Water	7470A	314865
310-205460-7	MW-306	Total/NA	Water	7470A	314865
310-205460-8	MW-306A	Total/NA	Water	7470A	314865
310-205460-9	MW-307	Total/NA	Water	7470A	314865
310-205460-10	MW-308	Total/NA	Water	7470A	314865
310-205460-11	MW-309	Total/NA	Water	7470A	314865
310-205460-12	MW-309A	Total/NA	Water	7470A	314865
310-205460-13	MW-310	Total/NA	Water	7470A	314865
310-205460-14	MW-310A	Total/NA	Water	7470A	314865
310-205460-15	Field Blank	Total/NA	Water	7470A	314865
MB 310-314865/1-A	Method Blank	Total/NA	Water	7470A	314865
LCS 310-314865/2-A	Lab Control Sample	Total/NA	Water	7470A	314865

Analysis Batch: 315910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	6020A	314451
310-205460-2	MW-301A	Total/NA	Water	6020A	314451
310-205460-3	MW-302	Total/NA	Water	6020A	314451
310-205460-4	MW-303	Total/NA	Water	6020A	314451
310-205460-5	MW-304	Total/NA	Water	6020A	314451
310-205460-6	MW-305	Total/NA	Water	6020A	314451
310-205460-7	MW-306	Total/NA	Water	6020A	314451
310-205460-8	MW-306A	Total/NA	Water	6020A	314451
310-205460-9	MW-307	Total/NA	Water	6020A	314451
310-205460-10	MW-308	Total/NA	Water	6020A	314451
310-205460-11	MW-309	Total/NA	Water	6020A	314451
310-205460-12	MW-309A	Total/NA	Water	6020A	314451
310-205460-13	MW-310	Total/NA	Water	6020A	314451
310-205460-14	MW-310A	Total/NA	Water	6020A	314451
310-205460-15	Field Blank	Total/NA	Water	6020A	314451
MB 310-314451/1-A	Method Blank	Total/NA	Water	6020A	314451

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Metals (Continued)

Analysis Batch: 315910 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-314451/2-A	Lab Control Sample	Total/NA	Water	6020A	314451
310-205460-8 DU	MW-306A	Total/NA	Water	6020A	314451

Analysis Batch: 315971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-10	MW-308	Total/NA	Water	6020A	314451

General Chemistry

Analysis Batch: 314409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-205460-2	MW-301A	Total/NA	Water	SM 4500 H+ B	
310-205460-3	MW-302	Total/NA	Water	SM 4500 H+ B	
310-205460-4	MW-303	Total/NA	Water	SM 4500 H+ B	
310-205460-5	MW-304	Total/NA	Water	SM 4500 H+ B	
310-205460-6	MW-305	Total/NA	Water	SM 4500 H+ B	
310-205460-7	MW-306	Total/NA	Water	SM 4500 H+ B	
310-205460-8	MW-306A	Total/NA	Water	SM 4500 H+ B	
310-205460-9	MW-307	Total/NA	Water	SM 4500 H+ B	
310-205460-10	MW-308	Total/NA	Water	SM 4500 H+ B	
310-205460-11	MW-309	Total/NA	Water	SM 4500 H+ B	
310-205460-12	MW-309A	Total/NA	Water	SM 4500 H+ B	
310-205460-13	MW-310	Total/NA	Water	SM 4500 H+ B	
310-205460-14	MW-310A	Total/NA	Water	SM 4500 H+ B	
310-205460-15	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-314409/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-205460-1 DU	MW-301	Total/NA	Water	SM 4500 H+ B	
310-205460-10 DU	MW-308	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 314721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-4	MW-303	Total/NA	Water	SM 2540C	
310-205460-5	MW-304	Total/NA	Water	SM 2540C	
310-205460-6	MW-305	Total/NA	Water	SM 2540C	
310-205460-7	MW-306	Total/NA	Water	SM 2540C	
310-205460-8	MW-306A	Total/NA	Water	SM 2540C	
310-205460-9	MW-307	Total/NA	Water	SM 2540C	
310-205460-10	MW-308	Total/NA	Water	SM 2540C	
310-205460-11	MW-309	Total/NA	Water	SM 2540C	
310-205460-12	MW-309A	Total/NA	Water	SM 2540C	
310-205460-13	MW-310	Total/NA	Water	SM 2540C	
310-205460-14	MW-310A	Total/NA	Water	SM 2540C	
310-205460-15	Field Blank	Total/NA	Water	SM 2540C	
MB 310-314721/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-314721/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-205460-6 DU	MW-305	Total/NA	Water	SM 2540C	

Analysis Batch: 314734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

General Chemistry (Continued)

Analysis Batch: 314734 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-2	MW-301A	Total/NA	Water	SM 2540C	
310-205460-3	MW-302	Total/NA	Water	SM 2540C	
MB 310-314734/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-314734/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 315624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	Field Sampling	
310-205460-2	MW-301A	Total/NA	Water	Field Sampling	
310-205460-3	MW-302	Total/NA	Water	Field Sampling	
310-205460-4	MW-303	Total/NA	Water	Field Sampling	
310-205460-5	MW-304	Total/NA	Water	Field Sampling	
310-205460-6	MW-305	Total/NA	Water	Field Sampling	
310-205460-7	MW-306	Total/NA	Water	Field Sampling	
310-205460-8	MW-306A	Total/NA	Water	Field Sampling	
310-205460-9	MW-307	Total/NA	Water	Field Sampling	
310-205460-10	MW-308	Total/NA	Water	Field Sampling	
310-205460-11	MW-309	Total/NA	Water	Field Sampling	
310-205460-12	MW-309A	Total/NA	Water	Field Sampling	
310-205460-13	MW-310	Total/NA	Water	Field Sampling	
310-205460-14	MW-310A	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-301

Lab Sample ID: 310-205460-1

Date Collected: 04/27/21 07:30

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 14:53	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 16:54	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:02	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314734	05/03/21 14:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 21:56	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 07:30	SLD	TAL CF

Client Sample ID: MW-301A

Lab Sample ID: 310-205460-2

Date Collected: 04/28/21 06:11

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 16:10	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 16:57	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:05	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314734	05/03/21 14:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 21:58	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/28/21 06:11	SLD	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-205460-3

Date Collected: 04/27/21 09:12

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 16:26	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 16:59	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:07	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314734	05/03/21 14:39	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 21:59	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 09:12	SLD	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-205460-4

Date Collected: 04/27/21 11:36

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 16:42	CJT	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-303

Lab Sample ID: 310-205460-4

Date Collected: 04/27/21 11:36

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:02	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:09	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:00	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 11:36	SLD	TAL CF

Client Sample ID: MW-304

Lab Sample ID: 310-205460-5

Date Collected: 04/27/21 14:36

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 16:57	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:04	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:11	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:01	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 14:36	SLD	TAL CF

Client Sample ID: MW-305

Lab Sample ID: 310-205460-6

Date Collected: 04/27/21 17:45

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 17:13	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:20	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:13	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:02	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 17:45	SLD	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-205460-7

Date Collected: 04/27/21 19:35

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		10	315644	05/10/21 17:28	CJT	TAL CF
Total/NA	Analysis	9056A		5	315644	05/11/21 09:44	CJT	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-306

Date Collected: 04/27/21 19:35

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:23	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:20	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:04	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 19:35	SLD	TAL CF

Client Sample ID: MW-306A

Date Collected: 04/27/21 18:45

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 17:44	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:25	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:22	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:05	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 18:45	SLD	TAL CF

Client Sample ID: MW-307

Date Collected: 04/26/21 18:35

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 18:15	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:30	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:24	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:06	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/26/21 18:35	SLD	TAL CF

Client Sample ID: MW-308

Date Collected: 04/26/21 19:48

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 19:02	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:33	SAD	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-308

Lab Sample ID: 310-205460-10

Date Collected: 04/26/21 19:48

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		4	315971	05/13/21 12:10	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:26	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:12	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/26/21 19:48	SLD	TAL CF

Client Sample ID: MW-309

Lab Sample ID: 310-205460-11

Date Collected: 04/27/21 12:32

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 19:18	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:36	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:28	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:19	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 12:32	SLD	TAL CF

Client Sample ID: MW-309A

Lab Sample ID: 310-205460-12

Date Collected: 04/27/21 13:25

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 19:33	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:38	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:30	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:20	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 13:25	SLD	TAL CF

Client Sample ID: MW-310

Lab Sample ID: 310-205460-13

Date Collected: 04/27/21 15:40

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 20:04	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:41	SAD	TAL CF

Eurofins TestAmerica, Cedar Falls

Lab Chronicle

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Client Sample ID: MW-310

Lab Sample ID: 310-205460-13

Date Collected: 04/27/21 15:40

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:32	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:23	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 15:40	SLD	TAL CF

Client Sample ID: MW-310A

Lab Sample ID: 310-205460-14

Date Collected: 04/27/21 16:40

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	315644	05/10/21 20:36	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:43	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:35	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:24	JMH	TAL CF
Total/NA	Analysis	Field Sampling		1	315624	04/27/21 16:40	SLD	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-205460-15

Date Collected: 04/27/21 06:14

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	315644	05/10/21 21:07	CJT	TAL CF
Total/NA	Prep	3010A			314451	04/30/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315910	05/12/21 17:59	SAD	TAL CF
Total/NA	Prep	7470A			314865	05/04/21 14:56	HED	TAL CF
Total/NA	Analysis	7470A		1	315032	05/05/21 15:37	HED	TAL CF
Total/NA	Analysis	SM 2540C		1	314721	05/03/21 13:37	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	314409	04/29/21 22:31	JMH	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

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Method Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-1

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

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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



Environment Testing
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310-205460 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>5</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____	<input type="checkbox"/> NONE	
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
Temp/Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>2.3</u>	Corrected Temp (°C): <u>2.3</u>	
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

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here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>54</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
Temp Blank Temperature: If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u> <u>250 ml Plastic</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):	<u>5.8</u>		
Corrected Temp (°C):	<u>5.8</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>54</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<u>MW-302, MW-30A, MW-301, MW-310, Field blank</u>			
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
Temp/Blanker temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml Plastic</u>	CONTAINER 2 <u>Plastic 1L</u>	
Uncorrected Temp (°C):	<u>8.6</u>	<u>8.1</u>	
Corrected Temp (°C):	<u>8.6</u>	<u>8.1</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>59</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<u>MW-306A, MW-306, MW-305, MW-304, MW-303</u>			
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
Temp/Blank Temperature			
If no temp/blank or temp/blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250 ml Plastic</u>	CONTAINER 2 <u>Plastic 1L</u>	
Uncorrected Temp (°C):	<u>8.9</u>	<u>9.0</u>	
Corrected Temp (°C):	<u>8.9</u>	<u>9.0</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Lab PW: Fredrick, Sandie		Carrier Tracking No(s): 310-60147-14561.1										
Client Contact: Tanten Buszka		E-Mail: sandra.fredrick@eurofins.com		Page: Page 1 of 2										
Company: SCS Engineers		PWSID:		Job #:										
Address: 8450 Hickman Road Suite 27		Due Date Requested:		Preservation Codes:										
City: Clive		TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsHAcO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)										
State, Zip: IA, 50325		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Other:										
Phone: 25221074		WC #:		Total Number of Containers										
Email: tbuszka@scsengineers.com		Project #:		Special Instructions/Note:										
Project Name: Prairie Creek CCR 25221074		SSOW#:												
Site:														
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, W=soil, B=BI-TISSUE, A=AIR)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals - Hg	2540C - Calc, 9056A - ORSM, 28D, SM4560, H+	903 - Radium 226	904 - Radium 228	D	N	D	D
MW-301	4/27/21	0730	G	Water			X	Y	Y	Y				
MW-301A	4/28/21	0611	G	Water			Y	X	X	X				
MW-302	4/27/21	0912	G	Water			Y	Y	X	X				
MW-303		1136	G	Water			X	Y	X	X				
MW-304		1436	G	Water			X	Y	X	X				
MW-305		1745	G	Water			Y	X	X	X				
MW-306		1935	G	Water			X	X	X	X				
MW-306A		1845	G	Water			X	X	Y	Y				
MW-307	4/26/21	1835	G	Water			X	X	X	X				
MW-308	4/26/21	1948	G	Water			X	X	X	X				
MW-309	4/27/21	1232	G	Water			Y	X	X	X				
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological														
Deliverable Requested: I, II, III, IV, Other (specify)														
Empty Kit Relinquished by:														
Relinquished by: JWW Date: 4/28/21 / 1615 Company: SCS														
Relinquished by:														
Relinquished by:														
Relinquished by:														
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:														
Cooler Temperature(s) °C and Other Remarks:														
Method of Shipment:														
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months														
Special Instructions/QC Requirements:														
Date: 4/28/21 - 16:20 Date: 4/29/21 Date:														
Company: SCS Company: SCS Company: SCS														

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Prairie Creek Generating Station / SCS Engineers Project #25221074

	Parameter	MW-301	MW-301A	MW-302	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307	MW-308	MW-309	MW-309A	MW-310	MW-310A	Field Blank	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (Detection Monitoring)	Boron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Calcium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Chloride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Sulfate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		TDS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Appendix IV Parameters (Assessment Monitoring)	Antimony	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Barium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Beryllium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Cadmium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Chromium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Cobalt	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Lead	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Lithium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Mercury	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Selenium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Thallium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Radium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Well Depth	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Specific Conductance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		ORP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Temperature	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Turbidity	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Color	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Odor	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Calcium			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Iron			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Magnesium			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Manganese			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Potassium			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Sodium			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Dissolved (Filtered)		Arsenic				X	X	X				X	X		X		6
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Field Parameters		Molybdenum						X									1
		Sulfide, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Ferrous Iron, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-205460-1

Login Number: 205460

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria cooler 3 and 4
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Groundwater Monitoring Results - Field Parameters
Prairie Creek Generating Station / SCS Engineers Project #25221074.00
April 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity
MW-301	4-27-2021 / 0730	715.84	10.40	6.81	3.76	931	168.40	2.04
MW-301A	4-28-2021 / 0611	716.76	9.70	7.17	1.68	930	11.70	2.04
MW-302	4-27-2021 / 0912	715.36	9.00	6.96	0.12	889	24.10	2.70
MW-303	4-27-2021 / 1136	702.75	9.00	6.96	0.19	734	11.70	2.10
MW-304	4-27-2021 / 1436	702.80	9.10	6.90	0.21	968	-15.80	1.20
MW-305	4-27-2021 / 1745	702.66	9.30	7.07	0.10	977	87.10	1.10
MW-306	4-27-2021 / 1935	702.75	13.40	7.47	0.34	580.0	-104.70	1.20
MW-306A	4-27-2021 / 1845	703.63	13.60	7.24	0.11	873	-17.80	2.40
MW-307	4-26-2021 / 1835	706.38	9.00	7.20	0.11	857	11.60	2.80
MW-308	4-26-2021 / 1948	705.05	9.00	7.15	0.16	743	10.70	9.50
MW-309	4-27-2021 / 1232	702.68	13.60	7.34	0.11	914	-55.80	0.70
MW-309A	4-27-2021 / 1325	702.92	14.10	7.10	4.80	907	-36.10	12.50
MW-310	4-27-2021 / 1540	702.11	13.30	7.21	0.09	893	-115.10	8.40
MW-310A	4-27-2021 / 1640	702.69	13.60	7.19	0.12	862	11.60	1.00

Abbreviations:

mg/L = milligrams per liter

NA = Not Analyzed

mV = millivolts amsl = above mean sea level

NM = Not measured

Created by: NDK

Date: 4/22/2021

Last revision by: AJR

Date: 5/5/2021

Groundwater Monitoring Results - Field Parameters
Prairie Creek Generating Station / SCS Engineers Project #25221074.00
April 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity
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Checked by: NDK Date: 5/6/2021
 Scientist QA/QC: _____ Date: _____

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\KFL0TN89\[2004_PCS_CCR_Field.xlsx]GW Field Parameter:



ANALYTICAL REPORT

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

Laboratory Job ID: 310-205460-2
Client Project/Site: Prairie Creek CCR 25221074

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
6/10/2021 12:53:01 PM

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

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Job ID: 310-205460-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-205460-2

Comments

No additional comments.

Receipt

The samples were received on 4/29/2021 5:40 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 2.3° C and 5.8° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: MW-301 (310-205460-1), MW-301A (310-205460-2), MW-302 (310-205460-3), MW-303 (310-205460-4), MW-304 (310-205460-5), MW-305 (310-205460-6), MW-306 (310-205460-7), MW-306A (310-205460-8), MW-307 (310-205460-9), MW-308 (310-205460-10), MW-309 (310-205460-11), MW-309A (310-205460-12), MW-310 (310-205460-13), MW-310A (310-205460-14) and Field Blank (310-205460-15). Cooler 3 and 4 samples are documented on temp sheet.

RAD

Methods 903.0, 9315: Radium-226 Batch 509142 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-308 (310-205460-10), MW-309 (310-205460-11), MW-309A (310-205460-12), MW-310 (310-205460-13), MW-310A (310-205460-14), Field Blank (310-205460-15), (LCS 160-509142/1-A), (LCSD 160-509142/2-A) and (MB 160-509142/23-A)

Methods 903.0, 9315: Radium-226 Batch 508958 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-301 (310-205460-1), MW-301A (310-205460-2), MW-302 (310-205460-3), MW-303 (310-205460-4), MW-304 (310-205460-5), MW-305 (310-205460-6), MW-306 (310-205460-7), MW-306A (310-205460-8), MW-307 (310-205460-9), (LCS 160-508958/1-A), (LCSD 160-508958/2-A) and (MB 160-508958/23-A)

Method 904.0: Radium-228 Batch 512597 The following sample did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interference. During preparation the analyst visually noted matrix effects. The data have been reported with this narrative. MW-308 (310-205460-10)

Methods 904.0, 9320: Radium-228 Batch 512597 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-308 (310-205460-10), MW-309 (310-205460-11), MW-309A (310-205460-12), MW-310 (310-205460-13), MW-310A (310-205460-14), Field Blank (310-205460-15), (LCS 160-512597/1-A), (LCSD 160-512597/2-A) and (MB 160-512597/23-A)

Methods 904.0, 9320: Radium-228 prep batch 160-512288: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-301 (310-205460-1), MW-301A (310-205460-2), MW-302 (310-205460-3), MW-303 (310-205460-4), MW-304 (310-205460-5), MW-305 (310-205460-6), MW-306 (310-205460-7), MW-306A (310-205460-8), MW-307 (310-205460-9), (LCS 160-512288/1-A), (LCSD 160-512288/2-A) and (MB 160-512288/22-A)

Method PrecSep_0: Ra-228 Prep Batch 160-508961: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-301 (310-205460-1), MW-301A (310-205460-2), MW-303 (310-205460-4), MW-304 (310-205460-5), MW-305 (310-205460-6), MW-306 (310-205460-7), MW-306A (310-205460-8) and MW-307 (310-205460-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Ra-228 Prep Batch 160-508961: The following samples were prepared at a reduced aliquot due to Matrix: MW-302 (310-205460-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision

Case Narrative

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Job ID: 310-205460-2 (Continued)

Laboratory: Eurofins TestAmerica, Cedar Falls (Continued)

Method PrecSep_0: Ra-228 Prep Batch 160-509147: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-308 (310-205460-10), MW-309 (310-205460-11), MW-309A (310-205460-12), MW-310 (310-205460-13), MW-310A (310-205460-14) and Field Blank (310-205460-15). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Ra-228 Batch 160-512288: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-301 (310-205460-1), MW-303 (310-205460-4), MW-304 (310-205460-5), MW-305 (310-205460-6), MW-306A (310-205460-8) and MW-307 (310-205460-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Ra-228 Batch 160-512288: The following samples were prepared at a reduced aliquot due to Matrix: MW-301A (310-205460-2), MW-302 (310-205460-3) and MW-306 (310-205460-7). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Ra-228 Batch 160-512288: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-301 (310-205460-1), MW-301A (310-205460-2), MW-302 (310-205460-3), MW-303 (310-205460-4), MW-306 (310-205460-7) and MW-306A (310-205460-8). This is an indicator of matrix interference.

Method PrecSep_0: Ra-228 Batch 160-512597: The following sample was prepared at a reduced aliquot due to Matrix: MW-308 (310-205460-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Ra-228 Batch 160-512597: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: MW-308 (310-205460-10), MW-309 (310-205460-11), MW-309A (310-205460-12) and MW-310 (310-205460-13). This is an indicator of matrix interference.

Method PrecSep-21: Ra-226 Prep Batch 160-508958: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-301 (310-205460-1), MW-301A (310-205460-2), MW-303 (310-205460-4), MW-304 (310-205460-5), MW-305 (310-205460-6), MW-306 (310-205460-7), MW-306A (310-205460-8) and MW-307 (310-205460-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Prep Batch 160-508958: The following samples were prepared at a reduced aliquot due to Matrix: MW-302 (310-205460-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Ra-226 Prep Batch 160-509142: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-308 (310-205460-10), MW-309 (310-205460-11), MW-309A (310-205460-12), MW-310 (310-205460-13), MW-310A (310-205460-14) and Field Blank (310-205460-15). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Sample Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-205460-1	MW-301	Water	04/27/21 07:30	04/29/21 17:40	
310-205460-2	MW-301A	Water	04/28/21 06:11	04/29/21 17:40	
310-205460-3	MW-302	Water	04/27/21 09:12	04/29/21 17:40	
310-205460-4	MW-303	Water	04/27/21 11:36	04/29/21 17:40	
310-205460-5	MW-304	Water	04/27/21 14:36	04/29/21 17:40	
310-205460-6	MW-305	Water	04/27/21 17:45	04/29/21 17:40	
310-205460-7	MW-306	Water	04/27/21 19:35	04/29/21 17:40	
310-205460-8	MW-306A	Water	04/27/21 18:45	04/29/21 17:40	
310-205460-9	MW-307	Water	04/26/21 18:35	04/29/21 17:40	
310-205460-10	MW-308	Water	04/26/21 19:48	04/29/21 17:40	
310-205460-11	MW-309	Water	04/27/21 12:32	04/29/21 17:40	
310-205460-12	MW-309A	Water	04/27/21 13:25	04/29/21 17:40	
310-205460-13	MW-310	Water	04/27/21 15:40	04/29/21 17:40	
310-205460-14	MW-310A	Water	04/27/21 16:40	04/29/21 17:40	
310-205460-15	Field Blank	Water	04/27/21 06:14	04/29/21 17:40	

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-301

Lab Sample ID: 310-205460-1

Date Collected: 04/27/21 07:30

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.287		0.119	0.121	1.00	0.132	pCi/L	05/10/21 08:27	06/02/21 07:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					05/10/21 08:27	06/02/21 07:40	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.557		0.316	0.320	1.00	0.464	pCi/L	06/01/21 11:12	06/09/21 11:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.1		40 - 110					06/01/21 11:12	06/09/21 11:45	1
Y Carrier	88.6		40 - 110					06/01/21 11:12	06/09/21 11:45	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.844		0.338	0.342	5.00	0.464	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-301A

Lab Sample ID: 310-205460-2

Date Collected: 04/28/21 06:11

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.350		0.122	0.126	1.00	0.118	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.5		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.473	U	0.520	0.522	1.00	0.852	pCi/L	06/01/21 11:12	06/09/21 11:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.2		40 - 110					06/01/21 11:12	06/09/21 11:27	1
Y Carrier	88.6		40 - 110					06/01/21 11:12	06/09/21 11:27	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.823	U	0.534	0.537	5.00	0.852	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-302

Lab Sample ID: 310-205460-3

Date Collected: 04/27/21 09:12

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.778		0.237	0.248	1.00	0.223	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	61.6		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.533	U	0.564	0.566	1.00	0.923	pCi/L	06/01/21 11:12	06/09/21 11:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.3		40 - 110					06/01/21 11:12	06/09/21 11:27	1
Y Carrier	89.0		40 - 110					06/01/21 11:12	06/09/21 11:27	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.31		0.612	0.618	5.00	0.923	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-303

Lab Sample ID: 310-205460-4

Date Collected: 04/27/21 11:36

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0943	U	0.0881	0.0885	1.00	0.135	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.6		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.425	U	0.298	0.301	1.00	0.460	pCi/L	06/01/21 11:12	06/09/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.9		40 - 110					06/01/21 11:12	06/09/21 11:28	1
Y Carrier	88.2		40 - 110					06/01/21 11:12	06/09/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.519		0.311	0.314	5.00	0.460	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-304

Lab Sample ID: 310-205460-5

Date Collected: 04/27/21 14:36

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.219		0.113	0.115	1.00	0.139	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.8		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.507	U	0.382	0.385	1.00	0.601	pCi/L	06/01/21 11:12	06/09/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.1		40 - 110					06/01/21 11:12	06/09/21 11:28	1
Y Carrier	86.7		40 - 110					06/01/21 11:12	06/09/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.726		0.398	0.402	5.00	0.601	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-305

Lab Sample ID: 310-205460-6

Date Collected: 04/27/21 17:45

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.182		0.0974	0.0988	1.00	0.121	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.279	U	0.353	0.354	1.00	0.585	pCi/L	06/01/21 11:12	06/09/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.2		40 - 110					06/01/21 11:12	06/09/21 11:28	1
Y Carrier	88.2		40 - 110					06/01/21 11:12	06/09/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.461	U	0.366	0.368	5.00	0.585	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-306

Lab Sample ID: 310-205460-7

Date Collected: 04/27/21 19:35

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.205		0.100	0.102	1.00	0.120	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0620	U	0.418	0.419	1.00	0.760	pCi/L	06/01/21 11:12	06/09/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					06/01/21 11:12	06/09/21 11:28	1
Y Carrier	85.2		40 - 110					06/01/21 11:12	06/09/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.205	U	0.430	0.431	5.00	0.760	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-306A

Lab Sample ID: 310-205460-8

Date Collected: 04/27/21 18:45

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.257		0.117	0.120	1.00	0.140	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.385	U	0.314	0.316	1.00	0.497	pCi/L	06/01/21 11:12	06/09/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		40 - 110					06/01/21 11:12	06/09/21 11:28	1
Y Carrier	86.0		40 - 110					06/01/21 11:12	06/09/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.642		0.335	0.338	5.00	0.497	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-307

Lab Sample ID: 310-205460-9

Date Collected: 04/26/21 18:35

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0430	U	0.0758	0.0759	1.00	0.134	pCi/L	05/10/21 08:27	06/02/21 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.1		40 - 110					05/10/21 08:27	06/02/21 07:41	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0204	U	0.279	0.279	1.00	0.506	pCi/L	06/01/21 11:12	06/09/21 11:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.4		40 - 110					06/01/21 11:12	06/09/21 11:02	1
Y Carrier	86.4		40 - 110					06/01/21 11:12	06/09/21 11:02	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0430	U	0.289	0.289	5.00	0.506	pCi/L		06/10/21 12:23	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-308

Lab Sample ID: 310-205460-10

Date Collected: 04/26/21 19:48

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0686	U	0.0722	0.0725	1.00	0.112	pCi/L	05/11/21 09:23	06/02/21 07:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.2		40 - 110					05/11/21 09:23	06/02/21 07:44	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.292	U G	0.669	0.670	1.00	1.15	pCi/L	06/03/21 09:11	06/08/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.6		40 - 110					06/03/21 09:11	06/08/21 11:28	1
Y Carrier	71.4		40 - 110					06/03/21 09:11	06/08/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.361	U	0.673	0.674	5.00	1.15	pCi/L		06/08/21 23:08	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-309

Lab Sample ID: 310-205460-11

Date Collected: 04/27/21 12:32

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.337		0.133	0.136	1.00	0.138	pCi/L	05/11/21 09:23	06/02/21 07:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.3		40 - 110					05/11/21 09:23	06/02/21 07:44	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.492	U	0.377	0.380	1.00	0.596	pCi/L	06/03/21 09:11	06/08/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.7		40 - 110					06/03/21 09:11	06/08/21 11:28	1
Y Carrier	87.5		40 - 110					06/03/21 09:11	06/08/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.829		0.400	0.404	5.00	0.596	pCi/L		06/08/21 23:08	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-309A

Lab Sample ID: 310-205460-12

Date Collected: 04/27/21 13:25

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.404		0.131	0.136	1.00	0.112	pCi/L	05/11/21 09:23	06/02/21 07:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110					05/11/21 09:23	06/02/21 07:44	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.659		0.306	0.312	1.00	0.438	pCi/L	06/03/21 09:11	06/08/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.7		40 - 110					06/03/21 09:11	06/08/21 11:28	1
Y Carrier	90.5		40 - 110					06/03/21 09:11	06/08/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.06		0.333	0.340	5.00	0.438	pCi/L		06/08/21 23:08	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-310

Lab Sample ID: 310-205460-13

Date Collected: 04/27/21 15:40

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.453		0.162	0.167	1.00	0.178	pCi/L	05/11/21 09:23	06/02/21 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.7		40 - 110					05/11/21 09:23	06/02/21 09:59	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.652		0.320	0.326	1.00	0.467	pCi/L	06/03/21 09:11	06/08/21 11:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.4		40 - 110					06/03/21 09:11	06/08/21 11:28	1
Y Carrier	87.5		40 - 110					06/03/21 09:11	06/08/21 11:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.11		0.359	0.366	5.00	0.467	pCi/L		06/08/21 23:08	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-310A

Lab Sample ID: 310-205460-14

Date Collected: 04/27/21 16:40

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.320		0.126	0.129	1.00	0.127	pCi/L	05/11/21 09:23	06/02/21 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.5		40 - 110					05/11/21 09:23	06/02/21 09:59	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.308	U	0.297	0.298	1.00	0.480	pCi/L	06/03/21 09:11	06/08/21 11:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					06/03/21 09:11	06/08/21 11:37	1
Y Carrier	86.7		40 - 110					06/03/21 09:11	06/08/21 11:37	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.627		0.323	0.325	5.00	0.480	pCi/L		06/08/21 23:08	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: Field Blank

Lab Sample ID: 310-205460-15

Date Collected: 04/27/21 06:14

Matrix: Water

Date Received: 04/29/21 17:40

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0171	U	0.0685	0.0685	1.00	0.133	pCi/L	05/11/21 09:23	06/02/21 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.9		40 - 110					05/11/21 09:23	06/02/21 09:59	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.419	U	0.312	0.314	1.00	0.490	pCi/L	06/03/21 09:11	06/08/21 11:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110					06/03/21 09:11	06/08/21 11:37	1
Y Carrier	86.7		40 - 110					06/03/21 09:11	06/08/21 11:37	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.436	U	0.319	0.321	5.00	0.490	pCi/L		06/08/21 23:08	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-508958/23-A
Matrix: Water
Analysis Batch: 512452

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 508958

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.2531		0.118	0.121	1.00	0.148	pCi/L	05/10/21 08:27	06/02/21 07:42	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		40 - 110						05/10/21 08:27

Lab Sample ID: LCS 160-508958/1-A
Matrix: Water
Analysis Batch: 512453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 508958

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.20		1.09	1.00	0.120	pCi/L	90	75 - 125
Carrier	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier		40 - 110					

Lab Sample ID: LCSD 160-508958/2-A
Matrix: Water
Analysis Batch: 512453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 508958

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	11.49		1.22	1.00	0.130	pCi/L	101	75 - 125	0.56	1
Carrier	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier		40 - 110						05/11/21 09:23	06/02/21 14:50

Lab Sample ID: MB 160-509142/23-A
Matrix: Water
Analysis Batch: 512453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509142

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.002286	U	0.120	0.120	1.00	0.231	pCi/L	05/11/21 09:23	06/02/21 14:50	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		40 - 110						05/11/21 09:23

Lab Sample ID: LCS 160-509142/1-A
Matrix: Water
Analysis Batch: 512452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509142

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.18		1.10	1.00	0.120	pCi/L	90	75 - 125

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

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

Lab Sample ID: LCS 160-509142/1-A
 Matrix: Water
 Analysis Batch: 512452

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 509142

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.8		40 - 110

Lab Sample ID: LCSD 160-509142/2-A
 Matrix: Water
 Analysis Batch: 512452

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 509142

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.3	10.58		1.16	1.00	0.146	pCi/L	93	75 - 125	0.18	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	69.7		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-512288/22-A
 Matrix: Water
 Analysis Batch: 513488

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 512288

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.06623	U	0.308	0.308	1.00	0.542	pCi/L	06/01/21 11:12	06/09/21 11:02	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	72.0		40 - 110	06/01/21 11:12	06/09/21 11:02	1
Y Carrier	89.3		40 - 110	06/01/21 11:12	06/09/21 11:02	1

Lab Sample ID: LCS 160-512288/1-A
 Matrix: Water
 Analysis Batch: 513485

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 512288

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.64	10.40		1.28	1.00	0.532	pCi/L	108	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.7		40 - 110
Y Carrier	82.2		40 - 110

Lab Sample ID: LCSD 160-512288/2-A
 Matrix: Water
 Analysis Batch: 513487

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 512288

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	9.64	12.04		1.48	1.00	0.643	pCi/L	125	75 - 125	0.59	1

Eurofins TestAmerica, Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

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

Lab Sample ID: LCSD 160-512288/2-A
Matrix: Water
Analysis Batch: 513487

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512288

Carrier	LCSD		Limits
	%Yield	Qualifier	
Ba Carrier	73.8		40 - 110
Y Carrier	81.9		40 - 110

Lab Sample ID: MB 160-512597/23-A
Matrix: Water
Analysis Batch: 220906

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512597

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-228	0.4834		0.274	0.278	1.00	0.402	pCi/L	06/03/21 09:11	06/08/21 11:32	1

Carrier	MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Ba Carrier	78.8		40 - 110	06/03/21 09:11	06/08/21 11:32	1
Y Carrier	87.1		40 - 110	06/03/21 09:11	06/08/21 11:32	1

Lab Sample ID: LCS 160-512597/1-A
Matrix: Water
Analysis Batch: 513354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512597

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits

Carrier	LCS		Limits
	%Yield	Qualifier	
Ba Carrier	93.1		40 - 110
Y Carrier	88.6		40 - 110

Lab Sample ID: LCSD 160-512597/2-A
Matrix: Water
Analysis Batch: 513354

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512597

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit

Carrier	LCSD		Limits
	%Yield	Qualifier	
Ba Carrier	85.4		40 - 110
Y Carrier	76.6		40 - 110

QC Association Summary

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Rad

Prep Batch: 508958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	PrecSep-21	
310-205460-2	MW-301A	Total/NA	Water	PrecSep-21	
310-205460-3	MW-302	Total/NA	Water	PrecSep-21	
310-205460-4	MW-303	Total/NA	Water	PrecSep-21	
310-205460-5	MW-304	Total/NA	Water	PrecSep-21	
310-205460-6	MW-305	Total/NA	Water	PrecSep-21	
310-205460-7	MW-306	Total/NA	Water	PrecSep-21	
310-205460-8	MW-306A	Total/NA	Water	PrecSep-21	
310-205460-9	MW-307	Total/NA	Water	PrecSep-21	
MB 160-508958/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-508958/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-508958/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 509142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-10	MW-308	Total/NA	Water	PrecSep-21	
310-205460-11	MW-309	Total/NA	Water	PrecSep-21	
310-205460-12	MW-309A	Total/NA	Water	PrecSep-21	
310-205460-13	MW-310	Total/NA	Water	PrecSep-21	
310-205460-14	MW-310A	Total/NA	Water	PrecSep-21	
310-205460-15	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-509142/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-509142/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-509142/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 512288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-1	MW-301	Total/NA	Water	PrecSep_0	
310-205460-2	MW-301A	Total/NA	Water	PrecSep_0	
310-205460-3	MW-302	Total/NA	Water	PrecSep_0	
310-205460-4	MW-303	Total/NA	Water	PrecSep_0	
310-205460-5	MW-304	Total/NA	Water	PrecSep_0	
310-205460-6	MW-305	Total/NA	Water	PrecSep_0	
310-205460-7	MW-306	Total/NA	Water	PrecSep_0	
310-205460-8	MW-306A	Total/NA	Water	PrecSep_0	
310-205460-9	MW-307	Total/NA	Water	PrecSep_0	
MB 160-512288/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-512288/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-512288/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 512597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205460-10	MW-308	Total/NA	Water	PrecSep_0	
310-205460-11	MW-309	Total/NA	Water	PrecSep_0	
310-205460-12	MW-309A	Total/NA	Water	PrecSep_0	
310-205460-13	MW-310	Total/NA	Water	PrecSep_0	
310-205460-14	MW-310A	Total/NA	Water	PrecSep_0	
310-205460-15	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-512597/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-512597/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-512597/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

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Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-301

Lab Sample ID: 310-205460-1

Date Collected: 04/27/21 07:30

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:40	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513487	06/09/21 11:45	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Client Sample ID: MW-301A

Lab Sample ID: 310-205460-2

Date Collected: 04/28/21 06:11

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:27	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Client Sample ID: MW-302

Lab Sample ID: 310-205460-3

Date Collected: 04/27/21 09:12

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:27	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Client Sample ID: MW-303

Lab Sample ID: 310-205460-4

Date Collected: 04/27/21 11:36

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:28	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-304

Date Collected: 04/27/21 14:36

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:28	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Client Sample ID: MW-305

Date Collected: 04/27/21 17:45

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:28	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Client Sample ID: MW-306

Date Collected: 04/27/21 19:35

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:28	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Client Sample ID: MW-306A

Date Collected: 04/27/21 18:45

Date Received: 04/29/21 17:40

Lab Sample ID: 310-205460-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:28	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-307

Lab Sample ID: 310-205460-9

Date Collected: 04/26/21 18:35

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			508958	05/10/21 08:27	LAR	TAL SL
Total/NA	Analysis	903.0		1	512429	06/02/21 07:41	AK	TAL SL
Total/NA	Prep	PrecSep_0			512288	06/01/21 11:12	MJ	TAL SL
Total/NA	Analysis	904.0		1	513488	06/09/21 11:02	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513645	06/10/21 12:23	GRW	TAL SL

Client Sample ID: MW-308

Lab Sample ID: 310-205460-10

Date Collected: 04/26/21 19:48

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			509142	05/11/21 09:23	LAR	TAL SL
Total/NA	Analysis	903.0		1	512452	06/02/21 07:44	AK	TAL SL
Total/NA	Prep	PrecSep_0			512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	904.0		1	513354	06/08/21 11:28	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513422	06/08/21 23:08	SCB	TAL SL

Client Sample ID: MW-309

Lab Sample ID: 310-205460-11

Date Collected: 04/27/21 12:32

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			509142	05/11/21 09:23	LAR	TAL SL
Total/NA	Analysis	903.0		1	512452	06/02/21 07:44	AK	TAL SL
Total/NA	Prep	PrecSep_0			512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	904.0		1	513354	06/08/21 11:28	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513422	06/08/21 23:08	SCB	TAL SL

Client Sample ID: MW-309A

Lab Sample ID: 310-205460-12

Date Collected: 04/27/21 13:25

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			509142	05/11/21 09:23	LAR	TAL SL
Total/NA	Analysis	903.0		1	512452	06/02/21 07:44	AK	TAL SL
Total/NA	Prep	PrecSep_0			512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	904.0		1	513354	06/08/21 11:28	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513422	06/08/21 23:08	SCB	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Client Sample ID: MW-310

Lab Sample ID: 310-205460-13

Date Collected: 04/27/21 15:40

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			509142	05/11/21 09:23	LAR	TAL SL
Total/NA	Analysis	903.0		1	512452	06/02/21 09:59	AK	TAL SL
Total/NA	Prep	PrecSep_0			512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	904.0		1	513354	06/08/21 11:28	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513422	06/08/21 23:08	SCB	TAL SL

Client Sample ID: MW-310A

Lab Sample ID: 310-205460-14

Date Collected: 04/27/21 16:40

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			509142	05/11/21 09:23	LAR	TAL SL
Total/NA	Analysis	903.0		1	512452	06/02/21 09:59	AK	TAL SL
Total/NA	Prep	PrecSep_0			512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	904.0		1	513352	06/08/21 11:37	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513422	06/08/21 23:08	SCB	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-205460-15

Date Collected: 04/27/21 06:14

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			509142	05/11/21 09:23	LAR	TAL SL
Total/NA	Analysis	903.0		1	512452	06/02/21 09:59	AK	TAL SL
Total/NA	Prep	PrecSep_0			512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	904.0		1	513352	06/08/21 11:37	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	513422	06/08/21 23:08	SCB	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Method Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

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

Protocol References:

EPA = US Environmental Protection Agency
None = None
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

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





Environment Testing
TestAmerica



310-205460 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>5</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____	<input type="checkbox"/> NONE	
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
Temp/Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>2.3</u>	Corrected Temp (°C): <u>2.3</u>	
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>54</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____	<input type="checkbox"/> NONE	
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
Temp Blank Temperature: If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250 ml Plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>5.8</u>		
Corrected Temp (°C):	<u>5.8</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>5</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<u>MW-302, MW-30A, MW-301, MW-310, Field blank</u>			
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
Temp/Blanker temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml Plastic</u>	CONTAINER 2 <u>Plastic 1L</u>	
Uncorrected Temp (°C):	<u>8.6</u>	<u>8.1</u>	
Corrected Temp (°C):	<u>8.6</u>	<u>8.1</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee			
<input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>59</u> <u>4/29/21</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<u>MW-306A, MW-306, MW-305, MW-304, MW-303</u>			
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>N</u>	Correction Factor (°C):	<u>0.0</u>
Temp/Blank Temperature - If no temp/blank or temp/blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250 ml Plastic</u>	CONTAINER 2 <u>Plastic 1L</u>	
Uncorrected Temp (°C):	<u>8.9</u>	<u>9.0</u>	
Corrected Temp (°C):	<u>8.9</u>	<u>9.0</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler	Lab PM Fredrick, Sandie	Carrier Tracking No(s)	COC No 310-36954.1				
Client Contact Shipping/Receiving		Phone	E-Mail sandra.fredrick@eurofinset.com	State of Origin Iowa	Page Page 1 of 2				
Company TestAmerica Laboratories, Inc.		Accreditations Required (See note) State Program - Iowa		Job # 310-205460-2					
Address 13715 Rider Trail North,		Due Date Requested: 5/31/2021		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 L - EDA Z - other (specify) Other:					
City Earth City		TAT Requested (days):		Analysis Requested					
State, Zip MO, 63045		PO #		Total Number of containers					
Phone 314-298-8566(Tel) 314-298-8757(Fax)		WO #		Special Instructions/Note:					
Email:		Project # 31011020							
Project Name: Prairie Creek CCR 25221074		SSOW#							
Site									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, B1=BIOTISSUE, A=ALJ)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep_21 Radium-226 (GFPC)	904.0/PreSep_0 Radium-228 (GFPC)	Ra226 228GFPc_P Combined Radium-226 and Radium-228
MW-301 (310-205460-1)	4/27/21	07:30 Central	Water	Water	X	X	X	X	X
MW-301A (310-205460-2)	4/28/21	06:11 Central	Water	Water	X	X	X	X	X
MW-302 (310-205460-3)	4/27/21	09:12 Central	Water	Water	X	X	X	X	X
MW-303 (310-205460-4)	4/27/21	11:36 Central	Water	Water	X	X	X	X	X
MW-304 (310-205460-5)	4/27/21	14:36 Central	Water	Water	X	X	X	X	X
MW-305 (310-205460-6)	4/27/21	17:45 Central	Water	Water	X	X	X	X	X
MW-306 (310-205460-7)	4/27/21	19:35 Central	Water	Water	X	X	X	X	X
MW-306A (310-205460-8)	4/27/21	18:45 Central	Water	Water	X	X	X	X	X
MW-307 (310-205460-9)	4/26/21	18:35 Central	Water	Water	X	X	X	X	X
<p>Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.</p>									
<p>Possible Hazard Identification <input type="checkbox"/> Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p>									
<p>Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2</p>									
<p>Empty Kit Relinquished by: _____ Date: _____ Relinquished by: FED EX Date/Time: 5/11/21 1505 Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____</p>									
<p>Custody Seals Intact: _____ Custody Seal No.: _____ A Yes Δ No</p>									



Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No						
TestAmerica Laboratories, Inc.		Frederick, Sandie	Frederick, Sandie		310-36954 2						
Address		Phone	E-Mail	State of Origin	Page						
13715 Rider Trail North,			sandra.fredrick@eurofinset.com	Iowa	Page 2 of 2						
City		Due Date Requested:	Accreditations Required (See note)								
Earth City		5/31/2021	State Program - Iowa								
State, Zip:		TAT Requested (days):	Job #								
MO, 63045			310-205460-2								
Phone:		PO #	Preservation Codes:								
314-298-8566(Tel) 314-298-8757(Fax)		WO #	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:								
Email:		Project #	M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)								
Project Name		31011020									
Prairie Creek CCR 25221074		SSOW#									
Site:											
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=water/oil, BT=BIOTISSUE, AS=ALU)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/Presep_21 Radium-226 (GFC)	904.0/Presep_0 Radium-226 and Radium-228 (GFC)	Ra226 228GFC_P/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
MW-308 (310-205460-10)	4/26/21	19:48 Central	Water	Water	X	X	X	X	X	2	
MW-309 (310-205460-11)	4/27/21	12:32 Central	Water	Water	X	X	X	X	X	2	
MW-309A (310-205460-12)	4/27/21	13:25 Central	Water	Water	X	X	X	X	X	2	
MW-310 (310-205460-13)	4/27/21	15:40 Central	Water	Water	X	X	X	X	X	2	
MW-310A (310-205460-14)	4/27/21	16:40 Central	Water	Water	X	X	X	X	X	2	
Field Blank (310-205460-15)	4/27/21	06:14 Central	Water	Water	X	X	X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

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

Special Instructions/QC Requirements:

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

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

Relinquished by: _____ Date/Time: 4:30:11 1/05 Company: _____

Relinquished by: **FED EX** Date/Time: _____ Received by: _____ Date/Time: 5/11/21 08:25 Company: FTA SCL

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Company: _____

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

Δ Yes Δ No



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-205460-2

Login Number: 205460

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria cooler 3 and 4
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-205460-2

Login Number: 205460

List Number: 2

Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis

List Creation: 05/01/21 12:42 PM

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

Tracer/Carrier Summary

Client: SCS Engineers
 Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-205460-1	MW-301	81.4	
310-205460-2	MW-301A	80.5	
310-205460-3	MW-302	61.6	
310-205460-4	MW-303	73.6	
310-205460-5	MW-304	71.8	
310-205460-6	MW-305	82.6	
310-205460-7	MW-306	83.5	
310-205460-8	MW-306A	79.9	
310-205460-9	MW-307	75.1	
310-205460-10	MW-308	74.2	
310-205460-11	MW-309	73.3	
310-205460-12	MW-309A	83.5	
310-205460-13	MW-310	72.7	
310-205460-14	MW-310A	74.5	
310-205460-15	Field Blank	76.9	
LCS 160-508958/1-A	Lab Control Sample	85.6	
LCS 160-509142/1-A	Lab Control Sample	80.8	
LCSD 160-508958/2-A	Lab Control Sample Dup	81.1	
LCSD 160-509142/2-A	Lab Control Sample Dup	69.7	
MB 160-508958/23-A	Method Blank	85.0	
MB 160-509142/23-A	Method Blank	62.5	

Tracer/Carrier Legend
 Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-205460-1	MW-301	75.1	88.6
310-205460-2	MW-301A	68.2	88.6
310-205460-3	MW-302	67.3	89.0
310-205460-4	MW-303	81.9	88.2
310-205460-5	MW-304	74.1	86.7
310-205460-6	MW-305	82.2	88.2
310-205460-7	MW-306	79.8	85.2
310-205460-8	MW-306A	82.9	86.0
310-205460-9	MW-307	79.4	86.4
310-205460-10	MW-308	62.6	71.4
310-205460-11	MW-309	71.7	87.5
310-205460-12	MW-309A	80.7	90.5
310-205460-13	MW-310	80.4	87.5
310-205460-14	MW-310A	79.8	86.7
310-205460-15	Field Blank	85.0	86.7
LCS 160-512288/1-A	Lab Control Sample	80.7	82.2
LCS 160-512597/1-A	Lab Control Sample	93.1	88.6
LCSD 160-512288/2-A	Lab Control Sample Dup	73.8	81.9
LCSD 160-512597/2-A	Lab Control Sample Dup	85.4	76.6

Tracer/Carrier Summary

Client: SCS Engineers
Project/Site: Prairie Creek CCR 25221074

Job ID: 310-205460-2

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

Matrix: Water

Prep Type: Total/NA

Percent Yield (Acceptance Limits)

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Ba</u> <u>(40-110)</u>	<u>Y</u> <u>(40-110)</u>
MB 160-512288/22-A	Method Blank	72.0	89.3
MB 160-512597/23-A	Method Blank	78.8	87.1

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

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

ANALYTICAL REPORT

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

Laboratory Job ID: 310-205461-1

Client Project/Site: Prairie Creek 25221074 MNA Parameters

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



*Authorized for release by:
5/13/2021 11:01:30 AM*

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Job ID: 310-205461-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-205461-1

Comments

No additional comments.

Receipt

The samples were received on 4/29/2021 5:40 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.3° C, 3.0° C and 5.8° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: MW-302 (310-205461-3), MW-303 (310-205461-4) Cooler 3 and 4 samples are documented on temp sheets.

Metals

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

General Chemistry

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

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Sample Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
310-205461-1	MW-301	Water	04/27/21 07:30	04/29/21 17:40	
310-205461-2	MW-301A	Water	04/28/21 06:11	04/29/21 17:40	
310-205461-3	MW-302	Water	04/27/21 09:12	04/29/21 17:40	
310-205461-4	MW-303	Water	04/27/21 11:36	04/29/21 17:40	
310-205461-5	MW-304	Water	04/27/21 14:36	04/29/21 17:40	
310-205461-6	MW-305	Water	04/27/21 17:45	04/29/21 17:40	
310-205461-7	MW-306	Water	04/27/21 19:45	04/29/21 17:40	
310-205461-8	MW-306A	Water	04/27/21 18:45	04/29/21 17:40	
310-205461-9	MW-307	Water	04/26/21 18:35	04/29/21 17:40	
310-205461-10	MW-308	Water	04/26/21 19:48	04/29/21 17:40	
310-205461-11	MW-309	Water	04/27/21 12:32	04/29/21 17:40	
310-205461-12	MW-309A	Water	04/27/21 13:25	04/29/21 17:40	
310-205461-13	MW-310	Water	04/27/21 15:40	04/29/21 17:40	
310-205461-14	MW-310A	Water	04/27/21 16:40	04/29/21 17:40	
310-205461-15	Field Blank	Water	04/27/21 06:14	04/29/21 17:40	

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-301

Lab Sample ID: 310-205461-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	82	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	41000		500	100	ug/L	1		6020A	Total/NA
Potassium	1300		500	150	ug/L	1		6020A	Total/NA
Sodium	14000		1000	610	ug/L	1		6020A	Total/NA
Bicarbonate Alkalinity as CaCO3	340		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	340		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-301A

Lab Sample ID: 310-205461-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	68		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	200		100	36	ug/L	1		6020A	Total/NA
Magnesium	21000		500	100	ug/L	1		6020A	Total/NA
Manganese	300		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1700		500	150	ug/L	1		6020A	Total/NA
Sodium	12000		1000	610	ug/L	1		6020A	Total/NA
Iron	130		100	36	ug/L	1		6020A	Dissolved
Manganese	290		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-205461-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	75		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	3400		100	36	ug/L	1		6020A	Total/NA
Magnesium	24000		500	100	ug/L	1		6020A	Total/NA
Manganese	82		10	4.4	ug/L	1		6020A	Total/NA
Potassium	480	J	500	150	ug/L	1		6020A	Total/NA
Sodium	12000		1000	610	ug/L	1		6020A	Total/NA
Iron	500		100	36	ug/L	1		6020A	Dissolved
Manganese	81		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	210		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	210		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-205461-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	89		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	3100		100	36	ug/L	1		6020A	Total/NA
Magnesium	31000		500	100	ug/L	1		6020A	Total/NA
Manganese	1400		10	4.4	ug/L	1		6020A	Total/NA
Potassium	3900		500	150	ug/L	1		6020A	Total/NA
Sodium	30000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	39		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	3100		100	36	ug/L	1		6020A	Dissolved
Manganese	1400		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	290		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	290		5.0	2.3	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-304

Lab Sample ID: 310-205461-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	3100		100	36	ug/L	1		6020A	Total/NA
Magnesium	40000		500	100	ug/L	1		6020A	Total/NA
Manganese	1400		10	4.4	ug/L	1		6020A	Total/NA
Potassium	5000		500	150	ug/L	1		6020A	Total/NA
Sodium	50000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	13		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	3100		100	36	ug/L	1		6020A	Dissolved
Manganese	1400		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-205461-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	59	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	38000		500	100	ug/L	1		6020A	Total/NA
Manganese	1200		10	4.4	ug/L	1		6020A	Total/NA
Potassium	4400		500	150	ug/L	1		6020A	Total/NA
Sodium	53000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	7.4		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	47	J	100	36	ug/L	1		6020A	Dissolved
Manganese	1300		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	290		9.1	4.2	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	290		9.1	4.2	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-205461-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	55		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	1700		100	36	ug/L	1		6020A	Total/NA
Magnesium	12000		500	100	ug/L	1		6020A	Total/NA
Manganese	100		10	4.4	ug/L	1		6020A	Total/NA
Potassium	880		500	150	ug/L	1		6020A	Total/NA
Sodium	52000		1000	610	ug/L	1		6020A	Total/NA
Iron	1500		100	36	ug/L	1		6020A	Dissolved
Manganese	100		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	240		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	130		6.7	3.1	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	130		6.7	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306A

Lab Sample ID: 310-205461-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	1800		100	36	ug/L	1		6020A	Total/NA
Magnesium	46000		500	100	ug/L	1		6020A	Total/NA
Manganese	360		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1600		500	150	ug/L	1		6020A	Total/NA
Sodium	34000		1000	610	ug/L	1		6020A	Total/NA
Iron	1700		100	36	ug/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-306A (Continued)

Lab Sample ID: 310-205461-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	380		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-205461-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	20		0.50	0.19	mg/L	1		6020A	Total/NA
Magnesium	1300		500	100	ug/L	1		6020A	Total/NA
Potassium	1400		500	150	ug/L	1		6020A	Total/NA
Sodium	9500		1000	610	ug/L	1		6020A	Total/NA
Bicarbonate Alkalinity as CaCO3	9.9		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	9.9		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	20		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 310-205461-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	65		0.50	0.19	mg/L	1		6020A	Total/NA
Magnesium	7000		500	100	ug/L	1		6020A	Total/NA
Manganese	85		10	4.4	ug/L	1		6020A	Total/NA
Potassium	6800		500	150	ug/L	1		6020A	Total/NA
Sodium	46000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	50		2.0	0.75	ug/L	1		6020A	Dissolved
Manganese	85		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	89		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	39		5.0	2.3	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	130		5.0	2.3	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 310-205461-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	4400		100	36	ug/L	1		6020A	Total/NA
Magnesium	39000		500	100	ug/L	1		6020A	Total/NA
Manganese	1400		10	4.4	ug/L	1		6020A	Total/NA
Potassium	4400		500	150	ug/L	1		6020A	Total/NA
Sodium	35000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	62		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	1300		100	36	ug/L	1		6020A	Dissolved
Manganese	1400		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	410		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	410		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-309A

Lab Sample ID: 310-205461-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	9100		100	36	ug/L	1		6020A	Total/NA
Magnesium	31000		500	100	ug/L	1		6020A	Total/NA
Manganese	770		10	4.4	ug/L	1		6020A	Total/NA
Potassium	2000		500	150	ug/L	1		6020A	Total/NA
Sodium	21000		1000	610	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-309A (Continued)

Lab Sample ID: 310-205461-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	8600		100	36	ug/L	1		6020A	Dissolved
Manganese	760		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	290		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	290		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-205461-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	5700		100	36	ug/L	1		6020A	Total/NA
Magnesium	31000		500	100	ug/L	1		6020A	Total/NA
Manganese	1400		10	4.4	ug/L	1		6020A	Total/NA
Potassium	5200		500	150	ug/L	1		6020A	Total/NA
Sodium	41000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	23		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	5500		100	36	ug/L	1		6020A	Dissolved
Manganese	1400		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	350		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	350		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-310A

Lab Sample ID: 310-205461-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	160		0.50	0.19	mg/L	1		6020A	Total/NA
Iron	7000		100	36	ug/L	1		6020A	Total/NA
Magnesium	42000		500	100	ug/L	1		6020A	Total/NA
Manganese	400		10	4.4	ug/L	1		6020A	Total/NA
Potassium	990		500	150	ug/L	1		6020A	Total/NA
Sodium	14000		1000	610	ug/L	1		6020A	Total/NA
Iron	6800		100	36	ug/L	1		6020A	Dissolved
Manganese	420		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	300		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	300		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-205461-15

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-301
 Date Collected: 04/27/21 07:30
 Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-1
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 19:49	1
Iron	82	J	100	36	ug/L		05/03/21 09:00	05/11/21 19:49	1
Magnesium	41000		500	100	ug/L		05/03/21 09:00	05/11/21 19:49	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/11/21 19:49	1
Potassium	1300		500	150	ug/L		05/03/21 09:00	05/11/21 19:49	1
Sodium	14000		1000	610	ug/L		05/03/21 09:00	05/11/21 19:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		05/03/21 09:00	05/12/21 18:15	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	340		5.0	2.3	mg/L			05/06/21 13:38	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/06/21 13:38	1
Total Alkalinity as CaCO3	340		5.0	2.3	mg/L			05/06/21 13:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-301A

Lab Sample ID: 310-205461-2

Date Collected: 04/28/21 06:11

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	68		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 19:59	1
Iron	200		100	36	ug/L		05/03/21 09:00	05/11/21 19:59	1
Magnesium	21000		500	100	ug/L		05/03/21 09:00	05/11/21 19:59	1
Manganese	300		10	4.4	ug/L		05/03/21 09:00	05/11/21 19:59	1
Potassium	1700		500	150	ug/L		05/03/21 09:00	05/11/21 19:59	1
Sodium	12000		1000	610	ug/L		05/03/21 09:00	05/11/21 19:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	130		100	36	ug/L		05/03/21 09:00	05/12/21 18:28	1
Manganese	290		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	310		10	4.6	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	310		10	4.6	mg/L			05/07/21 10:16	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-302

Lab Sample ID: 310-205461-3

Date Collected: 04/27/21 09:12

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	75		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:02	1
Iron	3400		100	36	ug/L		05/03/21 09:00	05/11/21 20:02	1
Magnesium	24000		500	100	ug/L		05/03/21 09:00	05/11/21 20:02	1
Manganese	82		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:02	1
Potassium	480	J	500	150	ug/L		05/03/21 09:00	05/11/21 20:02	1
Sodium	12000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	500		100	36	ug/L		05/03/21 09:00	05/12/21 18:43	1
Manganese	81		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	210		5.0	2.3	mg/L			05/06/21 13:38	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/06/21 13:38	1
Total Alkalinity as CaCO3	210		5.0	2.3	mg/L			05/06/21 13:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-303

Lab Sample ID: 310-205461-4

Date Collected: 04/27/21 11:36

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	89		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:05	1
Iron	3100		100	36	ug/L		05/03/21 09:00	05/11/21 20:05	1
Magnesium	31000		500	100	ug/L		05/03/21 09:00	05/11/21 20:05	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:05	1
Potassium	3900		500	150	ug/L		05/03/21 09:00	05/11/21 20:05	1
Sodium	30000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	39		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 18:46	1
Iron	3100		100	36	ug/L		05/03/21 09:00	05/12/21 18:46	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	290		5.0	2.3	mg/L			05/06/21 13:38	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/06/21 13:38	1
Total Alkalinity as CaCO3	290		5.0	2.3	mg/L			05/06/21 13:38	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-304

Lab Sample ID: 310-205461-5

Date Collected: 04/27/21 14:36

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:07	1
Iron	3100		100	36	ug/L		05/03/21 09:00	05/11/21 20:07	1
Magnesium	40000		500	100	ug/L		05/03/21 09:00	05/11/21 20:07	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:07	1
Potassium	5000		500	150	ug/L		05/03/21 09:00	05/11/21 20:07	1
Sodium	50000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 18:48	1
Iron	3100		100	36	ug/L		05/03/21 09:00	05/12/21 18:48	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L			05/06/21 13:38	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/06/21 13:38	1
Total Alkalinity as CaCO3	380		10	4.6	mg/L			05/06/21 13:38	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-305

Lab Sample ID: 310-205461-6

Date Collected: 04/27/21 17:45

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:10	1
Iron	59	J	100	36	ug/L		05/03/21 09:00	05/11/21 20:10	1
Magnesium	38000		500	100	ug/L		05/03/21 09:00	05/11/21 20:10	1
Manganese	1200		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:10	1
Potassium	4400		500	150	ug/L		05/03/21 09:00	05/11/21 20:10	1
Sodium	53000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.4		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 18:51	1
Iron	47	J	100	36	ug/L		05/03/21 09:00	05/12/21 18:51	1
Manganese	1300		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	290		9.1	4.2	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<4.2		9.1	4.2	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	290		9.1	4.2	mg/L			05/07/21 10:16	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-306

Lab Sample ID: 310-205461-7

Date Collected: 04/27/21 19:45

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	55		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:23	1
Iron	1700		100	36	ug/L		05/03/21 09:00	05/11/21 20:23	1
Magnesium	12000		500	100	ug/L		05/03/21 09:00	05/11/21 20:23	1
Manganese	100		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:23	1
Potassium	880		500	150	ug/L		05/03/21 09:00	05/11/21 20:23	1
Sodium	52000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1500		100	36	ug/L		05/03/21 09:00	05/12/21 18:54	1
Manganese	100		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:54	1
Molybdenum	240		2.0	1.3	ug/L		05/03/21 09:00	05/12/21 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	130		6.7	3.1	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<3.1		6.7	3.1	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	130		6.7	3.1	mg/L			05/07/21 10:16	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-306A

Lab Sample ID: 310-205461-8

Date Collected: 04/27/21 18:45

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:25	1
Iron	1800		100	36	ug/L		05/03/21 09:00	05/11/21 20:25	1
Magnesium	46000		500	100	ug/L		05/03/21 09:00	05/11/21 20:25	1
Manganese	360		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:25	1
Potassium	1600		500	150	ug/L		05/03/21 09:00	05/11/21 20:25	1
Sodium	34000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1700		100	36	ug/L		05/03/21 09:00	05/12/21 18:56	1
Manganese	380		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	200		10	4.6	mg/L			05/07/21 10:16	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-307

Lab Sample ID: 310-205461-9

Date Collected: 04/26/21 18:35

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	20		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:28	1
Iron	<36		100	36	ug/L		05/03/21 09:00	05/11/21 20:28	1
Magnesium	1300		500	100	ug/L		05/03/21 09:00	05/11/21 20:28	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:28	1
Potassium	1400		500	150	ug/L		05/03/21 09:00	05/11/21 20:28	1
Sodium	9500		1000	610	ug/L		05/03/21 09:00	05/11/21 20:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		05/03/21 09:00	05/12/21 18:59	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	9.9		5.0	2.3	mg/L			05/06/21 13:38	1
Carbonate Alkalinity as CaCO3	9.9		5.0	2.3	mg/L			05/06/21 13:38	1
Total Alkalinity as CaCO3	20		5.0	2.3	mg/L			05/06/21 13:38	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-308

Lab Sample ID: 310-205461-10

Date Collected: 04/26/21 19:48

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	65		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:31	1
Iron	<36		100	36	ug/L		05/03/21 09:00	05/11/21 20:31	1
Magnesium	7000		500	100	ug/L		05/03/21 09:00	05/11/21 20:31	1
Manganese	85		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:31	1
Potassium	6800		500	150	ug/L		05/03/21 09:00	05/11/21 20:31	1
Sodium	46000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	50		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 19:01	1
Iron	<36		100	36	ug/L		05/03/21 09:00	05/12/21 19:01	1
Manganese	85		10	4.4	ug/L		05/03/21 09:00	05/12/21 19:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	89		5.0	2.3	mg/L			05/06/21 13:38	1
Carbonate Alkalinity as CaCO3	39		5.0	2.3	mg/L			05/06/21 13:38	1
Total Alkalinity as CaCO3	130		5.0	2.3	mg/L			05/06/21 13:38	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-309
 Date Collected: 04/27/21 12:32
 Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-11
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	120		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:33	1
Iron	4400		100	36	ug/L		05/03/21 09:00	05/11/21 20:33	1
Magnesium	39000		500	100	ug/L		05/03/21 09:00	05/11/21 20:33	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:33	1
Potassium	4400		500	150	ug/L		05/03/21 09:00	05/11/21 20:33	1
Sodium	35000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	62		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 19:04	1
Iron	1300		100	36	ug/L		05/03/21 09:00	05/12/21 19:04	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/12/21 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	410		10	4.6	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	410		10	4.6	mg/L			05/07/21 10:16	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-309A

Lab Sample ID: 310-205461-12

Date Collected: 04/27/21 13:25

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:38	1
Iron	9100		100	36	ug/L		05/03/21 09:00	05/11/21 20:38	1
Magnesium	31000		500	100	ug/L		05/03/21 09:00	05/11/21 20:38	1
Manganese	770		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:38	1
Potassium	2000		500	150	ug/L		05/03/21 09:00	05/11/21 20:38	1
Sodium	21000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	8600		100	36	ug/L		05/03/21 09:00	05/12/21 19:22	1
Manganese	760		10	4.4	ug/L		05/03/21 09:00	05/12/21 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	290		10	4.6	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	290		10	4.6	mg/L			05/07/21 10:16	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-310

Lab Sample ID: 310-205461-13

Date Collected: 04/27/21 15:40

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:41	1
Iron	5700		100	36	ug/L		05/03/21 09:00	05/11/21 20:41	1
Magnesium	31000		500	100	ug/L		05/03/21 09:00	05/11/21 20:41	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:41	1
Potassium	5200		500	150	ug/L		05/03/21 09:00	05/11/21 20:41	1
Sodium	41000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 19:25	1
Iron	5500		100	36	ug/L		05/03/21 09:00	05/12/21 19:25	1
Manganese	1400		10	4.4	ug/L		05/03/21 09:00	05/12/21 19:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	350		10	4.6	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	350		10	4.6	mg/L			05/07/21 10:16	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-310A

Lab Sample ID: 310-205461-14

Date Collected: 04/27/21 16:40

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	160		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:44	1
Iron	7000		100	36	ug/L		05/03/21 09:00	05/11/21 20:44	1
Magnesium	42000		500	100	ug/L		05/03/21 09:00	05/11/21 20:44	1
Manganese	400		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:44	1
Potassium	990		500	150	ug/L		05/03/21 09:00	05/11/21 20:44	1
Sodium	14000		1000	610	ug/L		05/03/21 09:00	05/11/21 20:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6800		100	36	ug/L		05/03/21 09:00	05/12/21 19:27	1
Manganese	420		10	4.4	ug/L		05/03/21 09:00	05/12/21 19:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	300		10	4.6	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	300		10	4.6	mg/L			05/07/21 10:16	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: Field Blank

Lab Sample ID: 310-205461-15

Date Collected: 04/27/21 06:14

Matrix: Water

Date Received: 04/29/21 17:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.19		0.50	0.19	mg/L		05/03/21 09:00	05/11/21 20:46	1
Iron	<36		100	36	ug/L		05/03/21 09:00	05/11/21 20:46	1
Magnesium	<100		500	100	ug/L		05/03/21 09:00	05/11/21 20:46	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/11/21 20:46	1
Potassium	<150		500	150	ug/L		05/03/21 09:00	05/11/21 20:46	1
Sodium	<610		1000	610	ug/L		05/03/21 09:00	05/11/21 20:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 19:30	1
Iron	<36		100	36	ug/L		05/03/21 09:00	05/12/21 19:30	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/12/21 19:30	1
Molybdenum	<1.3		2.0	1.3	ug/L		05/03/21 09:00	05/12/21 19:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/10/21 13:47	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/10/21 13:47	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/10/21 13:47	1



Definitions/Glossary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-314531/1-A
Matrix: Water
Analysis Batch: 315910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314531

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		05/03/21 09:00	05/12/21 18:10	1
Iron	<36		100	36	ug/L		05/03/21 09:00	05/12/21 18:10	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/12/21 18:10	1
Molybdenum	<1.3		2.0	1.3	ug/L		05/03/21 09:00	05/12/21 18:10	1

Lab Sample ID: LCS 310-314531/2-A
Matrix: Water
Analysis Batch: 315910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	186		ug/L		93	80 - 120
Iron	200	208		ug/L		104	80 - 120
Manganese	100	102		ug/L		102	80 - 120
Molybdenum	200	208		ug/L		104	80 - 120

Lab Sample ID: MB 310-314532/1-A
Matrix: Water
Analysis Batch: 315843

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.19		0.50	0.19	mg/L		05/03/21 09:00	05/12/21 14:17	1
Iron	<36		100	36	ug/L		05/03/21 09:00	05/12/21 14:17	1
Magnesium	<100		500	100	ug/L		05/03/21 09:00	05/12/21 14:17	1
Manganese	<4.4		10	4.4	ug/L		05/03/21 09:00	05/12/21 14:17	1
Potassium	<150		500	150	ug/L		05/03/21 09:00	05/12/21 14:17	1
Sodium	<610		1000	610	ug/L		05/03/21 09:00	05/12/21 14:17	1

Lab Sample ID: LCS 310-314532/2-A
Matrix: Water
Analysis Batch: 315769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314532

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	2.00	1.92		mg/L		96	80 - 120
Iron	200	204		ug/L		102	80 - 120
Magnesium	2000	1950		ug/L		98	80 - 120
Manganese	100	95.9		ug/L		96	80 - 120
Potassium	2000	2020		ug/L		101	80 - 120
Sodium	2000	2080		ug/L		104	80 - 120

Lab Sample ID: 310-205461-1 MS
Matrix: Water
Analysis Batch: 315769

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 314532

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	130		2.00	137	4	mg/L		142	75 - 125
Iron	82	J	200	282		ug/L		100	75 - 125
Magnesium	41000		2000	42800	4	ug/L		95	75 - 125
Manganese	<4.4		100	103		ug/L		103	75 - 125
Potassium	1300		2000	3460		ug/L		106	75 - 125

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QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

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

Lab Sample ID: 310-205461-1 MS
Matrix: Water
Analysis Batch: 315769

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 314532

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	14000		2000	16000	4	ug/L		87	75 - 125

Lab Sample ID: 310-205461-1 MSD
Matrix: Water
Analysis Batch: 315769

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 314532

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium	130		2.00	135	4	mg/L		61	75 - 125	1	20
Iron	82	J	200	293		ug/L		106	75 - 125	4	20
Magnesium	41000		2000	43200	4	ug/L		112	75 - 125	1	20
Manganese	<4.4		100	103		ug/L		103	75 - 125	1	20
Potassium	1300		2000	3430		ug/L		105	75 - 125	1	20
Sodium	14000		2000	16200	4	ug/L		94	75 - 125	1	20

Lab Sample ID: 310-205461-11 DU
Matrix: Water
Analysis Batch: 315769

Client Sample ID: MW-309
Prep Type: Total/NA
Prep Batch: 314532

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Calcium	120		120		mg/L		2	20
Iron	4400		4410		ug/L		0.3	20
Magnesium	39000		39000		ug/L		0.8	20
Manganese	1400		1390		ug/L		0.2	20
Potassium	4400		4340		ug/L		0.7	20
Sodium	35000		35300		ug/L		0.6	20

Lab Sample ID: 310-205461-1 MS
Matrix: Water
Analysis Batch: 315910

Client Sample ID: MW-301
Prep Type: Dissolved
Prep Batch: 314531

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.75		200	206		ug/L		103	75 - 125
Iron	<36		200	208		ug/L		104	75 - 125
Manganese	<4.4		100	103		ug/L		103	75 - 125
Molybdenum	<1.3		200	210		ug/L		105	75 - 125

Lab Sample ID: 310-205461-1 MSD
Matrix: Water
Analysis Batch: 315910

Client Sample ID: MW-301
Prep Type: Dissolved
Prep Batch: 314531

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	<0.75		200	204		ug/L		102	75 - 125	1	20
Iron	<36		200	208		ug/L		104	75 - 125	0	20
Manganese	<4.4		100	103		ug/L		103	75 - 125	0	20
Molybdenum	<1.3		200	206		ug/L		103	75 - 125	2	20

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

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

Lab Sample ID: 310-205461-11 DU
Matrix: Water
Analysis Batch: 315910

Client Sample ID: MW-309
Prep Type: Dissolved
Prep Batch: 314531

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	62		62.4		ug/L		0.8	20
Iron	1300		1280		ug/L		2	20
Manganese	1400		1340		ug/L		2	20
Molybdenum	17		16.7		ug/L		1	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-315503/1
Matrix: Water
Analysis Batch: 315503

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/10/21 13:47	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/10/21 13:47	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/10/21 13:47	1

Lab Sample ID: LCS 310-315503/2
Matrix: Water
Analysis Batch: 315503

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Total Alkalinity as CaCO3	1000	1020		mg/L		102	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-315130/1
Matrix: Water
Analysis Batch: 315130

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/06/21 13:38	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/06/21 13:38	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/06/21 13:38	1

Lab Sample ID: LCS 310-315130/2
Matrix: Water
Analysis Batch: 315130

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Total Alkalinity as CaCO3	1000	938		mg/L		94	90 - 110

Lab Sample ID: MB 310-315240/1
Matrix: Water
Analysis Batch: 315240

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/07/21 10:16	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/07/21 10:16	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/07/21 10:16	1

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QC Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 310-315240/2
Matrix: Water
Analysis Batch: 315240

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	987		mg/L		99	90 - 110

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

QC Association Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Metals

Prep Batch: 314531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-1	MW-301	Dissolved	Water	3010A	
310-205461-2	MW-301A	Dissolved	Water	3010A	
310-205461-3	MW-302	Dissolved	Water	3010A	
310-205461-4	MW-303	Dissolved	Water	3010A	
310-205461-5	MW-304	Dissolved	Water	3010A	
310-205461-6	MW-305	Dissolved	Water	3010A	
310-205461-7	MW-306	Dissolved	Water	3010A	
310-205461-8	MW-306A	Dissolved	Water	3010A	
310-205461-9	MW-307	Dissolved	Water	3010A	
310-205461-10	MW-308	Dissolved	Water	3010A	
310-205461-11	MW-309	Dissolved	Water	3010A	
310-205461-12	MW-309A	Dissolved	Water	3010A	
310-205461-13	MW-310	Dissolved	Water	3010A	
310-205461-14	MW-310A	Dissolved	Water	3010A	
310-205461-15	Field Blank	Dissolved	Water	3010A	
MB 310-314531/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-314531/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-205461-1 MS	MW-301	Dissolved	Water	3010A	
310-205461-1 MSD	MW-301	Dissolved	Water	3010A	
310-205461-11 DU	MW-309	Dissolved	Water	3010A	

Prep Batch: 314532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-1	MW-301	Total/NA	Water	3010A	
310-205461-2	MW-301A	Total/NA	Water	3010A	
310-205461-3	MW-302	Total/NA	Water	3010A	
310-205461-4	MW-303	Total/NA	Water	3010A	
310-205461-5	MW-304	Total/NA	Water	3010A	
310-205461-6	MW-305	Total/NA	Water	3010A	
310-205461-7	MW-306	Total/NA	Water	3010A	
310-205461-8	MW-306A	Total/NA	Water	3010A	
310-205461-9	MW-307	Total/NA	Water	3010A	
310-205461-10	MW-308	Total/NA	Water	3010A	
310-205461-11	MW-309	Total/NA	Water	3010A	
310-205461-12	MW-309A	Total/NA	Water	3010A	
310-205461-13	MW-310	Total/NA	Water	3010A	
310-205461-14	MW-310A	Total/NA	Water	3010A	
310-205461-15	Field Blank	Total/NA	Water	3010A	
MB 310-314532/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-314532/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-205461-1 MS	MW-301	Total/NA	Water	3010A	
310-205461-1 MSD	MW-301	Total/NA	Water	3010A	
310-205461-11 DU	MW-309	Total/NA	Water	3010A	

Analysis Batch: 315769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-1	MW-301	Total/NA	Water	6020A	314532
310-205461-2	MW-301A	Total/NA	Water	6020A	314532
310-205461-3	MW-302	Total/NA	Water	6020A	314532
310-205461-4	MW-303	Total/NA	Water	6020A	314532
310-205461-5	MW-304	Total/NA	Water	6020A	314532

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QC Association Summary

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Metals (Continued)

Analysis Batch: 315769 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-6	MW-305	Total/NA	Water	6020A	314532
310-205461-7	MW-306	Total/NA	Water	6020A	314532
310-205461-8	MW-306A	Total/NA	Water	6020A	314532
310-205461-9	MW-307	Total/NA	Water	6020A	314532
310-205461-10	MW-308	Total/NA	Water	6020A	314532
310-205461-11	MW-309	Total/NA	Water	6020A	314532
310-205461-12	MW-309A	Total/NA	Water	6020A	314532
310-205461-13	MW-310	Total/NA	Water	6020A	314532
310-205461-14	MW-310A	Total/NA	Water	6020A	314532
310-205461-15	Field Blank	Total/NA	Water	6020A	314532
LCS 310-314532/2-A	Lab Control Sample	Total/NA	Water	6020A	314532
310-205461-1 MS	MW-301	Total/NA	Water	6020A	314532
310-205461-1 MSD	MW-301	Total/NA	Water	6020A	314532
310-205461-11 DU	MW-309	Total/NA	Water	6020A	314532

Analysis Batch: 315843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-314532/1-A	Method Blank	Total/NA	Water	6020A	314532

Analysis Batch: 315910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-1	MW-301	Dissolved	Water	6020A	314531
310-205461-2	MW-301A	Dissolved	Water	6020A	314531
310-205461-3	MW-302	Dissolved	Water	6020A	314531
310-205461-4	MW-303	Dissolved	Water	6020A	314531
310-205461-5	MW-304	Dissolved	Water	6020A	314531
310-205461-6	MW-305	Dissolved	Water	6020A	314531
310-205461-7	MW-306	Dissolved	Water	6020A	314531
310-205461-8	MW-306A	Dissolved	Water	6020A	314531
310-205461-9	MW-307	Dissolved	Water	6020A	314531
310-205461-10	MW-308	Dissolved	Water	6020A	314531
310-205461-11	MW-309	Dissolved	Water	6020A	314531
310-205461-12	MW-309A	Dissolved	Water	6020A	314531
310-205461-13	MW-310	Dissolved	Water	6020A	314531
310-205461-14	MW-310A	Dissolved	Water	6020A	314531
310-205461-15	Field Blank	Dissolved	Water	6020A	314531
MB 310-314531/1-A	Method Blank	Total/NA	Water	6020A	314531
LCS 310-314531/2-A	Lab Control Sample	Total/NA	Water	6020A	314531
310-205461-1 MS	MW-301	Dissolved	Water	6020A	314531
310-205461-1 MSD	MW-301	Dissolved	Water	6020A	314531
310-205461-11 DU	MW-309	Dissolved	Water	6020A	314531

General Chemistry

Analysis Batch: 315130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-1	MW-301	Total/NA	Water	SM 2320B	
310-205461-3	MW-302	Total/NA	Water	SM 2320B	
310-205461-4	MW-303	Total/NA	Water	SM 2320B	
310-205461-5	MW-304	Total/NA	Water	SM 2320B	
310-205461-9	MW-307	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

General Chemistry (Continued)

Analysis Batch: 315130 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-10	MW-308	Total/NA	Water	SM 2320B	
MB 310-315130/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-315130/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 315240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-2	MW-301A	Total/NA	Water	SM 2320B	
310-205461-6	MW-305	Total/NA	Water	SM 2320B	
310-205461-7	MW-306	Total/NA	Water	SM 2320B	
310-205461-8	MW-306A	Total/NA	Water	SM 2320B	
310-205461-11	MW-309	Total/NA	Water	SM 2320B	
310-205461-12	MW-309A	Total/NA	Water	SM 2320B	
310-205461-13	MW-310	Total/NA	Water	SM 2320B	
310-205461-14	MW-310A	Total/NA	Water	SM 2320B	
MB 310-315240/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-315240/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 315503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-205461-15	Field Blank	Total/NA	Water	2320B	
MB 310-315503/1	Method Blank	Total/NA	Water	2320B	
LCS 310-315503/2	Lab Control Sample	Total/NA	Water	2320B	

Lab Chronicle

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-301
Date Collected: 04/27/21 07:30
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:15	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 19:49	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315130	05/06/21 13:38	WJF	TAL CF

Client Sample ID: MW-301A
Date Collected: 04/28/21 06:11
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:28	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 19:59	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Client Sample ID: MW-302
Date Collected: 04/27/21 09:12
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:43	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:02	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315130	05/06/21 13:38	WJF	TAL CF

Client Sample ID: MW-303
Date Collected: 04/27/21 11:36
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:46	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:05	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315130	05/06/21 13:38	WJF	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-304

Lab Sample ID: 310-205461-5

Date Collected: 04/27/21 14:36

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:48	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:07	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315130	05/06/21 13:38	WJF	TAL CF

Client Sample ID: MW-305

Lab Sample ID: 310-205461-6

Date Collected: 04/27/21 17:45

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:51	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:10	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Client Sample ID: MW-306

Lab Sample ID: 310-205461-7

Date Collected: 04/27/21 19:45

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:54	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:23	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Client Sample ID: MW-306A

Lab Sample ID: 310-205461-8

Date Collected: 04/27/21 18:45

Matrix: Water

Date Received: 04/29/21 17:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:56	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:25	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Lab Chronicle

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-307
Date Collected: 04/26/21 18:35
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 18:59	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:28	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315130	05/06/21 13:38	WJF	TAL CF

Client Sample ID: MW-308
Date Collected: 04/26/21 19:48
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 19:01	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:31	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315130	05/06/21 13:38	WJF	TAL CF

Client Sample ID: MW-309
Date Collected: 04/27/21 12:32
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 19:04	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:33	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Client Sample ID: MW-309A
Date Collected: 04/27/21 13:25
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 19:22	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:38	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Lab Chronicle

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Client Sample ID: MW-310
Date Collected: 04/27/21 15:40
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 19:25	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:41	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Client Sample ID: MW-310A
Date Collected: 04/27/21 16:40
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 19:27	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:44	SAD	TAL CF
Total/NA	Analysis	SM 2320B		1	315240	05/07/21 10:16	DFS	TAL CF

Client Sample ID: Field Blank
Date Collected: 04/27/21 06:14
Date Received: 04/29/21 17:40

Lab Sample ID: 310-205461-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3010A			314531	05/03/21 09:00	JNR	TAL CF
Dissolved	Analysis	6020A		1	315910	05/12/21 19:30	SAD	TAL CF
Total/NA	Prep	3010A			314532	05/03/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	315769	05/11/21 20:46	SAD	TAL CF
Total/NA	Analysis	2320B		1	315503	05/10/21 13:47	DFS	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-205461-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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



Fredrick, Sandie

From: Kron, Nicole <NKron@scsengineers.com>
Sent: Friday, May 7, 2021 10:34 AM
To: Fredrick, Sandie; Blodgett, Meghan
Subject: FW: Eurofins TestAmerica Sample Login Confirmation files from 310-205461 Prairie Creek 25221074 MNA Parameters
Attachments: COC 310-205461 (202104300844).pdf; Std_Tal_Login_Ack for 310-205461-1.pdf; COC 310-205461 (202104300840).pdf; Std_Tal_Login_Limits for 310-205461-1.pdf

EXTERNAL EMAIL*

Sandie,

Please analyze for the following methods for the field blank that was submitted with the 310-205461-1 job:

Alkalinity - Carbonate
Alkalinity – Bicarbonate
Calcium
Iron
Magnesium
Manganese
Potassium
Sodium
Arsenic, dissolved
Iron, dissolved
Manganese, dissolved
Molybdenum, dissolved

Thank you,
Nicole

Nicole Kron, PG*
SCS Engineers
Madison, WI
608-216-7368 (W)
608-354-5274 (C)
nkron@scsengineers.com
*Licensed in WI

www.scsengineers.com

From: Kron, Nicole
Sent: Thursday, May 6, 2021 11:49 PM
To: 'Sandie Fredrick' <sandie.fredrick@testamericainc.com>; Blodgett, Meghan <mblodgett@scsengineers.com>

Subject: FW: Eurofins TestAmerica Sample Login Confirmation files from 310-205461 Prairie Creek 25221074 MNA Parameters

Sandie,

These sample login confirmation files are correct. We will get back to you about the field blank on Friday 5/7.

Thank you,
Nicole

Nicole Kron, PG*
SCS Engineers
Madison, WI
608-216-7368 (W)
608-354-5274 (C)
nkron@scsengineers.com
*Licensed in WI
www.scsengineers.com

From: Sandie Fredrick <sandra.fredrick@eurofinset.com>
Sent: Friday, April 30, 2021 3:21 PM
To: Blodgett, Meghan <mblodgett@scsengineers.com>; Kron, Nicole <NKron@scsengineers.com>; Karwoski, Thomas <TKarwoski@scsengineers.com>
Subject: Eurofins TestAmerica Sample Login Confirmation files from 310-205461 Prairie Creek 25221074 MNA Parameters

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello All,

Received the Field blank for all, but not on the sampling plan. Please confirm the analysis is not required.
Thanks,
Sandie

Attached, please find the Sample Confirmation files for job 310-205461; Prairie Creek 25221074 MNA Parameters

Please feel free to contact me if you have any questions.

Thank you.

Sandie Fredrick
Project Manager

TestAmerica Laboratories, Inc.
Phone: 920-261-1660

E-mail: sandra.fredrick@eurofinset.com
www.eurofinsus.com/env



Reference: [310-494264]
Attachments: 4

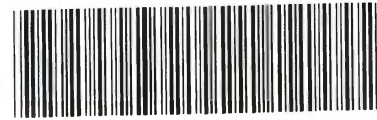
> > Bank information has changed, please refer to remittance information on invoice. < <

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Environment Testing
TestAmerica



310-205461 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>5</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>N</u>	Correction Factor (°C):	<u>0.0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>2.3</u>	Corrected Temp (°C):	<u>2.3</u>
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			





Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>5</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>N</u>	Correction Factor (°C):	<u>0.0</u>
• Temp Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250 ml Plastic</u>	CONTAINER 2	
Uncorrected Temp (°C):	<u>5.8</u>		
Corrected Temp (°C):	<u>5.8</u>		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>5</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
<u>MW-302, MW-30A, MW-301, MW-310, Field blank</u>			
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
• Temp. Blank Temperature - If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Sample Container Temperature			
Container(s) used:	CONTAINER 1 <u>250ml Plastic</u>	CONTAINER 2 <u>Plastic 1L</u>	
Uncorrected Temp (°C):	<u>8.6</u>	<u>8.1</u>	
Corrected Temp (°C):	<u>8.6</u>	<u>8.1</u>	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

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

Eurofins TestAmerica, Cedar Falls

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



Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: CITY <u>Clive</u> STATE <u>IA</u>	Project: <u>Prairie Creek</u>	
Receipt Information		
Date/Time Received: DATE <u>4/29/21</u> TIME <u>1740</u>	Received By: <u>CB</u>	
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>5</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
<u>MW-306A, MW-306, MW-305, MW-304, MW-303</u>		
Temperature Record		
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>N</u>	Correction Factor (°C): <u>0.0</u>	
• Temp. Blank Temperature – If no temp. blank, or temp. blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C):	Corrected Temp (°C):	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u> <u>250 ml Plastic</u>	<u>CONTAINER 2</u> <u>Plastic 1L</u>
Uncorrected Temp (°C):	<u>8.9</u>	<u>9.0</u>
Corrected Temp (°C):	<u>8.9</u>	<u>9.0</u>
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		



Environment Testing
TestAmerica

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Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>CLIVE</u> <small>CITY</small>	<u>IA</u> <small>STATE</small>	Project:
Receipt Information		
Date/Time Received: <u>4-29-21</u> <small>DATE</small>	<u>1740</u> <small>TIME</small>	Received By: <u>EM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<u>4-29-21</u> <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # <u>5</u> of <u>5</u>
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant: <input type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input checked="" type="checkbox"/> Other: <u>melting ice</u> <input type="checkbox"/> NONE		
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C): <u>3.0</u>	Corrected Temp (°C): <u>3.0</u>	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):		
Corrected Temp (°C):		
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		

Chain of Custody Record

Client Information		Sampler	Lab PM:	Carrier Tracking No(s):		COC No:
Client Contact: Tantien Buszka		Phone	Frederick, Sandie	State of Origin:		310-60146-16416.1
Company: SCS Engineers		E-Mail: sandra.frederick@eurofinset.com		Page:		Page 1 of 2
Address: 8450 Hickman Road Suite 27		PWSID:		Job #:		
City: Clive	Due Date Requested:	Analysis Requested				
Slate, Zip: IA, 50325	IAT Requested (days):	Preservation Codes:				
Phone:	Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NH ₄ SCN F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDTA M - Hexane N - None O - AsNaO ₂ P - Na ₂ OAS Q - Na ₂ SO ₃ R - Na ₂ SO ₃ S - H ₂ SO ₄ T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (Specify)				
Email: tbuszka@scsengineers.com	PO #: 25221074	Other:				
Project Name: Prairie Creek, 25221074 MNA Parameters	WO #:	Total Number of containers				
Site: 31011020	Project #: 31011020	Special Instructions/Note:				
Site: SSOW#	Site:					

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, B=bi-tissue, A=air)	Field Filtered Sample (Yes or No)		Perform MS/M (Yes or No)		2320B - Alkalinity - Carb/Bicarb		6020A - Total Metals (b)		6020A - Dissolved Metals (2-4)		Special Instructions/Note:
					Preservation Code	Field Filtered	MS/M	N	D	D	D	D			
MW-301	4/27/21	0730	G	Water					X	X	X	X	X		
MW-301A	4/28/21	0611		Water					X	X	X	X	X		
MW-302	4/27/21	0912		Water					X	X	X	X	X		
MW-303		1136		Water					X	X	X	X	X		
MW-304		1436		Water					X	X	X	X	X		
MW-305		1745		Water					X	X	X	X	X		
MW-306		1935		Water					X	X	X	X	X		
MW-306A		1845		Water					X	X	X	X	X		
MW-307	4/26/21	1835		Water					X	X	X	X	X		
MW-308	4/21/21	1948		Water					X	X	X	X	X		
MW-309	4/27/21	1232		Water					X	X	X	X	X		

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

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

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: *GW* Date: 4/28/21/1615 Company: SCS

Relinquished by: _____ Date: _____ Company: _____

Relinquished by: _____ Date: _____ Company: _____

Custody Seals Intact: Yes No

Custody Seal No.: _____

Relinquished by: *GW* Date: 4/28/21/1615 Company: SCS

Relinquished by: *GW* Date: 4/29/21/1740 Company: DSM

Relinquished by: _____ Date: _____ Company: _____

Method of Shipment: _____

Special Instructions/QC Requirements: _____

Return To Client Disposal By Lab Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)





Environment Testing
TestAmerica



310-205461 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Prairie Creek</u>
Receipt Information			
Date/Time Received:	DATE <u>4/29/21</u>	TIME <u>1740</u>	Received By: <u>CB</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>5</u>	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>N</u>	Correction Factor (°C): <u>0.0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>2.3</u>	Corrected Temp (°C): <u>2.3</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

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

Eurofins TestAmerica, Cedar Falls

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

**Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Prairie Creek Generating Station / SCS Engineers Project #25221074**

	Parameter	MW-301	MW-301A	MW-302	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307	MW-308	MW-309	MW-309A	MW-310	MW-310A	Field Blank	TOTAL
COCs #1 (non-radium) & #2 (radium) - CCR Rule Parameters	Appendix III Parameters (Detection Monitoring)	Boron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Calcium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Chloride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Sulfate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		TDS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Appendix IV Parameters (Assessment Monitoring)	Antimony	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Barium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Beryllium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Cadmium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Chromium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Cobalt	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Lead	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Lithium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Mercury	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Selenium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
		Thallium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Radium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Well Depth	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Specific Conductance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		ORP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Temperature	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Turbidity	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Color	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Odor	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Alkalinity - Bicarbonate			X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Calcium			X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Iron			X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Magnesium			X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Manganese			X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Potassium			X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Sodium			X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Dissolved (Filtered)		Arsenic				X	X	X			X	X		X		6	
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Field Parameters		Molybdenum						X								1	
		Sulfide, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
		Ferrous Iron, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	14	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-205461-1

SDG Number:

Login Number: 205461

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria. Cooler 3 and 4
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

C2 July 2021, Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-211100-1
Client Project/Site: Prairie Creek, 25221074 Li

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
7/27/2021 9:52:02 AM

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

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Job ID: 310-211100-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-211100-1

Comments

No additional comments.

Receipt

The samples were received on 7/16/2021 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0° C.

Metals

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

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Sample Summary

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-211100-1	MW-308	Water	07/14/21 15:05	07/16/21 09:50
310-211100-2	Field Blank	Water	07/14/21 15:05	07/16/21 09:50

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Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Client Sample ID: MW-308

Lab Sample ID: 310-211100-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	47		10	2.5	ug/L	1		6020A	Total/NA
Ground Water Elevation	703.38				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-228.90				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.13				mg/L	1		Field Sampling	Total/NA
pH, Field	9.65				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	551.7				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.14				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-211100-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Client Sample ID: MW-308

Lab Sample ID: 310-211100-1

Date Collected: 07/14/21 15:05

Matrix: Water

Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	47		10	2.5	ug/L		07/20/21 09:00	07/21/21 20:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	703.38				ft			07/14/21 15:05	1
Oxidation Reduction Potential	-228.90				millivolts			07/14/21 15:05	1
Oxygen, Dissolved, Client Supplied	0.13				mg/L			07/14/21 15:05	1
pH, Field	9.65				SU			07/14/21 15:05	1
Specific Conductance, Field	551.7				umhos/cm			07/14/21 15:05	1
Temperature, Field	15.3				Degrees C			07/14/21 15:05	1
Turbidity, Field	0.14				NTU			07/14/21 15:05	1

- 1
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- 8
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- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Client Sample ID: Field Blank

Lab Sample ID: 310-211100-2

Date Collected: 07/14/21 15:05

Matrix: Water

Date Received: 07/16/21 09:50

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.5		10	2.5	ug/L		07/20/21 09:00	07/21/21 20:42	1

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- 13
- 14
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Definitions/Glossary

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-322840/1-A
Matrix: Water
Analysis Batch: 323184

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322840

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.5		10	2.5	ug/L		07/20/21 09:00	07/21/21 20:09	1

Lab Sample ID: LCS 310-322840/2-A
Matrix: Water
Analysis Batch: 323184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	200	191		ug/L		95	80 - 120

Lab Sample ID: 310-211100-1 MS
Matrix: Water
Analysis Batch: 323184

Client Sample ID: MW-308
Prep Type: Total/NA
Prep Batch: 322840

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	47		200	248		ug/L		100	75 - 125

Lab Sample ID: 310-211100-1 MSD
Matrix: Water
Analysis Batch: 323184

Client Sample ID: MW-308
Prep Type: Total/NA
Prep Batch: 322840

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	47		200	244		ug/L		99	75 - 125	1	20

QC Association Summary

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Metals

Prep Batch: 322840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211100-1	MW-308	Total/NA	Water	3010A	
310-211100-2	Field Blank	Total/NA	Water	3010A	
MB 310-322840/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-322840/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-211100-1 MS	MW-308	Total/NA	Water	3010A	
310-211100-1 MSD	MW-308	Total/NA	Water	3010A	

Analysis Batch: 323184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211100-1	MW-308	Total/NA	Water	6020A	322840
310-211100-2	Field Blank	Total/NA	Water	6020A	322840
MB 310-322840/1-A	Method Blank	Total/NA	Water	6020A	322840
LCS 310-322840/2-A	Lab Control Sample	Total/NA	Water	6020A	322840
310-211100-1 MS	MW-308	Total/NA	Water	6020A	322840
310-211100-1 MSD	MW-308	Total/NA	Water	6020A	322840

Field Service / Mobile Lab

Analysis Batch: 323589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-211100-1	MW-308	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Client Sample ID: MW-308

Date Collected: 07/14/21 15:05

Date Received: 07/16/21 09:50

Lab Sample ID: 310-211100-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322840	07/20/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	323184	07/21/21 20:29	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	323589	07/14/21 15:05	SJF	TAL CF

Client Sample ID: Field Blank

Date Collected: 07/14/21 15:05

Date Received: 07/16/21 09:50

Lab Sample ID: 310-211100-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			322840	07/20/21 09:00	JNR	TAL CF
Total/NA	Analysis	6020A		1	323184	07/21/21 20:42	SAP	TAL CF

Laboratory References:

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



Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: SCS Engineers
Project/Site: Prairie Creek, 25221074 Li

Job ID: 310-211100-1

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

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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





Cooler/Sample Receipt and Temperature Log Form

Client Information		
Client: <u>SCS Engineers</u>		
City/State: <u>Madison</u> <small>CITY</small> <u>WI</u> <small>STATE</small>	Project:	
Receipt Information		
Date/Time Received: <u>7/16/21</u> <small>DATE</small> <u>950</u> <small>TIME</small>	Received By: <u>ER</u>	
Delivery Type: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Containers		
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # ____ of ____
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record		
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE	
Thermometer ID: <u>0</u>	Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature		
Uncorrected Temp (°C): <u>2.0</u>	Corrected Temp (°C): <u>2.0</u>	
• Sample Container Temperature		
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>
Uncorrected Temp (°C):		
Corrected Temp (°C):		
Exceptions Noted		
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No		
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No		
NOTE: If yes, contact PM before proceeding. If no, proceed with login		
Additional Comments		

Chain of Custody Record

Client Information		Sampler: Adam Watson		Lab PI#: Fredrick, Sandie		Carrier Tracking No(s):		COC No: 310-62233-18123.1	
Client Contact: Mr. Tom Karwoski		Phone: 608-250-9985		E-Mail: sandra.fredrick@eurofinset.com		State of Origin:		Page: Page 1 of 1	
Company: SCS Engineers		PWSID:		Analysis Requested:		Job #:		Preservation Codes:	
Address: 2830 Dairy Drive		Due Date Requested:		TAT Requested (days):		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water V - MCAA W - pH 4-5 L - EDTA Z - other (specify) Other:	
City: Madison		PC #: 25221074		WO #: 31011020		Project #: 31011020		Total Number of containers	
State, Zip: WI, 53718		Email: tkarwoski@scsengineers.com		Project Name: Prairie Creek, 25221074-LI		Site: SSOW#:		Special Instructions/Note:	
Phone: 608-224-2830		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (see notes on worksheet)	
Field Blank		7/14/21		1505		Water		6020A - Total Metals (!) LI	
MW-308		7/14/21		1505		Water		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
								Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
								Preservation Code: <input checked="" type="checkbox"/> D <input type="checkbox"/> X <input type="checkbox"/> X	
								Special Instructions/Note:	
								Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
								<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
								Special Instructions/OC Requirements:	
								Method of Shipment	
								Date/Time	
								Received by: AW	
								Date/Time: 7/15/21	
								Company: SCS Eng.	
								Received by:	
								Date/Time:	
								Company:	
								Received by:	
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Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-211100-1

Login Number: 211100

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Watkins, Allison R

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

Groundwater Monitoring Results - Field Parameters
Prairie Creek Generating Station / SCS Engineers Project #25221074.00
July 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity
MW-308	7-14-2021 / 1505	703.38	15.3	9.65	0.13	551.7	-228.90	0.14

Abbreviations:

mg/L = milligrams per liter

NA = Not Analyzed

mV = millivolts amsl = above mean sea level

NM = Not measured

Created by: NDK
 Last revision by: RM
 Checked by: #N/A
 Scientist QA/QC: #N/A

Date: 4/22/2021
 Date: 7/27/2021
 Date: _____
 Date: #N/A

C:\Users\FredrickS\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\PAJXB4G4\[2107_PCS_CCR_Field.xlsx]GW Field Paramete

C3 October 2021 Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-218183-1
Client Project/Site: Praire Creek 25221074
Revision: 1

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
1/7/2022 9:59:19 AM

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

LINKS

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results through
TotalAccess

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Job ID: 310-218183-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-218183-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 11/10/2021. The report (revision 1) is being revised due to: Client updated GWE for MW-301 & MW-301A.

Receipt

The samples were received on 10/25/2021 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.1° C, 0.8° C, 1.3° C and 1.4° C.

HPLC/IC

Methods 300.0, 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301A (310-218183-2), MW-302 (310-218183-3), MW-305 (310-218183-6), MW-306 (310-218183-7), MW-306A (310-218183-8), MW-308 (310-218183-10), MW-309A (310-218183-12) and MW-310A (310-218183-14). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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

Sample Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-218183-1	MW-301	Water	10/21/21 09:45	10/25/21 17:10
310-218183-2	MW-301A	Water	10/22/21 15:10	10/25/21 17:10
310-218183-3	MW-302	Water	10/21/21 14:15	10/25/21 17:10
310-218183-4	MW-303	Water	10/21/21 16:35	10/25/21 17:10
310-218183-5	MW-304	Water	10/21/21 15:30	10/25/21 17:10
310-218183-6	MW-305	Water	10/20/21 16:45	10/25/21 17:10
310-218183-7	MW-306	Water	10/20/21 14:51	10/25/21 17:10
310-218183-8	MW-306A	Water	10/20/21 15:45	10/25/21 17:10
310-218183-9	MW-307	Water	10/21/21 11:05	10/25/21 17:10
310-218183-10	MW-308	Water	10/21/21 12:35	10/25/21 17:10
310-218183-11	MW-309	Water	10/21/21 12:05	10/25/21 17:10
310-218183-12	MW-309A	Water	10/22/21 13:05	10/25/21 17:10
310-218183-13	MW-310	Water	10/22/21 09:35	10/25/21 17:10
310-218183-14	MW-310A	Water	10/22/21 10:45	10/25/21 17:10
310-218183-15	Field Blank	Water	10/22/21 14:25	10/25/21 17:10



Detection Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-301

Lab Sample ID: 310-218183-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	98		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	100		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.88	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	270		2.0	0.37	ug/L	1		6020A	Total/NA
Cadmium	0.11		0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	160		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	5.2		5.0	1.1	ug/L	1		6020A	Total/NA
Lead	0.37	J	0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	13		10	2.5	ug/L	1		6020A	Total/NA
Selenium	1.1	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	690		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	713.44				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	180.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	4.67				mg/L	1		Field Sampling	Total/NA
pH, Field	6.90				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1205				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	9.7				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-301A

Lab Sample ID: 310-218183-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	7.0		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	1.4	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	130		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	61	J	100	58	ug/L	1		6020A	Total/NA
Cadmium	0.075	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	59		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.96		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.49	J	0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	3.1		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	200		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	707.07				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	37.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	2.39				mg/L	1		Field Sampling	Total/NA
pH, Field	7.15				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	537.9				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	32.2				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-218183-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	82		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	89		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.90	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	220		2.0	0.37	ug/L	1		6020A	Total/NA
Cadmium	0.080	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	2.0	J	5.0	1.1	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-302 (Continued)

Lab Sample ID: 310-218183-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	6.9	J	10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	500		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	713.09				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	122.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	3.47				mg/L	1		Field Sampling	Total/NA
pH, Field	7.15				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	969				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	15.3				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-218183-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.40	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	130		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	46		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	110		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	1100		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.43	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	17		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	14		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	480		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	701.84				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-89.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.24				mg/L	1		Field Sampling	Total/NA
pH, Field	7.16				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	911				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	10.4				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-218183-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.53		0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	220		5.0	2.5	mg/L	5		9056A	Total/NA
Antimony	1.1	J	2.0	1.1	ug/L	1		6020A	Total/NA
Arsenic	16		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	120		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	810		100	58	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.90		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.24	J	0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	14		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	31		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	620		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	701.80				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-304 (Continued)

Lab Sample ID: 310-218183-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxidation Reduction Potential	-60.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.25				mg/L	1		Field Sampling	Total/NA
pH, Field	7.07				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1053				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	8.5				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-218183-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	330		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	12		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	150		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	1100		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.067	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	140		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.61		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	17		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	84		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	730		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	701.75				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	6.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.22				mg/L	1		Field Sampling	Total/NA
pH, Field	7.21				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1117				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	11.5				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-218183-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	120		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.87	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	56		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	2200		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.099	J	0.10	0.051	ug/L	1		6020A	Total/NA
Calcium	57		0.50	0.19	mg/L	1		6020A	Total/NA
Lead	0.23	J	0.50	0.21	ug/L	1		6020A	Total/NA
Molybdenum	220		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	320		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.02				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-124.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.24				mg/L	1		Field Sampling	Total/NA
pH, Field	7.40				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	562.5				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	12.7				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-306A

Lab Sample ID: 310-218183-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	70		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	360		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	130		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	2100		100	58	ug/L	1		6020A	Total/NA
Calcium	150		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	5.3	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	15		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	760		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	702.31				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-66.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.26				mg/L	1		Field Sampling	Total/NA
pH, Field	7.21				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1109				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	10.4				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-218183-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.5	J	5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.40	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	36		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	6.2		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	35		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	960		100	58	ug/L	1		6020A	Total/NA
Calcium	16		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	10		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	6.6		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	26	J	50	26	mg/L	1		SM 2540C	Total/NA
pH	9.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	706.29				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	130.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.24				mg/L	1		Field Sampling	Total/NA
pH, Field	8.84				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	142.5				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	17.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	10.7				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 310-218183-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.1		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	140		5.0	2.5	mg/L	5		9056A	Total/NA
Antimony	3.0		2.0	1.1	ug/L	1		6020A	Total/NA
Arsenic	48		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	36		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	6100		400	230	ug/L	4		6020A	Total/NA
Calcium	53		0.50	0.19	mg/L	1		6020A	Total/NA
Lead	0.29	J	0.50	0.21	ug/L	1		6020A	Total/NA
Lithium	39		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	58		2.0	1.3	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-308 (Continued)

Lab Sample ID: 310-218183-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	270		50	26	mg/L	1		SM 2540C	Total/NA
pH	9.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	703.21				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-170.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.20				mg/L	1		Field Sampling	Total/NA
pH, Field	9.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	507.2				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	9.8				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 310-218183-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.36	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	130		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	75		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	100		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	1200		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	15		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	24		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	480		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	701.70				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-123.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.21				mg/L	1		Field Sampling	Total/NA
pH, Field	7.42				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	855				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	17.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	19.8				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309A

Lab Sample ID: 310-218183-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	30		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	140		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	0.87	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	180		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	740		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.32	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	4.9	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	11		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	440		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	701.60				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-144.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.32				mg/L	1		Field Sampling	Total/NA
pH, Field	7.19				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	824				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.6				Degrees C	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-309A (Continued)

Lab Sample ID: 310-218183-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Turbidity, Field	19.8				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-218183-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	24		5.0	2.2	mg/L	5		9056A	Total/NA
Fluoride	0.47	J	0.50	0.28	mg/L	5		9056A	Total/NA
Sulfate	160		5.0	2.5	mg/L	5		9056A	Total/NA
Arsenic	25		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	150		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	870		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	14		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	45		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	490		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	701.48				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-145.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.22				mg/L	1		Field Sampling	Total/NA
pH, Field	7.28				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	880				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	16.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	20.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310A

Lab Sample ID: 310-218183-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48		5.0	2.2	mg/L	5		9056A	Total/NA
Sulfate	190		5.0	2.5	mg/L	5		9056A	Total/NA
Barium	160		2.0	0.37	ug/L	1		6020A	Total/NA
Boron	240		100	58	ug/L	1		6020A	Total/NA
Calcium	140		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	2.8		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	3.5	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	20		2.0	1.3	ug/L	1		6020A	Total/NA
Total Dissolved Solids	570		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	701.76				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-149.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	NA				mg/L	1		Field Sampling	Total/NA
pH, Field	7.31				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	963				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.1				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	19.9				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-218183-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-301

Lab Sample ID: 310-218183-1

Date Collected: 10/21/21 09:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98		5.0	2.2	mg/L			10/28/21 18:31	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 18:31	5
Sulfate	100		5.0	2.5	mg/L			10/28/21 18:31	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 17:55	1
Arsenic	0.88	J	2.0	0.75	ug/L		10/27/21 09:00	11/09/21 17:55	1
Barium	270		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 17:55	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 17:55	1
Boron	<58		100	58	ug/L		10/27/21 09:00	11/09/21 17:55	1
Cadmium	0.11		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 17:55	1
Calcium	160		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 17:55	1
Chromium	5.2		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 17:55	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 17:55	1
Lead	0.37	J	0.50	0.21	ug/L		10/27/21 09:00	11/09/21 17:55	1
Lithium	13		10	2.5	ug/L		10/27/21 09:00	11/09/21 17:55	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 17:55	1
Selenium	1.1	J	5.0	0.96	ug/L		10/27/21 09:00	11/09/21 17:55	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 17:55	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 12:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	690		50	26	mg/L			10/26/21 16:42	1
pH	7.0	HF	0.1	0.1	SU			10/26/21 13:35	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	713.44				ft			10/21/21 09:45	1
Oxidation Reduction Potential	180.3				millivolts			10/21/21 09:45	1
Oxygen, Dissolved, Client Supplied	4.67				mg/L			10/21/21 09:45	1
pH, Field	6.90				SU			10/21/21 09:45	1
Specific Conductance, Field	1205				umhos/cm			10/21/21 09:45	1
Temperature, Field	12.3				Degrees C			10/21/21 09:45	1
Turbidity, Field	9.7				NTU			10/21/21 09:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-301A

Lab Sample ID: 310-218183-2

Date Collected: 10/22/21 15:10

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.2		5.0	2.2	mg/L			10/28/21 19:49	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 19:49	5
Sulfate	7.0		5.0	2.5	mg/L			10/28/21 19:49	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:16	1
Arsenic	1.4	J	2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:16	1
Barium	130		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:16	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:16	1
Boron	61	J	100	58	ug/L		10/27/21 09:00	11/09/21 18:16	1
Cadmium	0.075	J	0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:16	1
Calcium	59		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:16	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:16	1
Cobalt	0.96		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:16	1
Lead	0.49	J	0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:16	1
Lithium	<2.5		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:16	1
Molybdenum	3.1		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:16	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:16	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 12:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	200		50	26	mg/L			10/28/21 13:47	1
pH	7.2	HF	0.1	0.1	SU			10/26/21 13:36	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	707.07				ft			10/22/21 15:10	1
Oxidation Reduction Potential	37.5				millivolts			10/22/21 15:10	1
Oxygen, Dissolved, Client Supplied	2.39				mg/L			10/22/21 15:10	1
pH, Field	7.15				SU			10/22/21 15:10	1
Specific Conductance, Field	537.9				umhos/cm			10/22/21 15:10	1
Temperature, Field	13.3				Degrees C			10/22/21 15:10	1
Turbidity, Field	32.2				NTU			10/22/21 15:10	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-302

Lab Sample ID: 310-218183-3

Date Collected: 10/21/21 14:15

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	82		5.0	2.2	mg/L			10/28/21 20:04	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 20:04	5
Sulfate	89		5.0	2.5	mg/L			10/28/21 20:04	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:19	1
Arsenic	0.90	J	2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:19	1
Barium	220		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:19	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:19	1
Boron	<58		100	58	ug/L		10/27/21 09:00	11/09/21 18:19	1
Cadmium	0.080	J	0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:19	1
Calcium	130		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:19	1
Chromium	2.0	J	5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:19	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:19	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:19	1
Lithium	6.9	J	10	2.5	ug/L		10/27/21 09:00	11/09/21 18:19	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:19	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:19	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 12:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	500		50	26	mg/L			10/26/21 16:42	1
pH	6.7	HF	0.1	0.1	SU			10/26/21 13:22	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	713.09				ft			10/21/21 14:15	1
Oxidation Reduction Potential	122.3				millivolts			10/21/21 14:15	1
Oxygen, Dissolved, Client Supplied	3.47				mg/L			10/21/21 14:15	1
pH, Field	7.15				SU			10/21/21 14:15	1
Specific Conductance, Field	969				umhos/cm			10/21/21 14:15	1
Temperature, Field	14.1				Degrees C			10/21/21 14:15	1
Turbidity, Field	15.3				NTU			10/21/21 14:15	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-303

Lab Sample ID: 310-218183-4

Date Collected: 10/21/21 16:35

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		5.0	2.2	mg/L			10/28/21 20:36	5
Fluoride	0.40	J	0.50	0.28	mg/L			10/28/21 20:36	5
Sulfate	130		5.0	2.5	mg/L			10/28/21 20:36	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:21	1
Arsenic	46		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:21	1
Barium	110		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:21	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:21	1
Boron	1100		100	58	ug/L		10/27/21 09:00	11/09/21 18:21	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:21	1
Calcium	110		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:21	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:21	1
Cobalt	0.43	J	0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:21	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:21	1
Lithium	17		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:21	1
Molybdenum	14		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:21	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:21	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	480		50	26	mg/L			10/26/21 16:42	1
pH	7.2	HF	0.1	0.1	SU			10/26/21 13:37	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	701.84				ft			10/21/21 16:35	1
Oxidation Reduction Potential	-89.8				millivolts			10/21/21 16:35	1
Oxygen, Dissolved, Client Supplied	0.24				mg/L			10/21/21 16:35	1
pH, Field	7.16				SU			10/21/21 16:35	1
Specific Conductance, Field	911				umhos/cm			10/21/21 16:35	1
Temperature, Field	16.2				Degrees C			10/21/21 16:35	1
Turbidity, Field	10.4				NTU			10/21/21 16:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-304

Lab Sample ID: 310-218183-5

Date Collected: 10/21/21 15:30

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.2	mg/L			10/28/21 20:51	5
Fluoride	0.53		0.50	0.28	mg/L			10/28/21 20:51	5
Sulfate	220		5.0	2.5	mg/L			10/28/21 20:51	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.1	J	2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:24	1
Arsenic	16		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:24	1
Barium	120		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:24	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:24	1
Boron	810		100	58	ug/L		10/27/21 09:00	11/09/21 18:24	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:24	1
Calcium	130		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:24	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:24	1
Cobalt	0.90		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:24	1
Lead	0.24	J	0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:24	1
Lithium	14		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:24	1
Molybdenum	31		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:24	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:24	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	620		50	26	mg/L			10/26/21 16:42	1
pH	7.1	HF	0.1	0.1	SU			10/26/21 13:33	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	701.80				ft			10/21/21 15:30	1
Oxidation Reduction Potential	-60.7				millivolts			10/21/21 15:30	1
Oxygen, Dissolved, Client Supplied	0.25				mg/L			10/21/21 15:30	1
pH, Field	7.07				SU			10/21/21 15:30	1
Specific Conductance, Field	1053				umhos/cm			10/21/21 15:30	1
Temperature, Field	16.1				Degrees C			10/21/21 15:30	1
Turbidity, Field	8.5				NTU			10/21/21 15:30	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-305

Lab Sample ID: 310-218183-6

Date Collected: 10/20/21 16:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		5.0	2.2	mg/L			10/28/21 21:07	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 21:07	5
Sulfate	330		5.0	2.5	mg/L			10/28/21 21:07	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:27	1
Arsenic	12		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:27	1
Barium	150		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:27	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:27	1
Boron	1100		100	58	ug/L		10/27/21 09:00	11/09/21 18:27	1
Cadmium	0.067	J	0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:27	1
Calcium	140		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:27	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:27	1
Cobalt	0.61		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:27	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:27	1
Lithium	17		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:27	1
Molybdenum	84		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:27	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:27	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 12:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	730		50	26	mg/L			10/26/21 16:42	1
pH	7.4	HF	0.1	0.1	SU			10/26/21 13:32	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	701.75				ft			10/20/21 16:45	1
Oxidation Reduction Potential	6.5				millivolts			10/20/21 16:45	1
Oxygen, Dissolved, Client Supplied	0.22				mg/L			10/20/21 16:45	1
pH, Field	7.21				SU			10/20/21 16:45	1
Specific Conductance, Field	1117				umhos/cm			10/20/21 16:45	1
Temperature, Field	16.0				Degrees C			10/20/21 16:45	1
Turbidity, Field	11.5				NTU			10/20/21 16:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-306

Lab Sample ID: 310-218183-7

Date Collected: 10/20/21 14:51

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		5.0	2.2	mg/L			10/28/21 21:23	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 21:23	5
Sulfate	120		5.0	2.5	mg/L			10/28/21 21:23	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:29	1
Arsenic	0.87	J	2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:29	1
Barium	56		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:29	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:29	1
Boron	2200		100	58	ug/L		10/27/21 09:00	11/09/21 18:29	1
Cadmium	0.099	J	0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:29	1
Calcium	57		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:29	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:29	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:29	1
Lead	0.23	J	0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:29	1
Lithium	<2.5		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:29	1
Molybdenum	220		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:29	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:29	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 12:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		50	26	mg/L			10/26/21 16:42	1
pH	7.7	HF	0.1	0.1	SU			10/26/21 13:24	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.02				ft			10/20/21 14:51	1
Oxidation Reduction Potential	-124.2				millivolts			10/20/21 14:51	1
Oxygen, Dissolved, Client Supplied	0.24				mg/L			10/20/21 14:51	1
pH, Field	7.40				SU			10/20/21 14:51	1
Specific Conductance, Field	562.5				umhos/cm			10/20/21 14:51	1
Temperature, Field	12.9				Degrees C			10/20/21 14:51	1
Turbidity, Field	12.7				NTU			10/20/21 14:51	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-306A

Lab Sample ID: 310-218183-8

Date Collected: 10/20/21 15:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70		5.0	2.2	mg/L			10/28/21 21:38	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 21:38	5
Sulfate	360		5.0	2.5	mg/L			10/28/21 21:38	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:32	1
Arsenic	<0.75		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:32	1
Barium	130		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:32	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:32	1
Boron	2100		100	58	ug/L		10/27/21 09:00	11/09/21 18:32	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:32	1
Calcium	150		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:32	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:32	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:32	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:32	1
Lithium	5.3 J		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:32	1
Molybdenum	15		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:32	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:32	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:32	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	760		50	26	mg/L			10/26/21 16:42	1
pH	7.3	HF	0.1	0.1	SU			10/26/21 13:19	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	702.31				ft			10/20/21 15:45	1
Oxidation Reduction Potential	-66.1				millivolts			10/20/21 15:45	1
Oxygen, Dissolved, Client Supplied	0.26				mg/L			10/20/21 15:45	1
pH, Field	7.21				SU			10/20/21 15:45	1
Specific Conductance, Field	1109				umhos/cm			10/20/21 15:45	1
Temperature, Field	13.1				Degrees C			10/20/21 15:45	1
Turbidity, Field	10.4				NTU			10/20/21 15:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-307

Lab Sample ID: 310-218183-9

Date Collected: 10/21/21 11:05

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.5	J	5.0	2.2	mg/L			10/28/21 21:54	5
Fluoride	0.40	J	0.50	0.28	mg/L			10/28/21 21:54	5
Sulfate	36		5.0	2.5	mg/L			10/28/21 21:54	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:35	1
Arsenic	6.2		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:35	1
Barium	35		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:35	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:35	1
Boron	960		100	58	ug/L		10/27/21 09:00	11/09/21 18:35	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:35	1
Calcium	16		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:35	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:35	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:35	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:35	1
Lithium	10		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:35	1
Molybdenum	6.6		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:35	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:35	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:35	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	26	J	50	26	mg/L			10/26/21 16:42	1
pH	9.2	HF	0.1	0.1	SU			10/26/21 13:28	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	706.29				ft			10/21/21 11:05	1
Oxidation Reduction Potential	130.8				millivolts			10/21/21 11:05	1
Oxygen, Dissolved, Client Supplied	0.24				mg/L			10/21/21 11:05	1
pH, Field	8.84				SU			10/21/21 11:05	1
Specific Conductance, Field	142.5				umhos/cm			10/21/21 11:05	1
Temperature, Field	17.4				Degrees C			10/21/21 11:05	1
Turbidity, Field	10.7				NTU			10/21/21 11:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-308

Lab Sample ID: 310-218183-10

Date Collected: 10/21/21 12:35

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.1		5.0	2.2	mg/L			10/28/21 22:41	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 22:41	5
Sulfate	140		5.0	2.5	mg/L			10/28/21 22:41	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:37	1
Arsenic	48		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:37	1
Barium	36		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:37	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:37	1
Boron	6100		400	230	ug/L		10/27/21 09:00	11/10/21 13:41	4
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:37	1
Calcium	53		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:37	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:37	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:37	1
Lead	0.29	J	0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:37	1
Lithium	39		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:37	1
Molybdenum	58		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:37	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:37	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	270		50	26	mg/L			10/26/21 16:42	1
pH	9.2	HF	0.1	0.1	SU			10/26/21 13:34	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	703.21				ft			10/21/21 12:35	1
Oxidation Reduction Potential	-170.3				millivolts			10/21/21 12:35	1
Oxygen, Dissolved, Client Supplied	0.20				mg/L			10/21/21 12:35	1
pH, Field	9.17				SU			10/21/21 12:35	1
Specific Conductance, Field	507.2				umhos/cm			10/21/21 12:35	1
Temperature, Field	14.6				Degrees C			10/21/21 12:35	1
Turbidity, Field	9.8				NTU			10/21/21 12:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-309

Lab Sample ID: 310-218183-11

Date Collected: 10/21/21 12:05

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		5.0	2.2	mg/L			10/28/21 22:57	5
Fluoride	0.36	J	0.50	0.28	mg/L			10/28/21 22:57	5
Sulfate	130		5.0	2.5	mg/L			10/28/21 22:57	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:40	1
Arsenic	75		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:40	1
Barium	100		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:40	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:40	1
Boron	1200		100	58	ug/L		10/27/21 09:00	11/09/21 18:40	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:40	1
Calcium	110		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:40	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:40	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:40	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:40	1
Lithium	15		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:40	1
Molybdenum	24		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:40	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:40	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	480		50	26	mg/L			10/26/21 16:42	1
pH	7.5	HF	0.1	0.1	SU			10/26/21 13:20	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	701.70				ft			10/21/21 12:05	1
Oxidation Reduction Potential	-123.4				millivolts			10/21/21 12:05	1
Oxygen, Dissolved, Client Supplied	0.21				mg/L			10/21/21 12:05	1
pH, Field	7.42				SU			10/21/21 12:05	1
Specific Conductance, Field	855				umhos/cm			10/21/21 12:05	1
Temperature, Field	17.9				Degrees C			10/21/21 12:05	1
Turbidity, Field	19.8				NTU			10/21/21 12:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-309A

Lab Sample ID: 310-218183-12

Date Collected: 10/22/21 13:05

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30		5.0	2.2	mg/L			10/28/21 23:13	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 23:13	5
Sulfate	140		5.0	2.5	mg/L			10/28/21 23:13	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:56	1
Arsenic	0.87	J	2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:56	1
Barium	180		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:56	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:56	1
Boron	740		100	58	ug/L		10/27/21 09:00	11/09/21 18:56	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:56	1
Calcium	110		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:56	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:56	1
Cobalt	0.32	J	0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:56	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:56	1
Lithium	4.9	J	10	2.5	ug/L		10/27/21 09:00	11/09/21 18:56	1
Molybdenum	11		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:56	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:56	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	440		50	26	mg/L			10/28/21 13:47	1
pH	7.3	HF	0.1	0.1	SU			10/26/21 13:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	701.60				ft			10/22/21 13:05	1
Oxidation Reduction Potential	-144.2				millivolts			10/22/21 13:05	1
Oxygen, Dissolved, Client Supplied	0.32				mg/L			10/22/21 13:05	1
pH, Field	7.19				SU			10/22/21 13:05	1
Specific Conductance, Field	824				umhos/cm			10/22/21 13:05	1
Temperature, Field	15.6				Degrees C			10/22/21 13:05	1
Turbidity, Field	19.8				NTU			10/22/21 13:05	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-310

Lab Sample ID: 310-218183-13

Date Collected: 10/22/21 09:35

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		5.0	2.2	mg/L			10/28/21 23:30	5
Fluoride	0.47	J	0.50	0.28	mg/L			10/28/21 23:30	5
Sulfate	160		5.0	2.5	mg/L			10/28/21 23:30	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:58	1
Arsenic	25		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 18:58	1
Barium	150		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 18:58	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 18:58	1
Boron	870		100	58	ug/L		10/27/21 09:00	11/09/21 18:58	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 18:58	1
Calcium	110		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 18:58	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 18:58	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 18:58	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 18:58	1
Lithium	14		10	2.5	ug/L		10/27/21 09:00	11/09/21 18:58	1
Molybdenum	45		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 18:58	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 18:58	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 18:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	490		50	26	mg/L			10/28/21 13:47	1
pH	7.5	HF	0.1	0.1	SU			10/26/21 13:31	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	701.48				ft			10/22/21 09:35	1
Oxidation Reduction Potential	-145.2				millivolts			10/22/21 09:35	1
Oxygen, Dissolved, Client Supplied	0.22				mg/L			10/22/21 09:35	1
pH, Field	7.28				SU			10/22/21 09:35	1
Specific Conductance, Field	880				umhos/cm			10/22/21 09:35	1
Temperature, Field	16.3				Degrees C			10/22/21 09:35	1
Turbidity, Field	20.0				NTU			10/22/21 09:35	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-310A

Lab Sample ID: 310-218183-14

Date Collected: 10/22/21 10:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		5.0	2.2	mg/L			10/28/21 23:46	5
Fluoride	<0.28		0.50	0.28	mg/L			10/28/21 23:46	5
Sulfate	190		5.0	2.5	mg/L			10/28/21 23:46	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 19:01	1
Arsenic	<0.75		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 19:01	1
Barium	160		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 19:01	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 19:01	1
Boron	240		100	58	ug/L		10/27/21 09:00	11/09/21 19:01	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 19:01	1
Calcium	140		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 19:01	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 19:01	1
Cobalt	2.8		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 19:01	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 19:01	1
Lithium	3.5 J		10	2.5	ug/L		10/27/21 09:00	11/09/21 19:01	1
Molybdenum	20		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 19:01	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 19:01	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 19:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	570		50	26	mg/L			10/28/21 13:47	1
pH	7.4	HF	0.1	0.1	SU			10/26/21 13:25	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	701.76				ft			10/22/21 10:45	1
Oxidation Reduction Potential	-149.4				millivolts			10/22/21 10:45	1
Oxygen, Dissolved, Client Supplied	NA				mg/L			10/22/21 10:45	1
pH, Field	7.31				SU			10/22/21 10:45	1
Specific Conductance, Field	963				umhos/cm			10/22/21 10:45	1
Temperature, Field	15.1				Degrees C			10/22/21 10:45	1
Turbidity, Field	19.9				NTU			10/22/21 10:45	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: Field Blank

Lab Sample ID: 310-218183-15

Date Collected: 10/22/21 14:25

Matrix: Water

Date Received: 10/25/21 17:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			10/29/21 00:19	1
Fluoride	<0.055		0.10	0.055	mg/L			10/29/21 00:19	1
Sulfate	<0.49		1.0	0.49	mg/L			10/29/21 00:19	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 19:04	1
Arsenic	<0.75		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 19:04	1
Barium	<0.37		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 19:04	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 19:04	1
Boron	<58		100	58	ug/L		10/27/21 09:00	11/09/21 19:04	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 19:04	1
Calcium	<0.19		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 19:04	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 19:04	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 19:04	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 19:04	1
Lithium	<2.5		10	2.5	ug/L		10/27/21 09:00	11/09/21 19:04	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 19:04	1
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 19:04	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 19:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/28/21 13:47	1
pH	6.5	HF	0.1	0.1	SU			10/26/21 13:21	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

QC Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-334681/3
Matrix: Water
Analysis Batch: 334681

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.43		1.0	0.43	mg/L			10/28/21 18:00	1
Fluoride	<0.055		0.10	0.055	mg/L			10/28/21 18:00	1
Sulfate	<0.49		1.0	0.49	mg/L			10/28/21 18:00	1

Lab Sample ID: LCS 310-334681/4
Matrix: Water
Analysis Batch: 334681

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.3		mg/L		103	90 - 110
Fluoride	2.00	2.14		mg/L		107	90 - 110
Sulfate	10.0	10.7		mg/L		107	90 - 110

Lab Sample ID: 310-218183-1 MS
Matrix: Water
Analysis Batch: 334681

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	98		25.0	120		mg/L		88	80 - 120
Fluoride	<0.28		5.00	4.15		mg/L		83	80 - 120
Sulfate	100		25.0	132	4	mg/L		121	80 - 120

Lab Sample ID: 310-218183-1 MSD
Matrix: Water
Analysis Batch: 334681

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	98		25.0	120		mg/L		89	80 - 120	0	15
Fluoride	<0.28		5.00	4.23		mg/L		85	80 - 120	2	15
Sulfate	100		25.0	126	4	mg/L		94	80 - 120	5	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-332966/1-A
Matrix: Water
Analysis Batch: 334971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		2.0	1.1	ug/L		10/27/21 09:00	11/09/21 17:49	1
Arsenic	<0.75		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 17:49	1
Barium	<0.37		2.0	0.37	ug/L		10/27/21 09:00	11/09/21 17:49	1
Beryllium	<0.27		1.0	0.27	ug/L		10/27/21 09:00	11/09/21 17:49	1
Boron	<58		100	58	ug/L		10/27/21 09:00	11/09/21 17:49	1
Cadmium	<0.051		0.10	0.051	ug/L		10/27/21 09:00	11/09/21 17:49	1
Calcium	<0.19		0.50	0.19	mg/L		10/27/21 09:00	11/09/21 17:49	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/21 09:00	11/09/21 17:49	1
Cobalt	<0.19		0.50	0.19	ug/L		10/27/21 09:00	11/09/21 17:49	1
Lead	<0.21		0.50	0.21	ug/L		10/27/21 09:00	11/09/21 17:49	1
Lithium	<2.5		10	2.5	ug/L		10/27/21 09:00	11/09/21 17:49	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 17:49	1

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QC Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

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

Lab Sample ID: MB 310-332966/1-A
Matrix: Water
Analysis Batch: 334971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.96		5.0	0.96	ug/L		10/27/21 09:00	11/09/21 17:49	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/21 09:00	11/09/21 17:49	1

Lab Sample ID: LCS 310-332966/2-A ^10
Matrix: Water
Analysis Batch: 334971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	2000	1900		ug/L		95	80 - 120
Arsenic	2000	1970		ug/L		98	80 - 120
Barium	1000	1040		ug/L		104	80 - 120
Beryllium	1000	959		ug/L		96	80 - 120
Boron	2000	1640		ug/L		82	80 - 120
Cadmium	1000	982		ug/L		98	80 - 120
Calcium	20.0	17.9		mg/L		90	80 - 120
Chromium	1000	964		ug/L		96	80 - 120
Cobalt	1000	979		ug/L		98	80 - 120
Lead	2000	1940		ug/L		97	80 - 120
Lithium	2000	1880		ug/L		94	80 - 120
Molybdenum	2000	1890		ug/L		94	80 - 120
Selenium	4000	3970		ug/L		99	80 - 120
Thallium	2000	2060		ug/L		103	80 - 120

Lab Sample ID: 310-218183-1 MS
Matrix: Water
Analysis Batch: 334971

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 332966

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<1.1		2000	1670		ug/L		84	75 - 125
Arsenic	0.88	J	2000	1770		ug/L		89	75 - 125
Barium	270		1000	1170		ug/L		90	75 - 125
Beryllium	<0.27		1000	856		ug/L		86	75 - 125
Boron	<58		2000	1570		ug/L		78	75 - 125
Cadmium	0.11		1000	881		ug/L		88	75 - 125
Calcium	160		20.0	166	4	mg/L		12	75 - 125
Chromium	5.2		1000	859		ug/L		85	75 - 125
Cobalt	<0.19		1000	867		ug/L		87	75 - 125
Lead	0.37	J	2000	1760		ug/L		88	75 - 125
Lithium	13		2000	1700		ug/L		84	75 - 125
Molybdenum	<1.3		2000	1700		ug/L		85	75 - 125
Selenium	1.1	J	4000	3550		ug/L		89	75 - 125
Thallium	<0.26		2000	1840		ug/L		92	75 - 125

Lab Sample ID: 310-218183-1 MSD
Matrix: Water
Analysis Batch: 334971

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 332966

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<1.1		2000	1770		ug/L		88	75 - 125	5	20

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QC Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

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

Lab Sample ID: 310-218183-1 MSD
Matrix: Water
Analysis Batch: 334971

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 332966

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Arsenic	0.88	J	2000	1870		ug/L		94	75 - 125	5	20
Barium	270		1000	1220		ug/L		95	75 - 125	4	20
Beryllium	<0.27		1000	909		ug/L		91	75 - 125	6	20
Boron	<58		2000	1620		ug/L		81	75 - 125	3	20
Cadmium	0.11		1000	931		ug/L		93	75 - 125	5	20
Calcium	160		20.0	172	4	mg/L		42	75 - 125	4	20
Chromium	5.2		1000	903		ug/L		90	75 - 125	5	20
Cobalt	<0.19		1000	911		ug/L		91	75 - 125	5	20
Lead	0.37	J	2000	1840		ug/L		92	75 - 125	4	20
Lithium	13		2000	1780		ug/L		88	75 - 125	5	20
Molybdenum	<1.3		2000	1790		ug/L		90	75 - 125	5	20
Selenium	1.1	J	4000	3720		ug/L		93	75 - 125	5	20
Thallium	<0.26		2000	1930		ug/L		97	75 - 125	5	20

Lab Sample ID: 310-218183-11 DU
Matrix: Water
Analysis Batch: 334971

Client Sample ID: MW-309
Prep Type: Total/NA
Prep Batch: 332966

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Antimony	<1.1		<1.1		ug/L		NC	20
Arsenic	75		74.2		ug/L		2	20
Barium	100		104		ug/L		1	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Boron	1200		1100		ug/L		10	20
Cadmium	<0.051		<0.051		ug/L		NC	20
Calcium	110		106		mg/L		0.8	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	<0.19		<0.19		ug/L		NC	20
Lead	<0.21		<0.21		ug/L		NC	20
Lithium	15		14.4		ug/L		3	20
Molybdenum	24		23.3		ug/L		4	20
Selenium	<0.96		<0.96		ug/L		NC	20
Thallium	<0.26		<0.26		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-333535/1-A
Matrix: Water
Analysis Batch: 333646

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333535

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:00	10/30/21 11:56	1

Lab Sample ID: LCS 310-333535/2-A
Matrix: Water
Analysis Batch: 333646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333535

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Mercury	1.67	1.53		ug/L		92	80 - 120

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QC Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 310-333538/1-A
Matrix: Water
Analysis Batch: 333646

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.15		0.20	0.15	ug/L		10/29/21 14:04	10/30/21 13:00	1

Lab Sample ID: LCS 310-333538/2-A
Matrix: Water
Analysis Batch: 333646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333538

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

Lab Sample ID: 310-218183-8 MS
Matrix: Water
Analysis Batch: 333646

Client Sample ID: MW-306A
Prep Type: Total/NA
Prep Batch: 333538

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.15		1.67	1.75		ug/L		105	80 - 120

Lab Sample ID: 310-218183-8 MSD
Matrix: Water
Analysis Batch: 333646

Client Sample ID: MW-306A
Prep Type: Total/NA
Prep Batch: 333538

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	<0.15		1.67	1.79		ug/L		107	80 - 120	2	20

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

Lab Sample ID: MB 310-333017/1
Matrix: Water
Analysis Batch: 333017

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/26/21 16:42	1

Lab Sample ID: LCS 310-333017/2
Matrix: Water
Analysis Batch: 333017

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	926		mg/L		93	90 - 110

Lab Sample ID: 310-218183-1 DU
Matrix: Water
Analysis Batch: 333017

Client Sample ID: MW-301
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	690		660		mg/L		4	20

QC Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

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

Lab Sample ID: MB 310-333342/1
 Matrix: Water
 Analysis Batch: 333342

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/28/21 13:47	1

Lab Sample ID: LCS 310-333342/2
 Matrix: Water
 Analysis Batch: 333342

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	934		mg/L		93	90 - 110

Lab Sample ID: 310-218183-15 DU
 Matrix: Water
 Analysis Batch: 333342

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

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

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-332987/1
 Matrix: Water
 Analysis Batch: 332987

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		101	98 - 102

Lab Sample ID: 310-218183-9 DU
 Matrix: Water
 Analysis Batch: 332987

Client Sample ID: MW-307
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.2	HF	9.3		SU		0.2	20

QC Association Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

HPLC/IC

Analysis Batch: 334681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	9056A	
310-218183-2	MW-301A	Total/NA	Water	9056A	
310-218183-3	MW-302	Total/NA	Water	9056A	
310-218183-4	MW-303	Total/NA	Water	9056A	
310-218183-5	MW-304	Total/NA	Water	9056A	
310-218183-6	MW-305	Total/NA	Water	9056A	
310-218183-7	MW-306	Total/NA	Water	9056A	
310-218183-8	MW-306A	Total/NA	Water	9056A	
310-218183-9	MW-307	Total/NA	Water	9056A	
310-218183-10	MW-308	Total/NA	Water	9056A	
310-218183-11	MW-309	Total/NA	Water	9056A	
310-218183-12	MW-309A	Total/NA	Water	9056A	
310-218183-13	MW-310	Total/NA	Water	9056A	
310-218183-14	MW-310A	Total/NA	Water	9056A	
310-218183-15	Field Blank	Total/NA	Water	9056A	
MB 310-334681/3	Method Blank	Total/NA	Water	9056A	
LCS 310-334681/4	Lab Control Sample	Total/NA	Water	9056A	
310-218183-1 MS	MW-301	Total/NA	Water	9056A	
310-218183-1 MSD	MW-301	Total/NA	Water	9056A	

Metals

Prep Batch: 332966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	3005A	
310-218183-2	MW-301A	Total/NA	Water	3005A	
310-218183-3	MW-302	Total/NA	Water	3005A	
310-218183-4	MW-303	Total/NA	Water	3005A	
310-218183-5	MW-304	Total/NA	Water	3005A	
310-218183-6	MW-305	Total/NA	Water	3005A	
310-218183-7	MW-306	Total/NA	Water	3005A	
310-218183-8	MW-306A	Total/NA	Water	3005A	
310-218183-9	MW-307	Total/NA	Water	3005A	
310-218183-10	MW-308	Total/NA	Water	3005A	
310-218183-11	MW-309	Total/NA	Water	3005A	
310-218183-12	MW-309A	Total/NA	Water	3005A	
310-218183-13	MW-310	Total/NA	Water	3005A	
310-218183-14	MW-310A	Total/NA	Water	3005A	
310-218183-15	Field Blank	Total/NA	Water	3005A	
MB 310-332966/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-332966/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	
310-218183-1 MS	MW-301	Total/NA	Water	3005A	
310-218183-1 MSD	MW-301	Total/NA	Water	3005A	
310-218183-11 DU	MW-309	Total/NA	Water	3005A	

Prep Batch: 333535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	7470A	
310-218183-2	MW-301A	Total/NA	Water	7470A	
310-218183-3	MW-302	Total/NA	Water	7470A	
310-218183-4	MW-303	Total/NA	Water	7470A	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Metals (Continued)

Prep Batch: 333535 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-5	MW-304	Total/NA	Water	7470A	
310-218183-6	MW-305	Total/NA	Water	7470A	
310-218183-7	MW-306	Total/NA	Water	7470A	
MB 310-333535/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-333535/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 333538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-8	MW-306A	Total/NA	Water	7470A	
310-218183-9	MW-307	Total/NA	Water	7470A	
310-218183-10	MW-308	Total/NA	Water	7470A	
310-218183-11	MW-309	Total/NA	Water	7470A	
310-218183-12	MW-309A	Total/NA	Water	7470A	
310-218183-13	MW-310	Total/NA	Water	7470A	
310-218183-14	MW-310A	Total/NA	Water	7470A	
310-218183-15	Field Blank	Total/NA	Water	7470A	
MB 310-333538/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-333538/2-A	Lab Control Sample	Total/NA	Water	7470A	
310-218183-8 MS	MW-306A	Total/NA	Water	7470A	
310-218183-8 MSD	MW-306A	Total/NA	Water	7470A	

Analysis Batch: 333646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	7470A	333535
310-218183-2	MW-301A	Total/NA	Water	7470A	333535
310-218183-3	MW-302	Total/NA	Water	7470A	333535
310-218183-4	MW-303	Total/NA	Water	7470A	333535
310-218183-5	MW-304	Total/NA	Water	7470A	333535
310-218183-6	MW-305	Total/NA	Water	7470A	333535
310-218183-7	MW-306	Total/NA	Water	7470A	333535
310-218183-8	MW-306A	Total/NA	Water	7470A	333538
310-218183-9	MW-307	Total/NA	Water	7470A	333538
310-218183-10	MW-308	Total/NA	Water	7470A	333538
310-218183-11	MW-309	Total/NA	Water	7470A	333538
310-218183-12	MW-309A	Total/NA	Water	7470A	333538
310-218183-13	MW-310	Total/NA	Water	7470A	333538
310-218183-14	MW-310A	Total/NA	Water	7470A	333538
310-218183-15	Field Blank	Total/NA	Water	7470A	333538
MB 310-333535/1-A	Method Blank	Total/NA	Water	7470A	333535
MB 310-333538/1-A	Method Blank	Total/NA	Water	7470A	333538
LCS 310-333535/2-A	Lab Control Sample	Total/NA	Water	7470A	333535
LCS 310-333538/2-A	Lab Control Sample	Total/NA	Water	7470A	333538
310-218183-8 MS	MW-306A	Total/NA	Water	7470A	333538
310-218183-8 MSD	MW-306A	Total/NA	Water	7470A	333538

Analysis Batch: 334971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	6020A	332966
310-218183-2	MW-301A	Total/NA	Water	6020A	332966
310-218183-3	MW-302	Total/NA	Water	6020A	332966
310-218183-4	MW-303	Total/NA	Water	6020A	332966

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Metals (Continued)

Analysis Batch: 334971 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-5	MW-304	Total/NA	Water	6020A	332966
310-218183-6	MW-305	Total/NA	Water	6020A	332966
310-218183-7	MW-306	Total/NA	Water	6020A	332966
310-218183-8	MW-306A	Total/NA	Water	6020A	332966
310-218183-9	MW-307	Total/NA	Water	6020A	332966
310-218183-10	MW-308	Total/NA	Water	6020A	332966
310-218183-11	MW-309	Total/NA	Water	6020A	332966
310-218183-12	MW-309A	Total/NA	Water	6020A	332966
310-218183-13	MW-310	Total/NA	Water	6020A	332966
310-218183-14	MW-310A	Total/NA	Water	6020A	332966
310-218183-15	Field Blank	Total/NA	Water	6020A	332966
MB 310-332966/1-A	Method Blank	Total/NA	Water	6020A	332966
LCS 310-332966/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	332966
310-218183-1 MS	MW-301	Total/NA	Water	6020A	332966
310-218183-1 MSD	MW-301	Total/NA	Water	6020A	332966
310-218183-11 DU	MW-309	Total/NA	Water	6020A	332966

Analysis Batch: 335040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-10	MW-308	Total/NA	Water	6020A	332966

General Chemistry

Analysis Batch: 332987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-218183-2	MW-301A	Total/NA	Water	SM 4500 H+ B	
310-218183-3	MW-302	Total/NA	Water	SM 4500 H+ B	
310-218183-4	MW-303	Total/NA	Water	SM 4500 H+ B	
310-218183-5	MW-304	Total/NA	Water	SM 4500 H+ B	
310-218183-6	MW-305	Total/NA	Water	SM 4500 H+ B	
310-218183-7	MW-306	Total/NA	Water	SM 4500 H+ B	
310-218183-8	MW-306A	Total/NA	Water	SM 4500 H+ B	
310-218183-9	MW-307	Total/NA	Water	SM 4500 H+ B	
310-218183-10	MW-308	Total/NA	Water	SM 4500 H+ B	
310-218183-11	MW-309	Total/NA	Water	SM 4500 H+ B	
310-218183-12	MW-309A	Total/NA	Water	SM 4500 H+ B	
310-218183-13	MW-310	Total/NA	Water	SM 4500 H+ B	
310-218183-14	MW-310A	Total/NA	Water	SM 4500 H+ B	
310-218183-15	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-332987/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-218183-9 DU	MW-307	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 333017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	SM 2540C	
310-218183-3	MW-302	Total/NA	Water	SM 2540C	
310-218183-4	MW-303	Total/NA	Water	SM 2540C	
310-218183-5	MW-304	Total/NA	Water	SM 2540C	
310-218183-6	MW-305	Total/NA	Water	SM 2540C	
310-218183-7	MW-306	Total/NA	Water	SM 2540C	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

General Chemistry (Continued)

Analysis Batch: 333017 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-8	MW-306A	Total/NA	Water	SM 2540C	
310-218183-9	MW-307	Total/NA	Water	SM 2540C	
310-218183-10	MW-308	Total/NA	Water	SM 2540C	
310-218183-11	MW-309	Total/NA	Water	SM 2540C	
MB 310-333017/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-333017/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-218183-1 DU	MW-301	Total/NA	Water	SM 2540C	

Analysis Batch: 333342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-2	MW-301A	Total/NA	Water	SM 2540C	
310-218183-12	MW-309A	Total/NA	Water	SM 2540C	
310-218183-13	MW-310	Total/NA	Water	SM 2540C	
310-218183-14	MW-310A	Total/NA	Water	SM 2540C	
310-218183-15	Field Blank	Total/NA	Water	SM 2540C	
MB 310-333342/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-333342/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-218183-15 DU	Field Blank	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 333153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	Field Sampling	
310-218183-2	MW-301A	Total/NA	Water	Field Sampling	
310-218183-3	MW-302	Total/NA	Water	Field Sampling	
310-218183-4	MW-303	Total/NA	Water	Field Sampling	
310-218183-5	MW-304	Total/NA	Water	Field Sampling	
310-218183-6	MW-305	Total/NA	Water	Field Sampling	
310-218183-7	MW-306	Total/NA	Water	Field Sampling	
310-218183-8	MW-306A	Total/NA	Water	Field Sampling	
310-218183-9	MW-307	Total/NA	Water	Field Sampling	
310-218183-10	MW-308	Total/NA	Water	Field Sampling	
310-218183-11	MW-309	Total/NA	Water	Field Sampling	
310-218183-12	MW-309A	Total/NA	Water	Field Sampling	
310-218183-13	MW-310	Total/NA	Water	Field Sampling	
310-218183-14	MW-310A	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-301

Lab Sample ID: 310-218183-1

Date Collected: 10/21/21 09:45

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 18:31	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 17:55	SAP	TAL CF
Total/NA	Prep	7470A			333535	10/29/21 14:00	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 12:41	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:35	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/21/21 09:45	SLD	TAL CF

Client Sample ID: MW-301A

Lab Sample ID: 310-218183-2

Date Collected: 10/22/21 15:10

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 19:49	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:16	SAP	TAL CF
Total/NA	Prep	7470A			333535	10/29/21 14:00	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 12:43	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333342	10/28/21 13:47	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:36	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/22/21 15:10	SLD	TAL CF

Client Sample ID: MW-302

Lab Sample ID: 310-218183-3

Date Collected: 10/21/21 14:15

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 20:04	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:19	SAP	TAL CF
Total/NA	Prep	7470A			333535	10/29/21 14:00	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 12:45	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:22	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/21/21 14:15	SLD	TAL CF

Client Sample ID: MW-303

Lab Sample ID: 310-218183-4

Date Collected: 10/21/21 16:35

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 20:36	CJT	TAL CF

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-303
Date Collected: 10/21/21 16:35
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:21	SAP	TAL CF
Total/NA	Prep	7470A			333535	10/29/21 14:00	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 12:47	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:37	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/21/21 16:35	SLD	TAL CF

Client Sample ID: MW-304
Date Collected: 10/21/21 15:30
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 20:51	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:24	SAP	TAL CF
Total/NA	Prep	7470A			333535	10/29/21 14:00	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 12:49	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:33	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/21/21 15:30	SLD	TAL CF

Client Sample ID: MW-305
Date Collected: 10/20/21 16:45
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 21:07	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:27	SAP	TAL CF
Total/NA	Prep	7470A			333535	10/29/21 14:00	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 12:56	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:32	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/20/21 16:45	SLD	TAL CF

Client Sample ID: MW-306
Date Collected: 10/20/21 14:51
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 21:23	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:29	SAP	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-306

Lab Sample ID: 310-218183-7

Date Collected: 10/20/21 14:51

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			333535	10/29/21 14:00	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 12:58	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:24	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/20/21 14:51	SLD	TAL CF

Client Sample ID: MW-306A

Lab Sample ID: 310-218183-8

Date Collected: 10/20/21 15:45

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 21:38	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:32	SAP	TAL CF
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:04	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:19	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/20/21 15:45	SLD	TAL CF

Client Sample ID: MW-307

Lab Sample ID: 310-218183-9

Date Collected: 10/21/21 11:05

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 21:54	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:35	SAP	TAL CF
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:11	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:28	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/21/21 11:05	SLD	TAL CF

Client Sample ID: MW-308

Lab Sample ID: 310-218183-10

Date Collected: 10/21/21 12:35

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 22:41	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:37	SAP	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		4	335040	11/10/21 13:41	SAP	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-308

Lab Sample ID: 310-218183-10

Date Collected: 10/21/21 12:35

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:13	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:34	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/21/21 12:35	SLD	TAL CF

Client Sample ID: MW-309

Lab Sample ID: 310-218183-11

Date Collected: 10/21/21 12:05

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 22:57	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:40	SAP	TAL CF
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:15	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333017	10/26/21 16:42	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:20	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/21/21 12:05	SLD	TAL CF

Client Sample ID: MW-309A

Lab Sample ID: 310-218183-12

Date Collected: 10/22/21 13:05

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 23:13	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:56	SAP	TAL CF
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:22	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333342	10/28/21 13:47	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:23	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/22/21 13:05	SLD	TAL CF

Client Sample ID: MW-310

Lab Sample ID: 310-218183-13

Date Collected: 10/22/21 09:35

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 23:30	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 18:58	SAP	TAL CF
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:24	EAM	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Client Sample ID: MW-310

Lab Sample ID: 310-218183-13

Date Collected: 10/22/21 09:35

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	333342	10/28/21 13:47	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:31	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/22/21 09:35	SLD	TAL CF

Client Sample ID: MW-310A

Lab Sample ID: 310-218183-14

Date Collected: 10/22/21 10:45

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	334681	10/28/21 23:46	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 19:01	SAP	TAL CF
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:26	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333342	10/28/21 13:47	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:25	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	333153	10/22/21 10:45	SLD	TAL CF

Client Sample ID: Field Blank

Lab Sample ID: 310-218183-15

Date Collected: 10/22/21 14:25

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	334681	10/29/21 00:19	CJT	TAL CF
Total/NA	Prep	3005A			332966	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 19:04	SAP	TAL CF
Total/NA	Prep	7470A			333538	10/29/21 14:04	EAM	TAL CF
Total/NA	Analysis	7470A		1	333646	10/30/21 13:28	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	333342	10/28/21 13:47	ARG	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	332987	10/26/21 13:21	JAJ	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Laboratory: Eurofins Cedar Falls

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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



Environment Testing
TestAmerica



310-218183 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: VITA	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # 1 of 84 HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____	<input type="checkbox"/> NONE	
Thermometer ID: R	Correction Factor (°C): 0		
• Temp/Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 1.4	Corrected Temp (°C): 1.4		
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
MW-302, MW-310A, MW-304			

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

Eurofins TestAmerica, Cedar Falls

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



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>8</u> HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: R		Correction Factor (°C): 0	
Temp/Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 0.1		Corrected Temp (°C): 0.1	
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
Field Blank, MW-308, MW-301, MW-307			



Environment Testing
TestAmerica

Place COC scanning label
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: AC-20	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # 3 of 84 HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE		
Thermometer ID: R	Correction Factor (°C): 0		
Temp/Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 1.3	Corrected Temp (°C): 1.3		
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
MW-301A, MW-309, MW-303, MW-309A			
empty 250ml Nitric MW-301A + 1L Nitric			



Environment Testing
TestAmerica

Place COC scanning label
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: AC-40	
Multiple Coolers?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>8</u> <u>4</u> HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: R	Correction Factor (°C): 0		
Temp/Blank Temperature			
If no temp/blank or temp/blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 0.8	Corrected Temp (°C): 0.8		
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
MW-305, MW-310, MW-306, MW-306A			

Chain of Custody Record

Client Information		Lab/MSL		Carrier Tracking Info:		COC No.							
Client Contact: Rosa Cruz Company: SCS Engineers Address: 3450 Hickman Road Suite 27 City: Crove State, Zip: IA 50320 Phone: 25221074 Email: rcruz@scsengineers.com		Lab/MSL: Frederick, Sandie E-Mail: sandie.frederick@eurofins.com		Carrier Tracking Info: State of Origin:		310-1956-14045 Page 1 of 2 Job #							
Sample Identification		Due Date Requested:		Analysis Requested		Preservation Codes							
Sample ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (w/water, E=soil, O=oil, L=leachate, A=air)	Field Filtered Sample (Yes or No)	Performs MS/MSD (Yes or No)	502A - Metals - Hg	5030 - Caled. 956A ORGFM 280 SW450 H	5040 - Radium 226	5040 - Radium 228	Total Number of Containers	Special Instructions/Note	
MW-301	10-21-21	9:45	G	Water	X	X	X	X	X	X	0		
MW-301A			G	Water							0		
MW-302	10-21-21	14:15	G	Water	X	X	X	X	X	X	0		
MW-303	10-21-21	16:35	G	Water	X	X	X	X	X	X	0		
MW-304	10-21-21	15:30	G	Water	X	X	X	X	X	X	0		
MW-305	10-20-21	16:45	G	Water	X	X	X	X	X	X	0		
MW-306	10-20-21	14:51	G	Water	X	X	X	X	X	X	0		
MW-306A	10-20-21	15:45	G	Water	X	X	X	X	X	X	0		
MW-307	10-21-21	11:05	G	Water	X	X	X	X	X	X	0		
MW-308	10-21-21	12:35	G	Water	X	X	X	X	X	X	0		
MW-309	10-22-21	12:05	G	Water	X	X	X	X	X	X	0		
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: <input type="checkbox"/> I, II, III, IV Other (specify)		Empty Kit Relinquished by		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Requisitioned by: Rosa Cruz		Date/Time: 10-25-21 13:00		Received by: _____ Company: _____		Requisitioned by: _____ Date/Time: _____		Received by: _____ Company: _____		Date/Time: 10-25-21 1710		Received by: MDO Company: _____	
Custody Seal: Initial _____ Custody Seal No.: _____		A Yes B No		Custer Temperature(s) To and Other Remarks:		Special Instructions/QC Requirements		Method of Shipment		Date/Time		Company	



Chain of Custody Record

Client Information
 Client Contact: Rosa Cruz
 Company: SCS Engineers
 Address: 5450 Hickman Road Suite 27
 City: Clive
 State: ZW
 Phone: 515-2325
 Email: rcruz@scsengineers.com
 Project Name: Prairie Creek 25221074
 Site: 55-OW#

Sample Information
 Sample ID: MW-308A
 Sample Type: G (Grab)
 Sample Date: 10-22-21
 Sample Time: 13:05
 Matrix: Water

Analysis Requested
 Perform MS/MSD (Yes or No): Yes
 Field Filtered Sample (Yes or No): Yes
 602A - Metals - Hg: Yes
 503 - Radium 226: Yes
 504 - Radium 228: Yes

Preservation Codes
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - H2SO4
 F - HNO3
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - D. Water
 K - EDTA
 L - EDA
 Other:

Special Instructions/Note:
 Total Number of Containers: 1

Carrier/Tracking/Label:
 Label: Frutrick, Sandle
 State of Origin: IA
 Job #: Page 2 of 2

Sample Disposal:
 Return To Client
 Disposal By Lab
 Archive For _____ Months

Special Instructions/CC Requirements:

Chain of Custody:
 Date/Time: 10-26-21 13:00
 Company: SCS
 Date/Time: 10-26-21 1710
 Company: [Signature]

Empty Kit Relinquished by: Rosa Cruz
Reinquired by: Rosa Cruz
Reinquired by: [Signature]
Custody Seal Intact: Yes No



Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Prairie Creek Generating Station / SCS Engineers Project #25221074

Parameter	MW- 301	MW- 301A	MW- 302	MW- 303	MW- 304	MW- 305	MW- 306	MW- 306A	MW- 307	MW- 308	MW- 309	MW- 309A	MW- 310	MW- 310A	Field Blank	TOTAL	
	Appendix III Parameters (Detection Monitoring)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
Appendix IV Parameters (Assessment Monitoring)	Boron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Calcium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Chloride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Sulfate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	TDS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Antimony	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Barium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Beryllium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Cadmium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Chromium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Cobalt	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
	Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Lead	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15		
Lithium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15		
Mercury	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15		
Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15		
Selenium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15		
Thallium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15		
Radium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15		
Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Well Depth	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Specific Conductance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	ORP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Temperature	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Turbidity	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Color	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Odor	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Total (Unfiltered)	Calcium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Magnesium		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Manganese		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Potassium		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Sodium		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Dissolved (Filtered)	Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	6	
	Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
	Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Field Parameters	Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1	
	Sulfide, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	
Ferrous Iron, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218183-1

Login Number: 218183

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Homolar, Dana J

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

Groundwater Monitoring Results - Field Parameters
Prairie Creek Generating Station / SCS Engineers Project #25221074.00
October 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity
MW-301	10/21/2021 9:45	712.19	12.3	6.90	4.67	1205	180.3	9.7
MW-301A	10/21/2021 15:10	681.93	13.3	7.15	2.39	537.9	37.5	32.2
MW-302	10/21/2021 14:15	713.09	14.1	7.15	3.47	969	122.3	15.3
MW-303	10/21/2021 16:35	701.84	16.2	7.16	0.24	911	-89.8	10.4
MW-304	10/21/2021 15:30	701.80	16.1	7.07	0.25	1,053	-60.7	8.5
MW-305	10/20/2021 16:45	701.75	16.0	7.21	0.22	1117	6.5	11.5
MW-306	10/20/2021 14:51	702.02	12.9	7.40	0.24	562.5	-124.2	12.7
MW-306A	10/20/2021 15:45	702.31	13.1	7.21	0.26	1,109	-66.1	10.4
MW-307	10/21/2021 11:05	706.29	17.4	8.84	0.24	142.5	130.8	10.7
MW-308	10/21/2021 12:35	703.21	14.6	9.17	0.20	507.2	-170.3	9.8
MW-309	10/22/2021 12:05	701.70	17.9	7.42	0.21	855	-123.4	19.8
MW-309A	10/22/2021 13:05	701.60	15.6	7.19	0.32	824	-144.2	19.8
MW-310	10/22/2021 9:35	701.48	16.3	7.28	0.22	880	-145.2	20.0
MW-310A	10/22/2021 10:45	701.76	15.1	7.31	NM	963	-149.4	19.9

Abbreviations:

mg/L = milligrams per liter

NA = Not Analyzed

mV = millivolts amsl = above mean sea level

NM = Not measured

Created by: NDK

Date: 10/25/2021

Last revision by: LMH

Date: 10/25/2021

Checked by: NDK

Date: 10/26/2021

Scientist QA/QC: _____

Date: _____

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Groundwater Monitoring Results - Field Parameters
Prairie Creek Generating Station / SCS Engineers Project #25221074.00
October 2021

Sample	Sample Date/Time	GW Elevation (ft amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µmhos/cm)	ORP (mV)	Turbidity
MW-301	10/21/2021 9:45	713.44	12.3	6.90	4.67	1205	180.3	9.7
MW-301A	10/21/2021 15:10	707.07	13.3	7.15	2.39	537.9	37.5	32.2
MW-302	10/21/2021 14:15	713.09	14.1	7.15	3.47	969	122.3	15.3
MW-303	10/21/2021 16:35	701.84	16.2	7.16	0.24	911	-89.8	10.4
MW-304	10/21/2021 15:30	701.80	16.1	7.07	0.25	1,053	-60.7	8.5
MW-305	10/20/2021 16:45	701.75	16.0	7.21	0.22	1117	6.5	11.5
MW-306	10/20/2021 14:51	702.02	12.9	7.40	0.24	562.5	-124.2	12.7
MW-306A	10/20/2021 15:45	702.31	13.1	7.21	0.26	1,109	-66.1	10.4
MW-307	10/21/2021 11:05	706.29	17.4	8.84	0.24	142.5	130.8	10.7
MW-308	10/21/2021 12:35	703.21	14.6	9.17	0.20	507.2	-170.3	9.8
MW-309	10/22/2021 12:05	701.70	17.9	7.42	0.21	855	-123.4	19.8
MW-309A	10/22/2021 13:05	701.60	15.6	7.19	0.32	824	-144.2	19.8
MW-310	10/22/2021 9:35	701.48	16.3	7.28	0.22	880	-145.2	20.0
MW-310A	10/22/2021 10:45	701.76	15.1	7.31	NM	963	-149.4	19.9

Abbreviations:
mg/L = milligrams per liter
NA = Not Analyzed

mV = millivolts amsl = above mean sea level
NM = Not measured

Created by: NDK
Last revision by: MDB
Checked by: _____
Scientist QA/QC: _____

Date: 10/25/2021
Date: 1/5/2022
Date: _____
Date: _____

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ANALYTICAL REPORT

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

Laboratory Job ID: 310-218183-2
Client Project/Site: Praire Creek 25221074

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
12/3/2021 12:53:40 PM

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

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Job ID: 310-218183-2

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative 310-218183-2

Comments

No additional comments.

Receipt

The samples were received on 10/25/2021 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.1° C, 0.8° C, 1.3° C and 1.4° C.

RAD

Method 903.0: Radium 226 batch 534154

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

MW-301 (310-218183-1), MW-301A (310-218183-2), MW-302 (310-218183-3), MW-303 (310-218183-4), MW-304 (310-218183-5), MW-305 (310-218183-6), MW-306 (310-218183-7), MW-306A (310-218183-8), MW-307 (310-218183-9), MW-308 (310-218183-10), MW-309 (310-218183-11), MW-309A (310-218183-12), MW-310 (310-218183-13), MW-310A (310-218183-14), Field Blank (310-218183-15), (LCS 160-534154/1-A), (LCSD 160-534154/2-A) and (MB 160-534154/18-A)

Method 904.0: Radium 226 batch 534156

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

MW-301 (310-218183-1), MW-301A (310-218183-2), MW-302 (310-218183-3), MW-303 (310-218183-4), MW-304 (310-218183-5), MW-305 (310-218183-6), MW-306 (310-218183-7), MW-306A (310-218183-8), MW-307 (310-218183-9), MW-308 (310-218183-10), MW-309 (310-218183-11), MW-309A (310-218183-12), MW-310 (310-218183-13), MW-310A (310-218183-14), Field Blank (310-218183-15), (LCS 160-534156/1-A), (LCSD 160-534156/2-A) and (MB 160-534156/18-A)

Method PrecSep_0: Radium-228 Prep Batch 160-534156

The following samples were prepared at a reduced aliquot due to Matrix: MW-301A (310-218183-2), MW-303 (310-218183-4), MW-304 (310-218183-5), MW-308 (310-218183-10) and MW-310 (310-218183-13). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-534156

Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-218183-1), MW-302 (310-218183-3), MW-305 (310-218183-6), MW-306 (310-218183-7), MW-306A (310-218183-8), MW-307 (310-218183-9), MW-309 (310-218183-11), MW-309A (310-218183-12), MW-310A (310-218183-14) and Field Blank (310-218183-15). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-534154

The following samples were prepared at a reduced aliquot due to Matrix: MW-301A (310-218183-2), MW-303 (310-218183-4), MW-304 (310-218183-5), MW-308 (310-218183-10) and MW-310 (310-218183-13). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-534154

Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-301 (310-218183-1), MW-302 (310-218183-3), MW-305 (310-218183-6), MW-306 (310-218183-7), MW-306A (310-218183-8), MW-307 (310-218183-9), MW-309 (310-218183-11), MW-309A (310-218183-12), MW-310A (310-218183-14) and Field Blank (310-218183-15). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Sample Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-218183-1	MW-301	Water	10/21/21 09:45	10/25/21 17:10
310-218183-2	MW-301A	Water	10/22/21 15:10	10/25/21 17:10
310-218183-3	MW-302	Water	10/21/21 14:15	10/25/21 17:10
310-218183-4	MW-303	Water	10/21/21 16:35	10/25/21 17:10
310-218183-5	MW-304	Water	10/21/21 15:30	10/25/21 17:10
310-218183-6	MW-305	Water	10/20/21 16:45	10/25/21 17:10
310-218183-7	MW-306	Water	10/20/21 14:51	10/25/21 17:10
310-218183-8	MW-306A	Water	10/20/21 15:45	10/25/21 17:10
310-218183-9	MW-307	Water	10/21/21 11:05	10/25/21 17:10
310-218183-10	MW-308	Water	10/21/21 12:35	10/25/21 17:10
310-218183-11	MW-309	Water	10/21/21 12:05	10/25/21 17:10
310-218183-12	MW-309A	Water	10/22/21 13:05	10/25/21 17:10
310-218183-13	MW-310	Water	10/22/21 09:35	10/25/21 17:10
310-218183-14	MW-310A	Water	10/22/21 10:45	10/25/21 17:10
310-218183-15	Field Blank	Water	10/22/21 14:25	10/25/21 17:10

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Detection Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-301	Lab Sample ID: 310-218183-1
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-301A	Lab Sample ID: 310-218183-2
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-302	Lab Sample ID: 310-218183-3
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-303	Lab Sample ID: 310-218183-4
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-304	Lab Sample ID: 310-218183-5
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-305	Lab Sample ID: 310-218183-6
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-306	Lab Sample ID: 310-218183-7
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-306A	Lab Sample ID: 310-218183-8
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-307	Lab Sample ID: 310-218183-9
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-308	Lab Sample ID: 310-218183-10
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-309	Lab Sample ID: 310-218183-11
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-309A	Lab Sample ID: 310-218183-12
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-310	Lab Sample ID: 310-218183-13
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-310A	Lab Sample ID: 310-218183-14
<input type="checkbox"/> No Detections.	
Client Sample ID: Field Blank	Lab Sample ID: 310-218183-15
<input type="checkbox"/> No Detections.	

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-301
Date Collected: 10/21/21 09:45
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-1
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.256	U	0.198	0.199	1.00	0.291	pCi/L	10/28/21 15:25	11/19/21 08:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	92.8		40 - 110					10/28/21 15:25	11/19/21 08:17	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.350	U	0.275	0.277	1.00	0.436	pCi/L	10/28/21 15:51	11/18/21 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	92.8		40 - 110					10/28/21 15:51	11/18/21 13:18	1
Y Carrier	83.0		40 - 110					10/28/21 15:51	11/18/21 13:18	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.606		0.339	0.341	5.00	0.436	pCi/L		12/03/21 12:26	1

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Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-301A

Lab Sample ID: 310-218183-2

Date Collected: 10/22/21 15:10

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.323	U	0.298	0.299	1.00	0.458	pCi/L	10/28/21 15:25	11/19/21 08:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	72.5		40 - 110					10/28/21 15:25	11/19/21 08:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.948		0.543	0.550	1.00	0.831	pCi/L	10/28/21 15:51	11/18/21 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	72.5		40 - 110					10/28/21 15:51	11/18/21 13:18	1
Y Carrier	85.2		40 - 110					10/28/21 15:51	11/18/21 13:18	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.27		0.619	0.626	5.00	0.831	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-302
Date Collected: 10/21/21 14:15
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-3
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.195	U	0.177	0.178	1.00	0.273	pCi/L	10/28/21 15:25	11/19/21 08:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	104		40 - 110					10/28/21 15:25	11/19/21 08:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.575		0.256	0.262	1.00	0.365	pCi/L	10/28/21 15:51	11/18/21 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	104		40 - 110					10/28/21 15:51	11/18/21 13:18	1
Y Carrier	79.3		40 - 110					10/28/21 15:51	11/18/21 13:18	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.770		0.311	0.317	5.00	0.365	pCi/L		12/03/21 12:26	1

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Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-303

Lab Sample ID: 310-218183-4

Date Collected: 10/21/21 16:35

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.231	U	0.278	0.278	1.00	0.457	pCi/L	10/28/21 15:25	11/19/21 08:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	78.5		40 - 110					10/28/21 15:25	11/19/21 08:18	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.732	U	0.528	0.532	1.00	0.835	pCi/L	10/28/21 15:51	11/18/21 13:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	78.5		40 - 110					10/28/21 15:51	11/18/21 13:18	1
Y Carrier	81.9		40 - 110					10/28/21 15:51	11/18/21 13:18	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.963		0.597	0.600	5.00	0.835	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-304

Lab Sample ID: 310-218183-5

Date Collected: 10/21/21 15:30

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.523		0.303	0.307	1.00	0.411	pCi/L	10/28/21 15:25	11/19/21 08:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.0		40 - 110					10/28/21 15:25	11/19/21 08:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	-0.116	U	0.356	0.356	1.00	0.649	pCi/L	10/28/21 15:51	11/18/21 13:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	91.0		40 - 110					10/28/21 15:51	11/18/21 13:23	1
Y Carrier	82.6		40 - 110					10/28/21 15:51	11/18/21 13:23	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.407	U	0.467	0.470	5.00	0.649	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-305

Lab Sample ID: 310-218183-6

Date Collected: 10/20/21 16:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.314	U	0.250	0.252	1.00	0.378	pCi/L	10/28/21 15:25	11/19/21 08:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	87.3		40 - 110					10/28/21 15:25	11/19/21 08:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.271	U	0.290	0.291	1.00	0.474	pCi/L	10/28/21 15:51	11/18/21 13:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	87.3		40 - 110					10/28/21 15:51	11/18/21 13:23	1
Y Carrier	83.0		40 - 110					10/28/21 15:51	11/18/21 13:23	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.586		0.383	0.385	5.00	0.474	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-306

Lab Sample ID: 310-218183-7

Date Collected: 10/20/21 14:51

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.257	U	0.255	0.256	1.00	0.403	pCi/L	10/28/21 15:25	11/19/21 08:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	73.0		40 - 110					10/28/21 15:25	11/19/21 08:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.642		0.342	0.347	1.00	0.508	pCi/L	10/28/21 15:51	11/18/21 13:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	73.0		40 - 110					10/28/21 15:51	11/18/21 13:23	1
Y Carrier	83.7		40 - 110					10/28/21 15:51	11/18/21 13:23	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.899		0.427	0.431	5.00	0.508	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-306A

Lab Sample ID: 310-218183-8

Date Collected: 10/20/21 15:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.253	U	0.202	0.203	1.00	0.300	pCi/L	10/28/21 15:25	11/19/21 08:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	87.8		40 - 110					10/28/21 15:25	11/19/21 08:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.115	U	0.251	0.251	1.00	0.430	pCi/L	10/28/21 15:51	11/18/21 13:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	87.8		40 - 110					10/28/21 15:51	11/18/21 13:23	1
Y Carrier	83.0		40 - 110					10/28/21 15:51	11/18/21 13:23	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.368	U	0.322	0.323	5.00	0.430	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-307
Date Collected: 10/21/21 11:05
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-9
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.141	U	0.206	0.206	1.00	0.351	pCi/L	10/28/21 15:25	11/19/21 08:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	76.8		40 - 110					10/28/21 15:25	11/19/21 08:19	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.101	U	0.298	0.298	1.00	0.517	pCi/L	10/28/21 15:51	11/18/21 13:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	76.8		40 - 110					10/28/21 15:51	11/18/21 13:25	1
Y Carrier	83.0		40 - 110					10/28/21 15:51	11/18/21 13:25	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.242	U	0.362	0.362	5.00	0.517	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-308

Lab Sample ID: 310-218183-10

Date Collected: 10/21/21 12:35

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.102	U	0.302	0.303	1.00	0.550	pCi/L	10/28/21 15:25	11/19/21 08:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	82.5		40 - 110					10/28/21 15:25	11/19/21 08:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.116	U	0.362	0.363	1.00	0.630	pCi/L	10/28/21 15:51	11/18/21 13:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	82.5		40 - 110					10/28/21 15:51	11/18/21 13:24	1
Y Carrier	82.6		40 - 110					10/28/21 15:51	11/18/21 13:24	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.219	U	0.471	0.473	5.00	0.630	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-309
Date Collected: 10/21/21 12:05
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-11
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.288	U	0.235	0.236	1.00	0.355	pCi/L	10/28/21 15:25	11/19/21 08:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	88.5		40 - 110					10/28/21 15:25	11/19/21 08:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.531		0.306	0.310	1.00	0.465	pCi/L	10/28/21 15:51	11/18/21 13:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	88.5		40 - 110					10/28/21 15:51	11/18/21 13:24	1
Y Carrier	82.6		40 - 110					10/28/21 15:51	11/18/21 13:24	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.818		0.386	0.390	5.00	0.465	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-309A

Lab Sample ID: 310-218183-12

Date Collected: 10/22/21 13:05

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.306	U	0.246	0.247	1.00	0.374	pCi/L	10/28/21 15:25	11/19/21 08:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	94.0		40 - 110					10/28/21 15:25	11/19/21 08:20	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	2.18		0.385	0.434	1.00	0.403	pCi/L	10/28/21 15:51	11/18/21 13:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	94.0		40 - 110					10/28/21 15:51	11/18/21 13:24	1
Y Carrier	84.1		40 - 110					10/28/21 15:51	11/18/21 13:24	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.49		0.457	0.499	5.00	0.403	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-310
Date Collected: 10/22/21 09:35
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-13
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.136	U	0.217	0.218	1.00	0.376	pCi/L	10/28/21 15:25	11/19/21 08:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	91.3		40 - 110					10/28/21 15:25	11/19/21 08:22	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.452	U	0.333	0.336	1.00	0.521	pCi/L	10/28/21 15:51	11/18/21 13:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	91.3		40 - 110					10/28/21 15:51	11/18/21 13:24	1
Y Carrier	86.0		40 - 110					10/28/21 15:51	11/18/21 13:24	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.588		0.397	0.401	5.00	0.521	pCi/L		12/03/21 12:26	1

Client Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-310A

Lab Sample ID: 310-218183-14

Date Collected: 10/22/21 10:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.155	U	0.208	0.208	1.00	0.348	pCi/L	10/28/21 15:25	11/19/21 08:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	76.5		40 - 110					10/28/21 15:25	11/19/21 08:22	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.519		0.315	0.319	1.00	0.479	pCi/L	10/28/21 15:51	11/18/21 13:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	76.5		40 - 110					10/28/21 15:51	11/18/21 13:24	1
Y Carrier	84.9		40 - 110					10/28/21 15:51	11/18/21 13:24	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.673		0.377	0.381	5.00	0.479	pCi/L		12/03/21 12:26	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: Field Blank

Lab Sample ID: 310-218183-15

Date Collected: 10/22/21 14:25

Matrix: Water

Date Received: 10/25/21 17:10

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.209	U	0.186	0.187	1.00	0.283	pCi/L	10/28/21 15:25	11/19/21 08:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Barium	87.8		40 - 110					10/28/21 15:25	11/19/21 08:22	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.159	U	0.282	0.283	1.00	0.478	pCi/L	10/28/21 15:51	11/18/21 13:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	87.8		40 - 110					10/28/21 15:51	11/18/21 13:25	1
Y Carrier	81.9		40 - 110					10/28/21 15:51	11/18/21 13:25	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.369	U	0.338	0.339	5.00	0.478	pCi/L		12/03/21 12:26	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-534154/18-A
Matrix: Water
Analysis Batch: 537519

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534154

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 226	0.006751	U	0.141	0.141	1.00	0.281	pCi/L	10/28/21 15:25	11/19/21 08:23	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Barium	97.3		40 - 110			10/28/21 15:25	11/19/21 08:23	1		

Lab Sample ID: LCS 160-534154/1-A
Matrix: Water
Analysis Batch: 537522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534154

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium 226	11.3	9.890		1.22	1.00	0.327	pCi/L	87	75 - 125
Carrier	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Barium	99.8		40 - 110						

Lab Sample ID: LCSD 160-534154/2-A
Matrix: Water
Analysis Batch: 537522

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 534154

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium 226	11.3	10.20		1.26	1.00	0.335	pCi/L	90	75 - 125	0.13	1
Carrier	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Barium	98.0		40 - 110								

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-534156/18-A
Matrix: Water
Analysis Batch: 537290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534156

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 228	0.3565		0.212	0.215	1.00	0.315	pCi/L	10/28/21 15:51	11/18/21 13:25	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba	97.3		40 - 110			10/28/21 15:51	11/18/21 13:25	1		
Y Carrier	84.1		40 - 110			10/28/21 15:51	11/18/21 13:25	1		

QC Sample Results

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

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

Lab Sample ID: LCS 160-534156/1-A
Matrix: Water
Analysis Batch: 537292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534156

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium 228	9.14	9.959		1.15	1.00	0.385	pCi/L	109	75 - 125
LCS LCS									
Carrier	%Yield	Qualifier	Limits						
Ba	99.8		40 - 110						
Y Carrier	82.6		40 - 110						

Lab Sample ID: LCSD 160-534156/2-A
Matrix: Water
Analysis Batch: 537292

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 534156

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium 228	9.14	9.150		1.07	1.00	0.360	pCi/L	100	75 - 125	0.37	1
LCSD LCSD											
Carrier	%Yield	Qualifier	Limits								
Ba	98.0		40 - 110								
Y Carrier	84.9		40 - 110								

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

QC Association Summary

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Rad

Prep Batch: 534154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	PrecSep-21	
310-218183-2	MW-301A	Total/NA	Water	PrecSep-21	
310-218183-3	MW-302	Total/NA	Water	PrecSep-21	
310-218183-4	MW-303	Total/NA	Water	PrecSep-21	
310-218183-5	MW-304	Total/NA	Water	PrecSep-21	
310-218183-6	MW-305	Total/NA	Water	PrecSep-21	
310-218183-7	MW-306	Total/NA	Water	PrecSep-21	
310-218183-8	MW-306A	Total/NA	Water	PrecSep-21	
310-218183-9	MW-307	Total/NA	Water	PrecSep-21	
310-218183-10	MW-308	Total/NA	Water	PrecSep-21	
310-218183-11	MW-309	Total/NA	Water	PrecSep-21	
310-218183-12	MW-309A	Total/NA	Water	PrecSep-21	
310-218183-13	MW-310	Total/NA	Water	PrecSep-21	
310-218183-14	MW-310A	Total/NA	Water	PrecSep-21	
310-218183-15	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-534154/18-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-534154/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-534154/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 534156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218183-1	MW-301	Total/NA	Water	PrecSep_0	
310-218183-2	MW-301A	Total/NA	Water	PrecSep_0	
310-218183-3	MW-302	Total/NA	Water	PrecSep_0	
310-218183-4	MW-303	Total/NA	Water	PrecSep_0	
310-218183-5	MW-304	Total/NA	Water	PrecSep_0	
310-218183-6	MW-305	Total/NA	Water	PrecSep_0	
310-218183-7	MW-306	Total/NA	Water	PrecSep_0	
310-218183-8	MW-306A	Total/NA	Water	PrecSep_0	
310-218183-9	MW-307	Total/NA	Water	PrecSep_0	
310-218183-10	MW-308	Total/NA	Water	PrecSep_0	
310-218183-11	MW-309	Total/NA	Water	PrecSep_0	
310-218183-12	MW-309A	Total/NA	Water	PrecSep_0	
310-218183-13	MW-310	Total/NA	Water	PrecSep_0	
310-218183-14	MW-310A	Total/NA	Water	PrecSep_0	
310-218183-15	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-534156/18-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-534156/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-534156/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-301

Date Collected: 10/21/21 09:45

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:17	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537292	11/18/21 13:18	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-301A

Date Collected: 10/22/21 15:10

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:18	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537292	11/18/21 13:18	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-302

Date Collected: 10/21/21 14:15

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:18	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537292	11/18/21 13:18	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-303

Date Collected: 10/21/21 16:35

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:18	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537292	11/18/21 13:18	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-304

Date Collected: 10/21/21 15:30

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:19	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:23	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-305

Date Collected: 10/20/21 16:45

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:19	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:23	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-306

Date Collected: 10/20/21 14:51

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:19	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:23	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-306A

Date Collected: 10/20/21 15:45

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218183-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:19	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:23	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-307

Lab Sample ID: 310-218183-9

Date Collected: 10/21/21 11:05

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:19	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:25	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-308

Lab Sample ID: 310-218183-10

Date Collected: 10/21/21 12:35

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:20	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:24	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-309

Lab Sample ID: 310-218183-11

Date Collected: 10/21/21 12:05

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:20	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:24	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-309A

Lab Sample ID: 310-218183-12

Date Collected: 10/22/21 13:05

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537522	11/19/21 08:20	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:24	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Lab Chronicle

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Client Sample ID: MW-310

Lab Sample ID: 310-218183-13

Date Collected: 10/22/21 09:35

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537519	11/19/21 08:22	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:24	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: MW-310A

Lab Sample ID: 310-218183-14

Date Collected: 10/22/21 10:45

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537519	11/19/21 08:22	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:24	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-218183-15

Date Collected: 10/22/21 14:25

Matrix: Water

Date Received: 10/25/21 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			534154	10/28/21 15:25	BMP	TAL SL
Total/NA	Analysis	903.0		1	537519	11/19/21 08:22	FLC	TAL SL
Total/NA	Prep	PrecSep_0			534156	10/28/21 15:51	BMP	TAL SL
Total/NA	Analysis	904.0		1	537290	11/18/21 13:25	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	540036	12/03/21 12:26	EMH	TAL SL

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Method Summary

Client: SCS Engineers
Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Laboratory References:

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





Environment Testing
TestAmerica



310-218183 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: VITA	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>8</u> HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: R		Correction Factor (°C): 0	
• Temp/Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 1.4		Corrected Temp (°C): 1.4	
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
MW-302, MW-310A, MW-304			

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

Eurofins TestAmerica, Cedar Falls

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



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>8</u> HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: R		Correction Factor (°C): 0	
Temp/Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 0.1		Corrected Temp (°C): 0.1	
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
Field Blank, MW-308, MW-301, MW-307			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other:			
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: AC-20	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # 3 of 84 HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: <input type="checkbox"/> NONE			
Thermometer ID: R		Correction Factor (°C): 0	
Temp/Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 1.3		Corrected Temp (°C): 1.3	
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
MW-301A, MW-309, MW-303, MW-309A			
empty 250ml Nitric MW-301A + 1L Nitric			



Environment Testing
TestAmerica

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type:	<input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____		
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: AC-40	
Multiple Coolers?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>8</u> <u>4</u> HED	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: R	Correction Factor (°C): 0		
Temp/Blank Temperature			
If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 0.8	Corrected Temp (°C): 0.8		
Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
MW-305, MW-310, MW-306, MW-306A			

Client Information
 Client Contact: Rosa Cruz
 Company: SCS Engineers
 Address: 3450 Hickman Road Suite 27
 City: Crove
 State, Zip: IA 50320
 Phone: 25221074
 Email: rcruz@scsengineers.com
 Project Name: Prairie Creek 25221074
 Site: 550W#

Lab Info:
 Lab Name: Frederick Sandie
 Lab Address: sandra.frederick@eurofins.com

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (w/water, E=soil, O=oil, B=leachate, A=A)	Field Filtered Sample (Yes or No)	Performs MS/MSD (Yes or No)	502A - Metals - Hg	5040C - Caled. 956A ORGFM 280 SW450 H	504 0 - Radium 226	504 0 - Radium 228	Total Number of Containers	Special Instructions/Note
MW-301	10-21-21	9:45	G	Water	X	X	X	X	X	X	X	
MW-301A			G	Water	X	X	X	X	X	X	X	
MW-302	10-21-21	14:15	G	Water	X	X	X	X	X	X	X	
MW-303	10-21-21	16:35	G	Water	X	X	X	X	X	X	X	
MW-304	10-21-21	15:30	G	Water	X	X	X	X	X	X	X	
MW-305	10-20-21	16:45	G	Water	X	X	X	X	X	X	X	
MW-306	10-20-21	14:51	G	Water	X	X	X	X	X	X	X	
MW-306A	10-20-21	15:45	G	Water	X	X	X	X	X	X	X	
MW-307	10-21-21	11:05	G	Water	X	X	X	X	X	X	X	
MW-308	10-21-21	12:35	G	Water	X	X	X	X	X	X	X	
MW-309	10-22-21	12:05	G	Water	X	X	X	X	X	X	X	

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

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

Received by: Rosa Cruz Date/Time: 10-25-21 13:00 Company: _____
 Date/Time: _____ Company: _____
 Date/Time: _____ Company: _____

Custody Seal No.: 10-25-21 1710

Table 1. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Prairie Creek Generating Station / SCS Engineers Project #25221074

Parameter	MW- 301	MW- 301A	MW- 302	MW- 303	MW- 304	MW- 305	MW- 306	MW- 306A	MW- 307	MW- 308	MW- 309	MW- 309A	MW- 310	MW- 310A	Field Blank	TOTAL
Appendix III Parameters (Detection Monitoring)	Boron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Calcium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Chloride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Sulfate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	TDS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Antimony	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Arsenic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Barium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Beryllium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Cadmium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
	Chromium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
Cobalt	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Fluoride	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Lead	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Lithium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Mercury	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Molybdenum	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Selenium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Thallium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Radium	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Well Depth	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Specific Conductance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	ORP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Temperature	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Turbidity	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Color	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Odor	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Total (Unfiltered)	Calcium	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Iron		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Magnesium		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Manganese		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Potassium		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Sodium		X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Dissolved (Filtered)	Arsenic															6
	Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
	Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Field Parameters	Molybdenum															1
	Sulfide, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14
Ferrous Iron, Field	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	14



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218183-2

Login Number: 218183

List Source: Eurofins TestAmerica, Cedar Falls

List Number: 1

Creator: Homolar, Dana J

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



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218183-2

Login Number: 218183

List Number: 2

Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis

List Creation: 10/27/21 11:50 AM

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

Tracer/Carrier Summary

Client: SCS Engineers
 Project/Site: Praire Creek 25221074

Job ID: 310-218183-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	
310-218183-1	MW-301	92.8	
310-218183-2	MW-301A	72.5	
310-218183-3	MW-302	104	
310-218183-4	MW-303	78.5	
310-218183-5	MW-304	91.0	
310-218183-6	MW-305	87.3	
310-218183-7	MW-306	73.0	
310-218183-8	MW-306A	87.8	
310-218183-9	MW-307	76.8	
310-218183-10	MW-308	82.5	
310-218183-11	MW-309	88.5	
310-218183-12	MW-309A	94.0	
310-218183-13	MW-310	91.3	
310-218183-14	MW-310A	76.5	
310-218183-15	Field Blank	87.8	
LCS 160-534154/1-A	Lab Control Sample	99.8	
LCSD 160-534154/2-A	Lab Control Sample Dup	98.0	
MB 160-534154/18-A	Method Blank	97.3	

Tracer/Carrier Legend
 Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-218183-1	MW-301	92.8	83.0
310-218183-2	MW-301A	72.5	85.2
310-218183-3	MW-302	104	79.3
310-218183-4	MW-303	78.5	81.9
310-218183-5	MW-304	91.0	82.6
310-218183-6	MW-305	87.3	83.0
310-218183-7	MW-306	73.0	83.7
310-218183-8	MW-306A	87.8	83.0
310-218183-9	MW-307	76.8	83.0
310-218183-10	MW-308	82.5	82.6
310-218183-11	MW-309	88.5	82.6
310-218183-12	MW-309A	94.0	84.1
310-218183-13	MW-310	91.3	86.0
310-218183-14	MW-310A	76.5	84.9
310-218183-15	Field Blank	87.8	81.9
LCS 160-534156/1-A	Lab Control Sample	99.8	82.6
LCSD 160-534156/2-A	Lab Control Sample Dup	98.0	84.9
MB 160-534156/18-A	Method Blank	97.3	84.1

Tracer/Carrier Legend
 Ba = Ba
 Y = Y Carrier

ANALYTICAL REPORT

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

Laboratory Job ID: 310-218184-1

Client Project/Site: Prairie Creek 25221074 MNA Parameters

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



*Authorized for release by:
11/10/2021 11:36:20 AM*

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

LINKS

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results through
Total Access

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www.eurofinsus.com/Env

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Job ID: 310-218184-1

Laboratory: Eurofins TestAmerica, Cedar Falls

Narrative

Job Narrative
310-218184-1

Comments

No additional comments.

Receipt

The samples were received on 10/25/2021 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8° C.

Metals

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

General Chemistry

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

- 1
- 2
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Sample Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-218184-1	MW-301	Water	10/21/21 09:45	10/25/21 17:10
310-218184-2	MW-302	Water	10/21/21 14:15	10/25/21 17:10
310-218184-3	MW-303	Water	10/21/21 16:35	10/25/21 17:10
310-218184-4	MW-304	Water	10/21/21 15:30	10/25/21 17:10
310-218184-5	MW-305	Water	10/20/21 16:45	10/25/21 17:10
310-218184-6	MW-306	Water	10/20/21 14:51	10/25/21 17:10
310-218184-7	MW-306A	Water	10/20/21 15:45	10/25/21 17:10
310-218184-8	MW-307	Water	10/21/21 11:05	10/25/21 17:10
310-218184-9	MW-308	Water	10/21/21 12:35	10/25/21 17:10
310-218184-10	MW-309	Water	10/22/21 12:05	10/25/21 17:10
310-218184-11	MW-309A	Water	10/22/21 13:05	10/25/21 17:10
310-218184-12	MW-310	Water	10/22/21 09:35	10/25/21 17:10
310-218184-13	MW-310A	Water	10/22/21 10:45	10/25/21 17:10
310-218184-14	Field Blank	Water	10/22/21 14:25	10/25/21 17:10
310-218184-15	MW-301A	Water	10/22/21 15:10	10/25/21 17:10



Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-301

Lab Sample ID: 310-218184-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	160000		500	190	ug/L	1		6020A	Total/NA
Iron	52	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	48000		500	100	ug/L	1		6020A	Total/NA
Potassium	930		500	150	ug/L	1		6020A	Total/NA
Sodium	15000		1000	610	ug/L	1		6020A	Total/NA
Bicarbonate Alkalinity as CaCO3	420		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	420		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-218184-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	130000		500	190	ug/L	1		6020A	Total/NA
Iron	400		100	36	ug/L	1		6020A	Total/NA
Magnesium	39000		500	100	ug/L	1		6020A	Total/NA
Manganese	5.0	J	10	4.4	ug/L	1		6020A	Total/NA
Potassium	690		500	150	ug/L	1		6020A	Total/NA
Sodium	16000		1000	610	ug/L	1		6020A	Total/NA
Bicarbonate Alkalinity as CaCO3	340		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	340		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-218184-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110000		500	190	ug/L	1		6020A	Total/NA
Iron	3600		100	36	ug/L	1		6020A	Total/NA
Magnesium	35000		500	100	ug/L	1		6020A	Total/NA
Manganese	1500		10	4.4	ug/L	1		6020A	Total/NA
Potassium	4700		500	150	ug/L	1		6020A	Total/NA
Sodium	34000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	44		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	2900		100	36	ug/L	1		6020A	Dissolved
Manganese	1400		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	430		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	430		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-218184-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	130000		500	190	ug/L	1		6020A	Total/NA
Iron	1600		100	36	ug/L	1		6020A	Total/NA
Magnesium	39000		500	100	ug/L	1		6020A	Total/NA
Manganese	1300		10	4.4	ug/L	1		6020A	Total/NA
Potassium	5600		500	150	ug/L	1		6020A	Total/NA
Sodium	39000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	15		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	1500		100	36	ug/L	1		6020A	Dissolved
Manganese	1200		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-305

Lab Sample ID: 310-218184-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140000		500	190	ug/L	1		6020A	Total/NA
Iron	150		100	36	ug/L	1		6020A	Total/NA
Magnesium	43000		500	100	ug/L	1		6020A	Total/NA
Manganese	1200		10	4.4	ug/L	1		6020A	Total/NA
Potassium	5400		500	150	ug/L	1		6020A	Total/NA
Sodium	55000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	11		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	97	J	100	36	ug/L	1		6020A	Dissolved
Manganese	1100		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	350		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	350		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-218184-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	57000		500	190	ug/L	1		6020A	Total/NA
Iron	1800		100	36	ug/L	1		6020A	Total/NA
Magnesium	12000		500	100	ug/L	1		6020A	Total/NA
Manganese	110		10	4.4	ug/L	1		6020A	Total/NA
Potassium	820		500	150	ug/L	1		6020A	Total/NA
Sodium	47000		1000	610	ug/L	1		6020A	Total/NA
Iron	1600		100	36	ug/L	1		6020A	Dissolved
Manganese	96		10	4.4	ug/L	1		6020A	Dissolved
Molybdenum	210		2.0	1.3	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306A

Lab Sample ID: 310-218184-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	150000		500	190	ug/L	1		6020A	Total/NA
Iron	1700		100	36	ug/L	1		6020A	Total/NA
Magnesium	45000		500	100	ug/L	1		6020A	Total/NA
Manganese	380		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1700		500	150	ug/L	1		6020A	Total/NA
Sodium	33000		1000	610	ug/L	1		6020A	Total/NA
Iron	1600		100	36	ug/L	1		6020A	Dissolved
Manganese	340		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	320		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	320		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-218184-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	16000		500	190	ug/L	1		6020A	Total/NA
Magnesium	1400		500	100	ug/L	1		6020A	Total/NA
Potassium	1300		500	150	ug/L	1		6020A	Total/NA
Sodium	5500		1000	610	ug/L	1		6020A	Total/NA
Bicarbonate Alkalinity as CaCO3	82		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	82		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-308

Lab Sample ID: 310-218184-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	55000		500	190	ug/L	1		6020A	Total/NA
Magnesium	2600		500	100	ug/L	1		6020A	Total/NA
Manganese	38		10	4.4	ug/L	1		6020A	Total/NA
Potassium	6900		500	150	ug/L	1		6020A	Total/NA
Sodium	42000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	50		2.0	0.75	ug/L	1		6020A	Dissolved
Manganese	36		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	52		10	4.6	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	62		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	110		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 310-218184-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110000		500	190	ug/L	1		6020A	Total/NA
Iron	1300		100	36	ug/L	1		6020A	Total/NA
Magnesium	32000		500	100	ug/L	1		6020A	Total/NA
Manganese	1300		10	4.4	ug/L	1		6020A	Total/NA
Potassium	4800		500	150	ug/L	1		6020A	Total/NA
Sodium	34000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	72		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	1200		100	36	ug/L	1		6020A	Dissolved
Manganese	1200		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	390		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	390		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-309A

Lab Sample ID: 310-218184-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110000		500	190	ug/L	1		6020A	Total/NA
Iron	8900		100	36	ug/L	1		6020A	Total/NA
Magnesium	31000		500	100	ug/L	1		6020A	Total/NA
Manganese	740		10	4.4	ug/L	1		6020A	Total/NA
Potassium	2000		500	150	ug/L	1		6020A	Total/NA
Sodium	18000		1000	610	ug/L	1		6020A	Total/NA
Iron	8700		100	36	ug/L	1		6020A	Dissolved
Manganese	720		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	370		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	370		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-218184-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	110000		500	190	ug/L	1		6020A	Total/NA
Iron	4500		100	36	ug/L	1		6020A	Total/NA
Magnesium	29000		500	100	ug/L	1		6020A	Total/NA
Manganese	1200		10	4.4	ug/L	1		6020A	Total/NA
Potassium	5400		500	150	ug/L	1		6020A	Total/NA
Sodium	37000		1000	610	ug/L	1		6020A	Total/NA
Arsenic	25		2.0	0.75	ug/L	1		6020A	Dissolved
Iron	4200		100	36	ug/L	1		6020A	Dissolved
Manganese	1100		10	4.4	ug/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-310 (Continued)

Lab Sample ID: 310-218184-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO ₃	380		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO ₃	380		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-310A

Lab Sample ID: 310-218184-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140000		500	190	ug/L	1		6020A	Total/NA
Iron	6100		100	36	ug/L	1		6020A	Total/NA
Magnesium	37000		500	100	ug/L	1		6020A	Total/NA
Manganese	360		10	4.4	ug/L	1		6020A	Total/NA
Potassium	880		500	150	ug/L	1		6020A	Total/NA
Sodium	13000		1000	610	ug/L	1		6020A	Total/NA
Iron	6000		100	36	ug/L	1		6020A	Dissolved
Manganese	330		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO ₃	340		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO ₃	340		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-218184-14

No Detections.

Client Sample ID: MW-301A

Lab Sample ID: 310-218184-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	59000		500	190	ug/L	1		6020A	Total/NA
Iron	790		100	36	ug/L	1		6020A	Total/NA
Magnesium	16000		500	100	ug/L	1		6020A	Total/NA
Manganese	420		10	4.4	ug/L	1		6020A	Total/NA
Potassium	1300		500	150	ug/L	1		6020A	Total/NA
Sodium	9400		1000	610	ug/L	1		6020A	Total/NA
Manganese	320		10	4.4	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO ₃	320		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO ₃	320		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-301

Lab Sample ID: 310-218184-1

Date Collected: 10/21/21 09:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	160000		500	190	ug/L		10/27/21 09:00	10/28/21 17:41	1
Iron	52	J	100	36	ug/L		10/27/21 09:00	10/28/21 17:41	1
Magnesium	48000		500	100	ug/L		10/27/21 09:00	10/28/21 17:41	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	10/28/21 17:41	1
Potassium	930		500	150	ug/L		10/27/21 09:00	10/28/21 17:41	1
Sodium	15000		1000	610	ug/L		10/27/21 09:00	10/28/21 17:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/27/21 09:00	11/09/21 19:22	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	420		10	4.6	mg/L			11/01/21 11:50	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/01/21 11:50	1
Total Alkalinity as CaCO3	420		10	4.6	mg/L			11/01/21 11:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-302

Lab Sample ID: 310-218184-2

Date Collected: 10/21/21 14:15

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		500	190	ug/L		10/27/21 09:00	10/28/21 17:44	1
Iron	400		100	36	ug/L		10/27/21 09:00	10/28/21 17:44	1
Magnesium	39000		500	100	ug/L		10/27/21 09:00	10/28/21 17:44	1
Manganese	5.0	J	10	4.4	ug/L		10/27/21 09:00	10/28/21 17:44	1
Potassium	690		500	150	ug/L		10/27/21 09:00	10/28/21 17:44	1
Sodium	16000		1000	610	ug/L		10/27/21 09:00	10/28/21 17:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/27/21 09:00	11/09/21 19:44	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	340		10	4.6	mg/L			11/01/21 11:50	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/01/21 11:50	1
Total Alkalinity as CaCO3	340		10	4.6	mg/L			11/01/21 11:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-303

Lab Sample ID: 310-218184-3

Date Collected: 10/21/21 16:35

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110000		500	190	ug/L		10/27/21 09:00	10/28/21 17:46	1
Iron	3600		100	36	ug/L		10/27/21 09:00	10/28/21 17:46	1
Magnesium	35000		500	100	ug/L		10/27/21 09:00	10/28/21 17:46	1
Manganese	1500		10	4.4	ug/L		10/27/21 09:00	10/28/21 17:46	1
Potassium	4700		500	150	ug/L		10/27/21 09:00	10/28/21 17:46	1
Sodium	34000		1000	610	ug/L		10/27/21 09:00	10/28/21 17:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	44		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 19:46	1
Iron	2900		100	36	ug/L		10/27/21 09:00	11/09/21 19:46	1
Manganese	1400		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	430		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	430		10	4.6	mg/L			11/03/21 08:09	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-304

Lab Sample ID: 310-218184-4

Date Collected: 10/21/21 15:30

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		500	190	ug/L		10/27/21 09:00	10/28/21 17:49	1
Iron	1600		100	36	ug/L		10/27/21 09:00	10/28/21 17:49	1
Magnesium	39000		500	100	ug/L		10/27/21 09:00	10/28/21 17:49	1
Manganese	1300		10	4.4	ug/L		10/27/21 09:00	10/28/21 17:49	1
Potassium	5600		500	150	ug/L		10/27/21 09:00	10/28/21 17:49	1
Sodium	39000		1000	610	ug/L		10/27/21 09:00	10/28/21 17:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 19:49	1
Iron	1500		100	36	ug/L		10/27/21 09:00	11/09/21 19:49	1
Manganese	1200		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L			11/01/21 12:34	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/01/21 12:34	1
Total Alkalinity as CaCO3	380		10	4.6	mg/L			11/01/21 12:34	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-305
 Date Collected: 10/20/21 16:45
 Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-5
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140000		500	190	ug/L		10/27/21 09:00	10/28/21 17:51	1
Iron	150		100	36	ug/L		10/27/21 09:00	10/28/21 17:51	1
Magnesium	43000		500	100	ug/L		10/27/21 09:00	10/28/21 17:51	1
Manganese	1200		10	4.4	ug/L		10/27/21 09:00	10/28/21 17:51	1
Potassium	5400		500	150	ug/L		10/27/21 09:00	10/28/21 17:51	1
Sodium	55000		1000	610	ug/L		10/27/21 09:00	10/28/21 17:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 19:52	1
Iron	97	J	100	36	ug/L		10/27/21 09:00	11/09/21 19:52	1
Manganese	1100		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	350		10	4.6	mg/L			11/01/21 08:56	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/01/21 08:56	1
Total Alkalinity as CaCO3	350		10	4.6	mg/L			11/01/21 08:56	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-306
 Date Collected: 10/20/21 14:51
 Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-6
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	57000		500	190	ug/L		10/27/21 09:00	10/28/21 17:56	1
Iron	1800		100	36	ug/L		10/27/21 09:00	10/28/21 17:56	1
Magnesium	12000		500	100	ug/L		10/27/21 09:00	10/28/21 17:56	1
Manganese	110		10	4.4	ug/L		10/27/21 09:00	10/28/21 17:56	1
Potassium	820		500	150	ug/L		10/27/21 09:00	10/28/21 17:56	1
Sodium	47000		1000	610	ug/L		10/27/21 09:00	10/28/21 17:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1600		100	36	ug/L		10/27/21 09:00	11/09/21 19:54	1
Manganese	96		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:54	1
Molybdenum	210		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 19:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L			11/01/21 08:56	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/01/21 08:56	1
Total Alkalinity as CaCO3	200		10	4.6	mg/L			11/01/21 08:56	1

- 1
- 2
- 3
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- 11
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- 13
- 14

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-306A

Lab Sample ID: 310-218184-7

Date Collected: 10/20/21 15:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	150000		500	190	ug/L		10/27/21 09:00	10/28/21 18:09	1
Iron	1700		100	36	ug/L		10/27/21 09:00	10/28/21 18:09	1
Magnesium	45000		500	100	ug/L		10/27/21 09:00	10/28/21 18:09	1
Manganese	380		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:09	1
Potassium	1700		500	150	ug/L		10/27/21 09:00	10/28/21 18:09	1
Sodium	33000		1000	610	ug/L		10/27/21 09:00	10/28/21 18:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1600		100	36	ug/L		10/27/21 09:00	11/09/21 19:57	1
Manganese	340		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	320		10	4.6	mg/L			11/01/21 08:56	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/01/21 08:56	1
Total Alkalinity as CaCO3	320		10	4.6	mg/L			11/01/21 08:56	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-307
 Date Collected: 10/21/21 11:05
 Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-8
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	16000		500	190	ug/L		10/27/21 09:00	10/28/21 18:12	1
Iron	<36		100	36	ug/L		10/27/21 09:00	10/28/21 18:12	1
Magnesium	1400		500	100	ug/L		10/27/21 09:00	10/28/21 18:12	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:12	1
Potassium	1300		500	150	ug/L		10/27/21 09:00	10/28/21 18:12	1
Sodium	5500		1000	610	ug/L		10/27/21 09:00	10/28/21 18:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/27/21 09:00	11/09/21 20:00	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	11/09/21 20:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	82		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	82		10	4.6	mg/L			11/03/21 08:09	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-308
 Date Collected: 10/21/21 12:35
 Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-9
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	55000		500	190	ug/L		10/27/21 09:00	10/28/21 18:15	1
Iron	<36		100	36	ug/L		10/27/21 09:00	10/28/21 18:15	1
Magnesium	2600		500	100	ug/L		10/27/21 09:00	10/28/21 18:15	1
Manganese	38		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:15	1
Potassium	6900		500	150	ug/L		10/27/21 09:00	10/28/21 18:15	1
Sodium	42000		1000	610	ug/L		10/27/21 09:00	10/28/21 18:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	50		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 20:13	1
Iron	<36		100	36	ug/L		10/27/21 09:00	11/09/21 20:13	1
Manganese	36		10	4.4	ug/L		10/27/21 09:00	11/09/21 20:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	52		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	62		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	110		10	4.6	mg/L			11/03/21 08:09	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-309

Lab Sample ID: 310-218184-10

Date Collected: 10/22/21 12:05

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110000		500	190	ug/L		10/27/21 09:00	10/28/21 18:17	1
Iron	1300		100	36	ug/L		10/27/21 09:00	10/28/21 18:17	1
Magnesium	32000		500	100	ug/L		10/27/21 09:00	10/28/21 18:17	1
Manganese	1300		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:17	1
Potassium	4800		500	150	ug/L		10/27/21 09:00	10/28/21 18:17	1
Sodium	34000		1000	610	ug/L		10/27/21 09:00	10/28/21 18:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	72		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 20:16	1
Iron	1200		100	36	ug/L		10/27/21 09:00	11/09/21 20:16	1
Manganese	1200		10	4.4	ug/L		10/27/21 09:00	11/09/21 20:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	390		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	390		10	4.6	mg/L			11/03/21 08:09	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-309A

Lab Sample ID: 310-218184-11

Date Collected: 10/22/21 13:05

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110000		500	190	ug/L		10/27/21 09:00	10/28/21 18:20	1
Iron	8900		100	36	ug/L		10/27/21 09:00	10/28/21 18:20	1
Magnesium	31000		500	100	ug/L		10/27/21 09:00	10/28/21 18:20	1
Manganese	740		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:20	1
Potassium	2000		500	150	ug/L		10/27/21 09:00	10/28/21 18:20	1
Sodium	18000		1000	610	ug/L		10/27/21 09:00	10/28/21 18:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	8700		100	36	ug/L		10/27/21 09:00	11/09/21 20:18	1
Manganese	720		10	4.4	ug/L		10/27/21 09:00	11/09/21 20:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	370		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	370		10	4.6	mg/L			11/03/21 08:09	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-310
 Date Collected: 10/22/21 09:35
 Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-12
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110000		500	190	ug/L		10/27/21 09:00	10/28/21 18:22	1
Iron	4500		100	36	ug/L		10/27/21 09:00	10/28/21 18:22	1
Magnesium	29000		500	100	ug/L		10/27/21 09:00	10/28/21 18:22	1
Manganese	1200		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:22	1
Potassium	5400		500	150	ug/L		10/27/21 09:00	10/28/21 18:22	1
Sodium	37000		1000	610	ug/L		10/27/21 09:00	10/28/21 18:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	25		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 20:24	1
Iron	4200		100	36	ug/L		10/27/21 09:00	11/09/21 20:24	1
Manganese	1100		10	4.4	ug/L		10/27/21 09:00	11/09/21 20:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	380		10	4.6	mg/L			11/03/21 08:09	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-310A

Lab Sample ID: 310-218184-13

Date Collected: 10/22/21 10:45

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140000		500	190	ug/L		10/27/21 09:00	10/28/21 18:25	1
Iron	6100		100	36	ug/L		10/27/21 09:00	10/28/21 18:25	1
Magnesium	37000		500	100	ug/L		10/27/21 09:00	10/28/21 18:25	1
Manganese	360		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:25	1
Potassium	880		500	150	ug/L		10/27/21 09:00	10/28/21 18:25	1
Sodium	13000		1000	610	ug/L		10/27/21 09:00	10/28/21 18:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6000		100	36	ug/L		10/27/21 09:00	11/09/21 20:26	1
Manganese	330		10	4.4	ug/L		10/27/21 09:00	11/09/21 20:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	340		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	340		10	4.6	mg/L			11/03/21 08:09	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: Field Blank

Lab Sample ID: 310-218184-14

Date Collected: 10/22/21 14:25

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<190		500	190	ug/L		10/27/21 09:00	10/28/21 18:27	1
Iron	<36		100	36	ug/L		10/27/21 09:00	10/28/21 18:27	1
Magnesium	<100		500	100	ug/L		10/27/21 09:00	10/28/21 18:27	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	10/28/21 18:27	1
Potassium	<150		500	150	ug/L		10/27/21 09:00	10/28/21 18:27	1
Sodium	<610		1000	610	ug/L		10/27/21 09:00	10/28/21 18:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/27/21 09:00	11/09/21 20:29	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	11/09/21 20:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-301A

Lab Sample ID: 310-218184-15

Date Collected: 10/22/21 15:10

Matrix: Water

Date Received: 10/25/21 17:10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	59000		500	190	ug/L		11/05/21 09:53	11/09/21 19:06	1
Iron	790		100	36	ug/L		11/05/21 09:53	11/09/21 19:06	1
Magnesium	16000		500	100	ug/L		11/05/21 09:53	11/09/21 19:06	1
Manganese	420		10	4.4	ug/L		11/05/21 09:53	11/09/21 19:06	1
Potassium	1300		500	150	ug/L		11/05/21 09:53	11/09/21 19:06	1
Sodium	9400		1000	610	ug/L		11/05/21 09:53	11/09/21 19:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36	F1	100	36	ug/L		11/05/21 09:00	11/08/21 22:22	1
Manganese	320		10	4.4	ug/L		11/05/21 09:00	11/08/21 22:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	320		10	4.6	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	320		10	4.6	mg/L			11/03/21 08:09	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-332966/1-A
Matrix: Water
Analysis Batch: 334971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332966

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	<190		500	190	ug/L		10/27/21 09:00	11/09/21 17:49	1
Iron	<36		100	36	ug/L		10/27/21 09:00	11/09/21 17:49	1
Magnesium	<100		500	100	ug/L		10/27/21 09:00	11/09/21 17:49	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	11/09/21 17:49	1
Potassium	<150		500	150	ug/L		10/27/21 09:00	11/09/21 17:49	1
Sodium	<610		1000	610	ug/L		10/27/21 09:00	11/09/21 17:49	1

Lab Sample ID: LCS 310-332966/2-A ^10
Matrix: Water
Analysis Batch: 334971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Iron	2000	2030		ug/L		102	80 - 120	
Magnesium	20000	19200		ug/L		96	80 - 120	
Manganese	1000	944		ug/L		94	80 - 120	
Potassium	20000	18800		ug/L		94	80 - 120	
Sodium	20000	20200		ug/L		101	80 - 120	

Lab Sample ID: MB 310-333010/1-A
Matrix: Water
Analysis Batch: 333453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333010

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	<190		500	190	ug/L		10/27/21 09:00	10/28/21 17:02	1
Iron	<36		100	36	ug/L		10/27/21 09:00	10/28/21 17:02	1
Magnesium	<100		500	100	ug/L		10/27/21 09:00	10/28/21 17:02	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	10/28/21 17:02	1
Potassium	<150		500	150	ug/L		10/27/21 09:00	10/28/21 17:02	1
Sodium	<610		1000	610	ug/L		10/27/21 09:00	10/28/21 17:02	1

Lab Sample ID: LCS 310-333010/2-A ^10
Matrix: Water
Analysis Batch: 333453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Iron	2000	2050		ug/L		103	80 - 120	
Magnesium	20000	20800		ug/L		104	80 - 120	
Manganese	1000	946		ug/L		95	80 - 120	
Potassium	20000	19900		ug/L		99	80 - 120	
Sodium	20000	20100		ug/L		101	80 - 120	

Lab Sample ID: 310-218184-5 DU
Matrix: Water
Analysis Batch: 333453

Client Sample ID: MW-305
Prep Type: Total/NA
Prep Batch: 333010

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	RPD
	Result	Qualifier	Result	Qualifier				Limit	
Calcium	140000		143000		ug/L			0.09	20

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QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

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

Lab Sample ID: 310-218184-5 DU
Matrix: Water
Analysis Batch: 333453

Client Sample ID: MW-305
Prep Type: Total/NA
Prep Batch: 333010

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Iron	150		177		ug/L		18	20
Magnesium	43000		42400		ug/L		1	20
Manganese	1200		1140		ug/L		3	20
Potassium	5400		5380		ug/L		0.8	20
Sodium	55000		54700		ug/L		1	20

Lab Sample ID: MB 310-333011/1-A
Matrix: Water
Analysis Batch: 334971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333011

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.75		2.0	0.75	ug/L		10/27/21 09:00	11/09/21 19:17	1
Iron	<36		100	36	ug/L		10/27/21 09:00	11/09/21 19:17	1
Manganese	<4.4		10	4.4	ug/L		10/27/21 09:00	11/09/21 19:17	1
Molybdenum	<1.3		2.0	1.3	ug/L		10/27/21 09:00	11/09/21 19:17	1

Lab Sample ID: LCS 310-333011/2-A ^10
Matrix: Water
Analysis Batch: 334971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333011

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	2000	2100		ug/L		105	80 - 120
Iron	2000	2170		ug/L		109	80 - 120
Manganese	1000	1010		ug/L		101	80 - 120
Molybdenum	2000	2040		ug/L		102	80 - 120

Lab Sample ID: 310-218184-1 MS
Matrix: Water
Analysis Batch: 334971

Client Sample ID: MW-301
Prep Type: Dissolved
Prep Batch: 333011

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.88	J	2000	2150		ug/L		107	75 - 125
Iron	<36		2000	2190		ug/L		109	75 - 125
Manganese	<4.4		1000	1010		ug/L		101	75 - 125
Molybdenum	<1.3		2000	2060		ug/L		103	75 - 125

Lab Sample ID: 310-218184-1 MSD
Matrix: Water
Analysis Batch: 334971

Client Sample ID: MW-301
Prep Type: Dissolved
Prep Batch: 333011

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	0.88	J	2000	2070		ug/L		103	75 - 125	4	20
Iron	<36		2000	2090		ug/L		105	75 - 125	4	20
Manganese	<4.4		1000	976		ug/L		98	75 - 125	3	20
Molybdenum	<1.3		2000	1990		ug/L		100	75 - 125	3	20

QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

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

Lab Sample ID: 310-218184-11 DU
Matrix: Water
Analysis Batch: 334971

Client Sample ID: MW-309A
Prep Type: Dissolved
Prep Batch: 333011

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	0.93	J	0.951	J	ug/L		3	20
Iron	8700		9160		ug/L		5	20
Manganese	720		753		ug/L		4	20
Molybdenum	11		12.0		ug/L		4	20

Lab Sample ID: MB 310-334184/1-B
Matrix: Water
Analysis Batch: 334795

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 334426

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<36		100	36	ug/L		11/05/21 09:00	11/08/21 22:16	1
Manganese	<4.4		10	4.4	ug/L		11/05/21 09:00	11/08/21 22:16	1

Lab Sample ID: LCS 310-334184/2-B
Matrix: Water
Analysis Batch: 334795

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 334426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Iron	200	224		ug/L		112	80 - 120
Manganese	100	105		ug/L		105	80 - 120

Lab Sample ID: 310-218184-15 MS
Matrix: Water
Analysis Batch: 334795

Client Sample ID: MW-301A
Prep Type: Dissolved
Prep Batch: 334426

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Iron	<36	F1	200	255	F1	ug/L		127	75 - 125
Manganese	320		100	431		ug/L		111	75 - 125

Lab Sample ID: 310-218184-15 MSD
Matrix: Water
Analysis Batch: 334795

Client Sample ID: MW-301A
Prep Type: Dissolved
Prep Batch: 334426

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Iron	<36	F1	200	223		ug/L		112	75 - 125	13	20
Manganese	320		100	427		ug/L		106	75 - 125	1	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-333138/1
Matrix: Water
Analysis Batch: 333138

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/27/21 11:44	1

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QC Sample Results

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Method: 2320B - Alkalinity (Low Level) (Continued)

Lab Sample ID: LCS 310-333138/2
Matrix: Water
Analysis Batch: 333138

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	974		mg/L		97	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-333739/1
Matrix: Water
Analysis Batch: 333739

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/01/21 08:56	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/01/21 08:56	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/01/21 08:56	1

Lab Sample ID: LCS 310-333739/2
Matrix: Water
Analysis Batch: 333739

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	987		mg/L		99	90 - 110

Lab Sample ID: MB 310-333800/1
Matrix: Water
Analysis Batch: 333800

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/01/21 11:50	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/01/21 11:50	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/01/21 11:50	1

Lab Sample ID: LCS 310-333800/2
Matrix: Water
Analysis Batch: 333800

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	1040		mg/L		104	90 - 110

Lab Sample ID: MB 310-334085/1
Matrix: Water
Analysis Batch: 334085

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/03/21 08:09	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/03/21 08:09	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			11/03/21 08:09	1

QC Sample Results

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 310-334085/2
Matrix: Water
Analysis Batch: 334085

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	1000	1060		mg/L		106	90 - 110

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

QC Association Summary

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Metals

Prep Batch: 332966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-15	MW-301A	Total/NA	Water	3005A	
MB 310-332966/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-332966/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	

Prep Batch: 333010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-1	MW-301	Total/NA	Water	3005A	
310-218184-2	MW-302	Total/NA	Water	3005A	
310-218184-3	MW-303	Total/NA	Water	3005A	
310-218184-4	MW-304	Total/NA	Water	3005A	
310-218184-5	MW-305	Total/NA	Water	3005A	
310-218184-6	MW-306	Total/NA	Water	3005A	
310-218184-7	MW-306A	Total/NA	Water	3005A	
310-218184-8	MW-307	Total/NA	Water	3005A	
310-218184-9	MW-308	Total/NA	Water	3005A	
310-218184-10	MW-309	Total/NA	Water	3005A	
310-218184-11	MW-309A	Total/NA	Water	3005A	
310-218184-12	MW-310	Total/NA	Water	3005A	
310-218184-13	MW-310A	Total/NA	Water	3005A	
310-218184-14	Field Blank	Total/NA	Water	3005A	
MB 310-333010/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-333010/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	
310-218184-5 DU	MW-305	Total/NA	Water	3005A	

Prep Batch: 333011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-1	MW-301	Dissolved	Water	3005A	
310-218184-2	MW-302	Dissolved	Water	3005A	
310-218184-3	MW-303	Dissolved	Water	3005A	
310-218184-4	MW-304	Dissolved	Water	3005A	
310-218184-5	MW-305	Dissolved	Water	3005A	
310-218184-6	MW-306	Dissolved	Water	3005A	
310-218184-7	MW-306A	Dissolved	Water	3005A	
310-218184-8	MW-307	Dissolved	Water	3005A	
310-218184-9	MW-308	Dissolved	Water	3005A	
310-218184-10	MW-309	Dissolved	Water	3005A	
310-218184-11	MW-309A	Dissolved	Water	3005A	
310-218184-12	MW-310	Dissolved	Water	3005A	
310-218184-13	MW-310A	Dissolved	Water	3005A	
310-218184-14	Field Blank	Dissolved	Water	3005A	
MB 310-333011/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-333011/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	
310-218184-1 MS	MW-301	Dissolved	Water	3005A	
310-218184-1 MSD	MW-301	Dissolved	Water	3005A	
310-218184-11 DU	MW-309A	Dissolved	Water	3005A	

Analysis Batch: 333453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-1	MW-301	Total/NA	Water	6020A	333010
310-218184-2	MW-302	Total/NA	Water	6020A	333010
310-218184-3	MW-303	Total/NA	Water	6020A	333010

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QC Association Summary

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Metals (Continued)

Analysis Batch: 333453 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-4	MW-304	Total/NA	Water	6020A	333010
310-218184-5	MW-305	Total/NA	Water	6020A	333010
310-218184-6	MW-306	Total/NA	Water	6020A	333010
310-218184-7	MW-306A	Total/NA	Water	6020A	333010
310-218184-8	MW-307	Total/NA	Water	6020A	333010
310-218184-9	MW-308	Total/NA	Water	6020A	333010
310-218184-10	MW-309	Total/NA	Water	6020A	333010
310-218184-11	MW-309A	Total/NA	Water	6020A	333010
310-218184-12	MW-310	Total/NA	Water	6020A	333010
310-218184-13	MW-310A	Total/NA	Water	6020A	333010
310-218184-14	Field Blank	Total/NA	Water	6020A	333010
MB 310-333010/1-A	Method Blank	Total/NA	Water	6020A	333010
LCS 310-333010/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	333010
310-218184-5 DU	MW-305	Total/NA	Water	6020A	333010

Filtration Batch: 334184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-15	MW-301A	Dissolved	Water	Filtration	
MB 310-334184/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 310-334184/2-B	Lab Control Sample	Dissolved	Water	Filtration	
310-218184-15 MS	MW-301A	Dissolved	Water	Filtration	
310-218184-15 MSD	MW-301A	Dissolved	Water	Filtration	

Prep Batch: 334426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-15	MW-301A	Dissolved	Water	3005A	334184
MB 310-334184/1-B	Method Blank	Dissolved	Water	3005A	334184
LCS 310-334184/2-B	Lab Control Sample	Dissolved	Water	3005A	334184
310-218184-15 MS	MW-301A	Dissolved	Water	3005A	334184
310-218184-15 MSD	MW-301A	Dissolved	Water	3005A	334184

Analysis Batch: 334795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-15	MW-301A	Dissolved	Water	6020A	334426
MB 310-334184/1-B	Method Blank	Dissolved	Water	6020A	334426
LCS 310-334184/2-B	Lab Control Sample	Dissolved	Water	6020A	334426
310-218184-15 MS	MW-301A	Dissolved	Water	6020A	334426
310-218184-15 MSD	MW-301A	Dissolved	Water	6020A	334426

Analysis Batch: 334971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-1	MW-301	Dissolved	Water	6020A	333011
310-218184-2	MW-302	Dissolved	Water	6020A	333011
310-218184-3	MW-303	Dissolved	Water	6020A	333011
310-218184-4	MW-304	Dissolved	Water	6020A	333011
310-218184-5	MW-305	Dissolved	Water	6020A	333011
310-218184-6	MW-306	Dissolved	Water	6020A	333011
310-218184-7	MW-306A	Dissolved	Water	6020A	333011
310-218184-8	MW-307	Dissolved	Water	6020A	333011
310-218184-9	MW-308	Dissolved	Water	6020A	333011
310-218184-10	MW-309	Dissolved	Water	6020A	333011

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QC Association Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Metals (Continued)

Analysis Batch: 334971 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-11	MW-309A	Dissolved	Water	6020A	333011
310-218184-12	MW-310	Dissolved	Water	6020A	333011
310-218184-13	MW-310A	Dissolved	Water	6020A	333011
310-218184-14	Field Blank	Dissolved	Water	6020A	333011
310-218184-15	MW-301A	Total/NA	Water	6020A	332966
MB 310-332966/1-A	Method Blank	Total/NA	Water	6020A	332966
MB 310-333011/1-A	Method Blank	Total/NA	Water	6020A	333011
LCS 310-332966/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	332966
LCS 310-333011/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	333011
310-218184-1 MS	MW-301	Dissolved	Water	6020A	333011
310-218184-1 MSD	MW-301	Dissolved	Water	6020A	333011
310-218184-11 DU	MW-309A	Dissolved	Water	6020A	333011

General Chemistry

Analysis Batch: 333138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-14	Field Blank	Total/NA	Water	2320B	
MB 310-333138/1	Method Blank	Total/NA	Water	2320B	
LCS 310-333138/2	Lab Control Sample	Total/NA	Water	2320B	

Analysis Batch: 333739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-5	MW-305	Total/NA	Water	SM 2320B	
310-218184-6	MW-306	Total/NA	Water	SM 2320B	
310-218184-7	MW-306A	Total/NA	Water	SM 2320B	
MB 310-333739/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-333739/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 333800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-1	MW-301	Total/NA	Water	SM 2320B	
310-218184-2	MW-302	Total/NA	Water	SM 2320B	
310-218184-4	MW-304	Total/NA	Water	SM 2320B	
MB 310-333800/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-333800/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 334085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-218184-3	MW-303	Total/NA	Water	SM 2320B	
310-218184-8	MW-307	Total/NA	Water	SM 2320B	
310-218184-9	MW-308	Total/NA	Water	SM 2320B	
310-218184-10	MW-309	Total/NA	Water	SM 2320B	
310-218184-11	MW-309A	Total/NA	Water	SM 2320B	
310-218184-12	MW-310	Total/NA	Water	SM 2320B	
310-218184-13	MW-310A	Total/NA	Water	SM 2320B	
310-218184-15	MW-301A	Total/NA	Water	SM 2320B	
MB 310-334085/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-334085/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-301

Date Collected: 10/21/21 09:45

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 19:22	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 17:41	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333800	11/01/21 11:50	JMH2	TAL CF

Client Sample ID: MW-302

Date Collected: 10/21/21 14:15

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 19:44	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 17:44	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333800	11/01/21 11:50	JMH2	TAL CF

Client Sample ID: MW-303

Date Collected: 10/21/21 16:35

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 19:46	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 17:46	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Client Sample ID: MW-304

Date Collected: 10/21/21 15:30

Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 19:49	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 17:49	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333800	11/01/21 12:34	JMH2	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-305
Date Collected: 10/20/21 16:45
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 19:52	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 17:51	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333739	11/01/21 08:56	JMH2	TAL CF

Client Sample ID: MW-306
Date Collected: 10/20/21 14:51
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 19:54	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 17:56	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333739	11/01/21 08:56	JMH2	TAL CF

Client Sample ID: MW-306A
Date Collected: 10/20/21 15:45
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 19:57	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:09	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	333739	11/01/21 08:56	JMH2	TAL CF

Client Sample ID: MW-307
Date Collected: 10/21/21 11:05
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 20:00	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:12	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Lab Chronicle

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-308
Date Collected: 10/21/21 12:35
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 20:13	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:15	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Client Sample ID: MW-309
Date Collected: 10/22/21 12:05
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 20:16	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:17	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Client Sample ID: MW-309A
Date Collected: 10/22/21 13:05
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 20:18	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:20	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Client Sample ID: MW-310
Date Collected: 10/22/21 09:35
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 20:24	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:22	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Lab Chronicle

Client: SCS Engineers
 Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Client Sample ID: MW-310A
Date Collected: 10/22/21 10:45
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 20:26	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:25	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Client Sample ID: Field Blank
Date Collected: 10/22/21 14:25
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			333011	10/27/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334971	11/09/21 20:29	SAP	TAL CF
Total/NA	Prep	3005A			333010	10/27/21 09:00	ACM2	TAL CF
Total/NA	Analysis	6020A		1	333453	10/28/21 18:27	SAP	TAL CF
Total/NA	Analysis	2320B		1	333138	10/27/21 11:44	LBB	TAL CF

Client Sample ID: MW-301A
Date Collected: 10/22/21 15:10
Date Received: 10/25/21 17:10

Lab Sample ID: 310-218184-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			334184	11/03/21 16:20	ACM2	TAL CF
Dissolved	Prep	3005A			334426	11/05/21 09:00	ACM2	TAL CF
Dissolved	Analysis	6020A		1	334795	11/08/21 22:22	SAP	TAL CF
Total/NA	Prep	3005A			332966	11/05/21 09:53	ACM2	TAL CF
Total/NA	Analysis	6020A		1	334971	11/09/21 19:06	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	334085	11/03/21 08:09	LBB	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Laboratory: Eurofins TestAmerica, Cedar Falls

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Prairie Creek 25221074 MNA Parameters

Job ID: 310-218184-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF
Filtration	Sample Filtration	None	TAL CF

Protocol References:

None = None

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

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

Laboratory References:

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





Environment Testing
TestAmerica



310-218184 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS Engineers			
City/State:	CITY Clive	STATE IA	Project: Prairie Creek MNA Parameters
Receipt Information			
Date/Time Received:	DATE 10-25-21	TIME 1710	Received By: HED
Delivery Type:	<input type="checkbox"/> UPS	<input type="checkbox"/> FedEx	<input type="checkbox"/> FedEx Ground
	<input checked="" type="checkbox"/> Lab Courier	<input type="checkbox"/> Lab Field Services	<input type="checkbox"/> Client Drop-off
		<input type="checkbox"/> US Mail	<input type="checkbox"/> Spee-Dee
			<input type="checkbox"/> Other: _____
Condition of Cooler/Container			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	If yes: Cooler ID:
Multiple Coolers?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Cooler # <u>5</u> of <u>5</u> 10-25-21 HED
Cooler Custody Seals Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice	<input type="checkbox"/> Blue ice	<input type="checkbox"/> Dry ice
			<input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE
Thermometer ID: R	Correction Factor (°C): 0		
Temp/Blank Temperature - If no temp blank or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	Corrected Temp (°C):		
Sample Container Temperature			
Container(s) used:	CONTAINER 1 MW-309 250ml Nitric	CONTAINER 2	
Uncorrected Temp (°C):	1.8		
Corrected Temp (°C):	1.8		
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
MW-309,			

Chain of Custody Record

Client Information Client Contact: Rosa Cruz Company: SCS Engineers Address: 8450 Hickman Road Suite 27 City: Clive State: IA Zip: 50325 Phone: 25221074 Email: rcruz@scsengineers.com Project Name: Prairie Creek, 25221074 MNA Parameters Site: 550W#		Lab ID: Frederick, Sandle Lab ID: 310-84055 164107 State of Origin: Iowa Lab # Page 2 of 2	
Due Date Requested: TAT Requested (days): Compliance Project: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No PO# 25221074 WQ# Project # 31011020 Site 550W#		Lab ID: Frederick, Sandle Lab ID: 310-84055 164107 State of Origin: Iowa Lab # Page 2 of 2	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input type="checkbox"/> I, <input type="checkbox"/> II, <input type="checkbox"/> III, <input type="checkbox"/> IV, <input type="checkbox"/> Other (specify)		Special Instructions/QC Requirements: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Requisitioned by Requisitioned by: <i>Rosa Cruz</i> Requisitioned by: Requisitioned by:		Method of Shipment Date/Time: 10-25-21 13:00 Date/Time: Date/Time:	
Custody Seals Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Received by: <i>Rosa Cruz</i> Received by: Received by:	
Cooled Temperature(s) °C and Other Details:		Date/Time: 10-25-21 1710 Date/Time: Date/Time:	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-218184-1

SDG Number:

Login Number: 218184


List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls

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





Appendix D
Historical Results

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-301		Number of Sampling Dates: 18																	
Parameter Name	Units	12/20/2016	1/23/2017	2/23/2017	3/28/2017	4/26/2017	5/25/2017	6/28/2017	8/17/2017	10/17/2017	5/8/2018	8/6/2018	10/9/2018	4/22/2019	10/28/2019	4/27/2020	10/19/2020	4/27/2021	10/21/2021
Boron	ug/L	<50	<50	25.2	23.8	37.3	40.8	24.6	28.9	26.8	22.8	30.9	30.6	<110	<110	<73	<80	<58	<58
Calcium	mg/L	137	140	148	144	112	106	136	142	139	155	154	163	130	160	140	150	130	160
Chloride	mg/L	19.5	24.1	24.4	23.3	19.2	19.1	26.2	30.4	33.6	51.4	57.4	62	43	46	40	67	58	98
Fluoride	mg/L	0.13	0.079	0.13	0.1	0.1	<0.1	0.15	0.21	0.17	0.2	0.16	0.22	<0.23	<0.23	<0.23	<0.23	<0.28	<0.28
Field pH	Std. Units	6.78	6.8	6.57	6.9	6.41	6.41	7	6.97	7.46	7.51	6.81	7.63	6.99	6.69	7.09	6.89	6.81	6.9
Sulfate	mg/L	108	101	99.2	107	82.5	74.7	108	101	95.5	117	113	131	100	110	110	98	93	100
Total Dissolved Solids	mg/L	556	587	611	615	495	479	642	640	621	784	747	743	610	680	640	660	550	690
Antimony	ug/L	0.28	0.2	0.057	0.06	0.034	0.065	0.088	0.18	--	0.041	<0.15	<0.078	<0.53	<0.53	<0.58	<0.51	<1.1	<1.1
Arsenic	ug/L	0.7	0.69	0.55	0.54	0.55	0.5	0.62	1.8	--	0.54	1.1	0.67	<0.75	<0.75	<0.88	<0.88	<0.75	0.88
Barium	ug/L	250	257	264	264	211	205	265	291	--	282	281	261	230	270	260	270	250	270
Beryllium	ug/L	<0.08	<0.08	0.075	0.012	0.023	0.016	<0.012	0.14	--	<0.012	--	<0.089	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.029	0.059	0.066	0.072	0.063	0.061	0.073	0.12	--	0.069	0.096	0.075	<0.077	0.064	0.066	0.073	0.062	0.11
Chromium	ug/L	3.9	4.3	4.5	4.4	4.7	3.4	3.9	9.9	--	4.1	5.8	5.2	3.6	5.4	4.7	4.9	4.2	5.2
Cobalt	ug/L	<0.5	<0.5	0.25	0.11	0.28	0.18	0.057	2.1	--	0.028	0.52	0.084	0.12	0.12	0.23	<0.091	0.15	<0.19
Lead	ug/L	<0.19	0.23	0.16	0.086	0.4	0.25	0.058	1.9	--	<0.033	0.66	0.17	<0.27	<0.27	0.27	<0.11	<0.21	0.37
Lithium	ug/L	14.9	13.4	11.1	12.6	8.6	6.1	8.9	16.8	--	13.6	5.4	13.3	8.5	12	11	15	13	13
Mercury	ug/L	<0.039	<0.039	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	--	<0.09	--	<0.09	<0.1	<0.1	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	0.61	0.34	0.38	0.45	0.23	0.26	0.33	0.44	--	0.35	0.44	<0.57	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3
Selenium	ug/L	0.97	1.2	0.98	1	0.72	0.69	1.1	1.2	--	1.3	1.3	0.95	1.1	1.7	<1	--	<0.96	1.1
Thallium	ug/L	<0.5	<0.5	<0.036	<0.036	0.12	0.043	0.081	0.3	--	<0.036	--	<0.099	<0.27	<0.27	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	1.06	0.957	1.42	1.42	1.14	0.877	2.53	1.52	--	1	1.07	1.09	--	0.708	0.477	0.975	0.844	0.606
Radium-226	pCi/L	0	0.404	0.438	0.665	0.479	0.379	0.793	0.576	--	0.484	0.429	0.478	--	0.259	0.283	0.656	0.287	0.256
Radium-228	pCi/L	1.06	0.553	0.981	0.75	0.662	0.498	1.74	0.946	--	0.516	0.643	0.612	--	<0.512	<0.311	0.319	0.557	0.35
pH at 25 Degrees C	Std. Units	7	8	7.2	6.8	6.8	7.1	7.3	7.2	7.4	7	7.1	7.1	6.9	6.9	6.9	7	6.9	7
Field Oxidation Potential	mV	91.3	54.7	175.5	120.8	141.5	155	143.1	90.3	191	32.7	237	60	38.2	-7.3	208.3	67.9	168.4	180.3
Field Specific Conductance	umhos/cm	1370	895	918	1350	1400	694	901	1326	949	1060	1105	1052	987	1036	954	983	931	1205
Field Temperature	deg C	11.7	11.2	10.7	10.2	9.9	10.45	11.1	12.2	12.6	10.5	12.3	14.9	10.53	11.34	11.1	11.8	--	--
Groundwater Elevation	feet	716.05	716.05	715.87	715.8	716.7	717.08	716.1	715.35	714.36	713.95	714.3	715.74	716.44	715.86	715.8	714.77	715.84	712.19
Oxygen, Dissolved	mg/L	2.54	2.75	2.42	3.22	3.88	4.19	2.46	3.21	2.4	38.3	3.6	4.03	6.68	4.63	3.5	3.69	3.76	4.67
Turbidity	NTU	3.57	6.66	4.57	11.36	1.61	0.78	0.61	95.83	124.2	0.72	17.05	9.97	6.92	2.8	6.52	6.01	2.04	9.7
Collected By		--	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	470	340	420
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<2.3	<4.6
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	470	340	420
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	150000	130000	160000
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	82	52
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44000	41000	48000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4	<4.4	<4.4
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<36	<36
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4	<4.4	<4.4
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	930	1300	930
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14000	14000	15000
Temperature	deg C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.4	12.3

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-304		Number of Sampling Dates: 19																		
Parameter Name	Units	12/21/2016	1/24/2017	2/23/2017	3/28/2017	4/26/2017	5/25/2017	6/28/2017	8/17/2017	10/17/2017	5/8/2018	8/6/2018	10/9/2018	3/11/2019	4/22/2019	10/29/2019	4/27/2020	10/20/2020	4/27/2021	10/21/2021
Boron	ug/L	372	323	277	224	218	212	310	412	386	384	841	661	--	770	610	770	860	790	810
Calcium	mg/L	71	68.2	73.6	63.6	66.6	63.5	62.9	55.4	49.3	73.5	93	89	--	130	96	110	98	120	130
Chloride	mg/L	20.2	20.6	21.4	23.7	21.7	22.1	20.1	22.9	23.4	24.6	36.6	33.6	--	27	20	15	12	12	15
Fluoride	mg/L	0.84	0.8	0.72	0.78	0.87	0.79	0.86	0.84	0.78	0.58	0.55	0.61	--	0.41	0.51	0.67	0.56	0.41	0.53
Field pH	Std. Units	7.09	7.25	7.01	7.58	7.23	7.23	7.4	7.34	8.16	7.31	6.92	7.5	5.82	7.08	6.9	6.84	6.84	6.9	7.07
Sulfate	mg/L	93.8	96.1	107	109	111	115	132	85.9	55.1	77.3	193	167	--	140	110	110	110	140	220
Total Dissolved Solids	mg/L	396	399	402	411	406	418	468	359	298	423	630	541	--	680	490	590	500	610	620
Antimony	ug/L	2.4	2.1	1.9	1.9	1.9	2.1	2.2	2.6	--	1.3	1.3	1.4	--	1.2	1.5	1	1	<1.1	1.1
Arsenic	ug/L	11.4	11.7	12	10.1	9.4	16.6	10.2	8.6	--	15	12.3	14.4	12.9	11	14	11	14	13	16
Barium	ug/L	65.3	59.8	56.4	51.6	46.6	95	51.1	48.7	--	95	121	110	--	140	110	120	110	120	120
Beryllium	ug/L	<0.08	<0.08	0.064	<0.012	<0.012	<0.012	<0.012	<0.012	--	<0.012	--	<0.089	--	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.029	<0.029	<0.018	<0.018	<0.018	0.018	0.023	<0.018	--	<0.018	<0.07	<0.033	--	<0.077	0.074	<0.039	<0.049	<0.051	<0.051
Chromium	ug/L	0.58	0.5	0.41	<0.054	0.99	0.2	0.16	0.32	--	0.15	0.34	0.31	--	<0.98	<0.98	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	0.75	0.72	0.79	0.83	0.63	0.74	0.83	0.55	--	0.57	1.1	0.75	--	1.4	1.2	1.1	1.1	0.91	0.9
Lead	ug/L	<0.19	<0.19	0.11	0.043	0.061	0.1	0.042	0.034	--	0.045	0.24	<0.13	--	<0.27	0.27	<0.27	<0.11	<0.21	0.24
Lithium	ug/L	12.1	12	10.6	8.2	9.6	8.6	9.9	14.4	--	10.8	6.9	13.4	--	17	13	11	17	14	14
Mercury	ug/L	<0.039	<0.039	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	--	<0.09	--	<0.09	--	<0.1	<0.1	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	33.5	29.3	27.5	28.4	28.3	28.5	32.6	33.8	--	19.8	25.4	27.6	--	23	31	26	28	25	31
Selenium	ug/L	1.1	1	1.4	1.2	1.5	1.8	1.7	0.85	--	0.12	0.23	0.16	--	<1	<1	<1	--	<0.96	<0.96
Thallium	ug/L	<0.5	<0.5	<0.036	<0.036	0.12	0.037	0.068	<0.036	--	<0.036	--	<0.099	--	<0.27	<0.27	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	1.74	0.439	0.162	0.311	0.632	0.964	1.15	0.384	--	1.26	0.768	1.31	--	--	<0.513	0.707	0.958	0.726	0.407
Radium-226	pCi/L	0.522	0.131	0.162	0.261	0.497	0.412	0.0708	0.355	--	0.589	0.271	0.175	--	--	<0.141	0.232	0.152	0.219	0.523
Radium-228	pCi/L	1.22	0.308	-0.0742	0.0497	0.135	0.552	1.08	0.0285	--	0.666	0.497	1.13	--	--	<0.513	0.475	0.807	0.507	-0.116
pH at 25 Degrees C	Std. Units	6.9	7.9	7.4	7.2	7.3	7.6	8	7.3	7.6	7.2	7.2	7.2	--	7.2	7	7	7	7.2	7.1
Field Oxidation Potential	mV	-72.9	-66.6	-80	-111.7	-15.1	-17.7	79.1	-40.9	-123	-151	-89	-18.1	-84.2	-62	-74.3	-85	-99.3	-15.8	-60.7
Field Specific Conductance	umhos/cm	993	622.8	621.3	1028	1144	602	1124	856	532	514	934	812	537	1125	816	841	771	968	1053
Field Temperature	deg C	16.1	12.6	10.8	9.9	10.3	11.9	14.4	18.7	20.6	11.8	18.1	18.8	8.8	9.64	15.67	10.1	15.7	--	--
Groundwater Elevation	feet	703.42	704.56	704.65	703.99	705.08	705.37	704.16	702.96	703.17	705.54	702.62	707.81	704.24	703.93	704.15	702.84	702.13	702.8	701.8
Oxygen, Dissolved	mg/L	0.07	0.12	0.14	0.15	0.13	0.2	0.23	0.18	0	0.1	0.2	0.21	0.86	0.93	0.28	0.14	0.08	0.21	0.25
Turbidity	NTU	3.65	0.91	0.43	1.13	2.23	1.4	1.76	3.9	12.65	3.98	10.26	9.07	8.73	4.99	2.96	1.63	0.02	1.2	8.5
Collected By		--	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350	380	380
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.8	<4.6	<4.6
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	350	380	380
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	92000	120000	130000
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2000	3100	1600
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29000	40000	39000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1200	1400	1300
Arsenic, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	13	15
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2000	3100	1500
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1200	1400	1200
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5200	5000	5600
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40000	50000	39000
Temperature	deg C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.1	16.1

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-306																			
Number of Sampling Dates: 18																			
Parameter Name	Units	12/21/2016	1/24/2017	2/23/2017	3/28/2017	4/27/2017	5/25/2017	6/28/2017	8/17/2017	10/17/2017	5/8/2018	8/6/2018	10/9/2018	4/22/2019	10/29/2019	4/27/2020	10/20/2020	4/27/2021	10/20/2021
Boron	ug/L	2990	3050	3160	3060	3080	2890	3080	2850	2910	2930	2770	2890	3000	2400	2800	2800	2500	2200
Calcium	mg/L	52.4	48.4	51.2	48.8	52.8	49.1	47.5	47.7	48.1	56.2	58.7	65.1	59	61	54	54	57	57
Chloride	mg/L	45.4	40.3	36.8	38.1	32.4	34.5	32.6	31.7	28.7	28.6	28.9	30.3	25	23	22	19	17	19
Fluoride	mg/L	0.26	0.23	0.26	0.25	0.29	0.24	0.28	0.33	0.3	0.3	0.26	0.32	<0.23	<0.23	0.38	0.29	<0.28	<0.28
Field pH	Std. Units	7.53	7.71	7.31	7.84	7.5	7.53	7.77	7.36	8.45	7.47	7.45	7.4	7.58	7.63	6.94	7.66	7.47	7.4
Sulfate	mg/L	142	128	130	133	137	136	144	132	139	151	195	233	160	140	110	120	140	120
Total Dissolved Solids	mg/L	444	398	423	421	426	430	421	402	403	454	506	494	440	400	420	360	360	320
Antimony	ug/L	0.25	0.091	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	--	<0.026	<0.15	<0.078	<0.53	<0.53	<0.58	<0.51	<1.1	<1.1
Arsenic	ug/L	0.82	0.58	0.5	0.61	0.55	0.6	0.59	0.57	--	0.58	0.7	0.72	1.9	1.6	1.3	1.1	1	0.87
Barium	ug/L	53	47.4	47.7	47.2	47.8	50.1	48.8	46.1	--	54.4	59.3	62.1	110	82	73	67	72	56
Beryllium	ug/L	<0.08	<0.08	0.068	0.021	<0.012	<0.012	<0.012	<0.012	--	<0.012	--	<0.089	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.029	<0.029	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	--	0.043	0.085	0.075	<0.077	0.095	0.09	0.1	0.11	0.099
Chromium	ug/L	0.65	<0.34	0.34	<0.054	0.14	0.16	0.18	0.46	--	0.21	0.55	0.11	<0.98	<0.98	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	<0.5	<0.5	0.16	0.11	0.077	0.068	0.078	0.065	--	0.071	0.43	0.079	0.49	0.26	0.2	0.17	0.28	<0.19
Lead	ug/L	<0.19	<0.19	0.075	0.13	0.15	0.3	0.068	0.037	--	0.075	1	<0.13	0.4	0.31	0.48	0.42	0.87	0.23
Lithium	ug/L	<4.9	<4.9	<2.9	<2.9	3.5	<2.9	<2.9	4	--	<4.6	<4.6	<4.6	3	<2.7	<2.3	<2.5	<2.5	<2.5
Mercury	ug/L	<0.039	<0.039	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	--	<0.09	--	<0.09	<0.1	<0.1	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	272	277	282	287	278	275	272	278	--	271	234	235	200	230	250	260	240	220
Selenium	ug/L	<0.18	<0.18	<0.086	<0.086	<0.086	0.091	<0.086	<0.086	--	<0.086	<0.16	<0.085	<1	<1	<1	--	<0.96	<0.96
Thallium	ug/L	<0.5	<0.5	<0.036	<0.036	<0.036	<0.036	<0.036	0.22	--	<0.036	--	<0.099	<0.27	<0.27	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	0.843	0.481	0.391	1.07	0.785	0.831	1.14	1.05	--	0.645	1.21	1.42	--	<0.476	0.578	0.387	0.205	0.899
Radium-226	pCi/L	0	0	-0.245	0.493	0.525	0.452	0.37	0.652	--	0.394	0.541	0.157	--	<0.134	<0.14	0.135	0.205	0.257
Radium-228	pCi/L	0.843	0.481	0.391	0.575	0.26	0.379	0.774	0.398	--	0.251	0.669	1.26	--	<0.476	<0.46	0.252	-0.062	0.642
pH at 25 Degrees C	Std. Units	7.2	7.8	7.7	7.2	7.4	7.7	7.8	7.6	7.6	7.6	7.7	7.6	7.6	7.6	7.6	7.7	7.7	7.7
Field Oxidation Potential	mV	-80.4	-88.9	-48.1	-140.5	-64.3	-111.6	36.6	-31.2	-128	-94	-81	-41.1	-97.6	-145.7	-142	-199.7	-104.7	-124.2
Field Specific Conductance	umhos/cm	1079	644	629	1023	1165	624	1067	828	636	663	731	736	703	633	539.7	538.5	580	562.5
Field Temperature	deg C	13.2	13.4	13.4	13.6	13.1	13.49	13.5	13.6	14.7	13.6	16.4	15.6	12.87	12.56	13.2	12.5	--	--
Groundwater Elevation	feet	703.32	704.49	704.59	703.99	704.98	705.34	703.94	702.74	703.16	705.51	702.68	707.88	704.23	704.4	703.35	702.26	702.75	702.02
Oxygen, Dissolved	mg/L	0.11	0.23	0.13	0.12	0.17	0.15	0.21	0.04	0.8	3	1.4	0.45	0.99	0.29	0.18	0.13	0.34	0.24
Turbidity	NTU	1.97	2.25	0.79	0.77	0.43	0.3	0.59	1.04	3.45	0.62	14.59	1.74	21.3	8.16	3.92	19.93	1.2	12.7
Collected By		--	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	160	130	200
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.9	<3.1	<4.6
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	160	130	200
Calcium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	54000	55000	57000
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1800	1700	1800
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12000	12000	12000
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	100	110
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1500	1500	1600
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	100	96
Molybdenum, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	250	240	210
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	860	880	820
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	54000	52000	47000
Temperature	deg C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.4	12.9

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-307								
Number of Sampling Dates: 6								
Parameter Name	Units	4/23/2019	10/28/2019	5/27/2020	10/19/2020	4/26/2021	10/21/2021	
Boron	ug/L	840	730	630	890	1000	960	
Calcium	mg/L	22	18	16	21	21	16	
Chloride	mg/L	15	3.5	4.2	<2	10	2.5	
Fluoride	mg/L	0.54	0.67	0.49	0.29	0.31	0.4	
Field pH	Std. Units	10.05	9.58	8.28	9.26	7.2	8.84	
Sulfate	mg/L	52	32	32	30	42	36	
Total Dissolved Solids	mg/L	150	140	38	80	82	26	
Antimony	ug/L	0.92	1.2	0.83	1	<1.1	<1.1	
Arsenic	ug/L	3.8	7.4	6.1	6.7	6.5	6.2	
Barium	ug/L	30	34	26	45	36	35	
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	
Cadmium	ug/L	<0.077	<0.039	<0.039	<0.049	<0.051	<0.051	
Chromium	ug/L	<0.98	<0.98	<1.1	<1.1	<1.1	<1.1	
Cobalt	ug/L	0.091	<0.091	<0.091	<0.091	<0.091	<0.19	
Lead	ug/L	<0.27	<0.27	<0.27	<0.11	<0.21	<0.21	
Lithium	ug/L	10	15	8.3	16	9.4	10	
Mercury	ug/L	<0.1	<0.1	<0.1	--	<0.15	<0.15	
Molybdenum	ug/L	5.8	5.2	7	5.2	8.5	6.6	
Selenium	ug/L	<1	<1	<1	--	2.5	<0.96	
Thallium	ug/L	<0.27	<0.27	<0.26	--	<0.26	<0.26	
Total Radium	pCi/L	--	<0.377	<0.458	0.233	0.043	0.242	
Radium-226	pCi/L	--	<0.135	<0.139	-0.043	0.043	0.141	
Radium-228	pCi/L	--	<0.377	<0.458	0.233	-0.0204	0.101	
pH at 25 Degrees C	Std. Units	9.8	9.6	9.2	9.4	9.6	9.2	
Field Oxidation Potential	mV	-53.1	-29.9	109.8	-123.4	11.6	130.8	
Field Specific Conductance	umhos/cm	225	157	243.5	145.2	857	142.5	
Field Temperature	deg C	11.72	18.43	12.6	18.7	--	--	
Groundwater Elevation	feet	709.86	708.57	708.14	706.56	706.38	706.29	
Oxygen, Dissolved	mg/L	1.54	0.27	0.19	0.09	0.11	0.24	
Turbidity	NTU	15.6	2.16	2.98	2.09	2.8	10.7	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	41	9.9	82	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<1.9	9.9	<4.6	
Total Alkalinity as CaCO3	mg/L	--	--	--	41	20	82	
Calcium, total	ug/L	--	--	--	19000	20000	16000	
Iron, total	ug/L	--	--	--	<50	<36	<36	
Magnesium, total	ug/L	--	--	--	2300	1300	1400	
Manganese, total	ug/L	--	--	--	<4	<4.4	<4.4	
Iron, dissolved	ug/L	--	--	--	<50	<36	<36	
Manganese, dissolved	ug/L	--	--	--	<4	<4.4	<4.4	
Potassium, total	ug/L	--	--	--	1600	1400	1300	
Sodium, total	ug/L	--	--	--	4600	9500	5500	
Temperature	deg C	--	--	--	--	9	17.4	

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-308		Number of Sampling Dates: 7							
Parameter Name	Units	4/23/2019	10/28/2019	5/27/2020	10/19/2020	4/26/2021	7/14/2021	10/21/2021	
Boron	ug/L	5700	6100	6100	6400	5900	--	6100	
Calcium	mg/L	59	60	68	54	65	--	53	
Chloride	mg/L	15	13	11	8.4	7.9	--	8.1	
Fluoride	mg/L	0.77	0.26	0.54	<0.23	<0.28	--	<0.28	
Field pH	Std. Units	9.24	9.19	7.86	9.23	7.15	9.65	9.17	
Sulfate	mg/L	190	190	180	150	200	--	140	
Total Dissolved Solids	mg/L	450	460	390	370	430	--	270	
Antimony	ug/L	1.4	1.7	0.7	1.4	<1.1	--	3	
Arsenic	ug/L	45	63	58	50	53	--	48	
Barium	ug/L	39	38	38	53	50	--	36	
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27	<0.27	--	<0.27	
Cadmium	ug/L	<0.077	0.077	0.04	0.071	0.055	--	<0.051	
Chromium	ug/L	<0.98	<0.98	<1.1	<4.4	<1.1	--	<1.1	
Cobalt	ug/L	<0.091	<0.091	<0.091	<0.36	<0.091	--	<0.19	
Lead	ug/L	<0.27	<0.27	<0.27	<0.11	<0.21	--	0.29	
Lithium	ug/L	29	31	35	47	39	47	39	
Mercury	ug/L	<0.1	<0.1	<0.1	--	<0.15	--	<0.15	
Molybdenum	ug/L	58	58	64	58	53	--	58	
Selenium	ug/L	<1	2.2	<1	--	<0.96	--	<0.96	
Thallium	ug/L	<0.27	<0.27	<0.26	--	<0.26	--	<0.26	
Total Radium	pCi/L	--	<0.488	<0.488	1.05	0.361	--	0.219	
Radium-226	pCi/L	--	<0.127	<0.204	-0.21	0.0686	--	0.102	
Radium-228	pCi/L	--	<0.488	<0.488	1.05	0.292	--	0.116	
pH at 25 Degrees C	Std. Units	8.9	9.2	9.1	9.4	9.1	--	9.2	
Field Oxidation Potential	mV	-62.5	-58.1	-22.4	-178	10.7	-228.9	-170.3	
Field Specific Conductance	umhos/cm	659	618	1008	318.1	743	551.7	507.2	
Field Temperature	deg C	12.11	15.05	12.7	14.9	--	--	--	
Groundwater Elevation	feet	706.19	706.31	705.64	703.87	705.05	703.38	703.21	
Oxygen, Dissolved	mg/L	1.16	0.43	0.1	0.21	0.16	0.13	0.2	
Turbidity	NTU	2.13	2.44	2.33	1.08	9.5	0.14	9.8	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	82	89	--	52	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	41	39	--	62	
Total Alkalinity as CaCO3	mg/L	--	--	--	120	130	--	110	
Calcium, total	ug/L	--	--	--	43000	65000	--	55000	
Iron, total	ug/L	--	--	--	<50	<36	--	<36	
Magnesium, total	ug/L	--	--	--	3100	7000	--	2600	
Manganese, total	ug/L	--	--	--	47	85	--	38	
Arsenic, dissolved	ug/L	--	--	--	44	50	--	50	
Iron, dissolved	ug/L	--	--	--	<50	<36	--	<36	
Manganese, dissolved	ug/L	--	--	--	52	85	--	36	
Potassium, total	ug/L	--	--	--	5300	6800	--	6900	
Sodium, total	ug/L	--	--	--	33000	46000	--	42000	
Temperature	deg C	--	--	--	--	9	15.3	14.6	

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-309		Number of Sampling Dates: 7							
Parameter Name	Units	10/29/2019	1/9/2020	4/27/2020	10/21/2020	4/27/2021	10/21/2021	10/22/2021	
Boron	ug/L	1000	1000	1100	1800	1200	1200	--	
Calcium	mg/L	120	130	120	120	120	110	--	
Chloride	mg/L	18	17	16	13	12	17	--	
Fluoride	mg/L	0.68	0.51	0.75	0.61	0.36	0.36	--	
Field pH	Std. Units	7.33	6.95	7.09	7.22	7.34	7.42	--	
Sulfate	mg/L	130	130	130	170	110	130	--	
Total Dissolved Solids	mg/L	550	650	630	620	560	480	--	
Antimony	ug/L	<0.53	<0.53	<0.58	<0.51	<1.1	<1.1	--	
Arsenic	ug/L	140	110	75	89	100	75	--	
Barium	ug/L	130	130	130	130	190	100	--	
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	--	
Cadmium	ug/L	<0.039	<0.039	<0.039	<0.049	<0.051	<0.051	--	
Chromium	ug/L	<0.98	<0.98	<1.1	<1.1	<1.1	<1.1	--	
Cobalt	ug/L	0.42	0.23	0.35	0.14	0.12	<0.19	--	
Lead	ug/L	0.54	<0.27	<0.27	<0.11	<0.21	<0.21	--	
Lithium	ug/L	15	15	13	19	15	15	--	
Mercury	ug/L	<0.1	<0.1	<0.1	--	<0.15	<0.15	--	
Molybdenum	ug/L	19	18	19	21	17	24	--	
Selenium	ug/L	<1	<1	<1	--	<0.96	<0.96	--	
Thallium	ug/L	<0.27	<0.27	<0.26	--	<0.26	<0.26	--	
Total Radium	pCi/L	0.801	0.543	0.837	0.815	0.829	0.818	--	
Radium-226	pCi/L	0.346	0.176	0.211	0.199	0.337	0.288	--	
Radium-228	pCi/L	0.455	<0.386	0.627	0.616	0.492	0.531	--	
pH at 25 Degrees C	Std. Units	7.4	7.4	7.2	7.4	7.7	7.5	--	
Field Oxidation Potential	mV	-103.8	-335.3	-117.7	-145.9	-55.8	-123.4	--	
Field Specific Conductance	umhos/cm	931	1016	898	955	914	855	--	
Field Temperature	deg C	18.6	15.69	13.2	18.8	--	--	--	
Groundwater Elevation	feet	703.84	703.1	702.84	701.97	702.68	701.7	--	
Oxygen, Dissolved	mg/L	7.45	4.42	0.06	0.1	0.11	0.21	--	
Turbidity	NTU	4.96	1.81	4.21	1.86	0.7	19.8	--	
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	360	410	--	390	
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<3.8	<4.6	--	<4.6	
Total Alkalinity as CaCO3	mg/L	--	--	--	360	410	--	390	
Calcium, total	ug/L	--	--	--	100000	120000	--	110000	
Iron, total	ug/L	--	--	--	1200	4400	--	1300	
Magnesium, total	ug/L	--	--	--	33000	39000	--	32000	
Manganese, total	ug/L	--	--	--	920	1400	--	1300	
Arsenic, dissolved	ug/L	--	--	--	78	62	--	72	
Iron, dissolved	ug/L	--	--	--	1200	1300	--	1200	
Manganese, dissolved	ug/L	--	--	--	980	1400	--	1200	
Potassium, total	ug/L	--	--	--	4800	4400	--	4800	
Sodium, total	ug/L	--	--	--	34000	35000	--	34000	
Temperature	deg C	--	--	--	--	13.6	17.9	--	

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-310							
Number of Sampling Dates: 6							
Parameter Name	Units	10/29/2019	1/9/2020	4/27/2020	10/21/2020	4/27/2021	10/22/2021
Boron	ug/L	950	940	880	1300	850	870
Calcium	mg/L	88	85	87	110	110	110
Chloride	mg/L	20	19	20	20	18	24
Fluoride	mg/L	0.53	0.61	0.93	<0.23	0.36	0.47
Field pH	Std. Units	7.3	7.33	7.41	7.2	7.21	7.28
Sulfate	mg/L	130	130	130	170	140	160
Total Dissolved Solids	mg/L	430	500	520	580	550	490
Antimony	ug/L	<0.53	<0.53	<0.58	<0.51	<1.1	<1.1
Arsenic	ug/L	31	28	23	36	25	25
Barium	ug/L	130	140	140	160	160	150
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.039	<0.039	<0.039	<0.049	<0.051	<0.051
Chromium	ug/L	<0.98	<0.98	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	0.17	0.095	0.098	0.11	0.098	<0.19
Lead	ug/L	<0.27	<0.27	<0.27	<0.11	<0.21	<0.21
Lithium	ug/L	15	14	11	18	15	14
Mercury	ug/L	<0.1	<0.1	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	60	59	55	71	43	45
Selenium	ug/L	<1	<1	<1	--	<0.96	<0.96
Thallium	ug/L	<0.27	<0.27	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	<0.471	<0.377	0.341	0.351	1.11	0.588
Radium-226	pCi/L	0.211	0.232	0.226	0.17	0.453	0.136
Radium-228	pCi/L	<0.471	<0.377	<0.341	0.182	0.652	0.452
pH at 25 Degrees C	Std. Units	7.3	7.5	7.3	7.4	7.5	7.5
Field Oxidation Potential	mV	-129.8	-342.4	-148.01	-162.5	-115.1	-145.2
Field Specific Conductance	umhos/cm	801	784	734	894	893	880
Field Temperature	deg C	16.48	15.23	12.9	17.5	--	--
Groundwater Elevation	feet	703.71	702.81	702.53	701.78	702.11	701.48
Oxygen, Dissolved	mg/L	7.59	3.72	0.09	0.14	0.09	0.22
Turbidity	NTU	3.03	3.3	6.3	3.72	8.4	20
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	300	350	380
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	<3.8	<4.6	<4.6
Total Alkalinity as CaCO3	mg/L	--	--	--	300	350	380
Calcium, total	ug/L	--	--	--	100000	110000	110000
Iron, total	ug/L	--	--	--	4400	5700	4500
Magnesium, total	ug/L	--	--	--	26000	31000	29000
Manganese, total	ug/L	--	--	--	980	1400	1200
Arsenic, dissolved	ug/L	--	--	--	32	23	25
Iron, dissolved	ug/L	--	--	--	4100	5500	4200
Manganese, dissolved	ug/L	--	--	--	960	1400	1100
Potassium, total	ug/L	--	--	--	5800	5200	5400
Sodium, total	ug/L	--	--	--	53000	41000	37000
Temperature	deg C	--	--	--	--	13.3	16.3

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-301A					
Number of Sampling Dates: 4					
Parameter Name	Units	9/15/2020	10/21/2020	4/28/2021	10/22/2021
Boron	ug/L	<80	<80	71	61
Calcium	mg/L	72	76	68	59
Chloride	mg/L	4.1	2.6	<2.2	<2.2
Fluoride	mg/L	<0.23	<0.23	<0.28	<0.28
Field pH	Std. Units	7.5	6.85	7.17	7.15
Sulfate	mg/L	6.4	7.8	5.3	7
Total Dissolved Solids	mg/L	440	310	250	200
Antimony	ug/L	<0.51	<0.51	<1.1	<1.1
Arsenic	ug/L	3.7	1.9	0.87	1.4
Barium	ug/L	290	190	160	130
Beryllium	ug/L	0.98	<0.27	<0.27	<0.27
Cadmium	ug/L	0.49	0.054	<0.051	0.075
Chromium	ug/L	5.1	1.1	<1.1	<1.1
Cobalt	ug/L	9.4	2	1.2	0.96
Lead	ug/L	5.6	1	0.21	0.49
Lithium	ug/L	4.2	4.1	<2.5	<2.5
Mercury	ug/L	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	2.1	3.1	3.1	3.1
Selenium	ug/L	<1	--	<0.96	<0.96
Thallium	ug/L	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	8.3	1.47	0.823	1.27
Radium-226	pCi/L	3.93	0.441	0.35	0.323
Radium-228	pCi/L	4.37	1.03	0.473	0.948
pH at 25 Degrees C	Std. Units	6.9	7	7.1	7.2
Field Oxidation Potential	mV	131.6	-92.6	11.7	37.5
Field Specific Conductance	umhos/cm	470.5	551.4	930	537.9
Field Temperature	deg C	16	11.6	--	--
Groundwater Elevation	feet	--	--	716.76	681.93
Oxygen, Dissolved	mg/L	7.77	1.77	1.68	2.39
Turbidity	NTU	284.7	--	2.04	32.2
Bicarbonate Alkalinity as CaCO3	mg/L	--	330	310	320
Carbonate Alkalinity as CaCO3	mg/L	--	<3.8	<4.6	<4.6
Total Alkalinity as CaCO3	mg/L	--	330	310	320
Calcium, total	ug/L	--	75000	68000	59000
Iron, total	ug/L	--	1000	200	790
Magnesium, total	ug/L	--	23000	21000	16000
Manganese, total	ug/L	--	700	300	420
Iron, dissolved	ug/L	--	97	130	<36
Manganese, dissolved	ug/L	--	690	290	320
Potassium, total	ug/L	--	2100	1700	1300
Sodium, total	ug/L	--	14000	12000	9400
Temperature	deg C	--	--	9.7	13.3

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-306A		Number of Sampling Dates: 4			
Parameter Name	Units	9/15/2020	10/20/2020	4/27/2021	10/20/2021
Boron	ug/L	2100	2400	2400	2100
Calcium	mg/L	150	150	150	150
Chloride	mg/L	63	65	66	70
Fluoride	mg/L	<0.23	<0.23	<0.28	<0.28
Field pH	Std. Units	7.87	7.29	7.24	7.21
Sulfate	mg/L	330	350	350	360
Total Dissolved Solids	mg/L	840	800	790	760
Antimony	ug/L	<0.51	0.64	<1.1	<1.1
Arsenic	ug/L	<0.88	<0.88	<0.75	<0.75
Barium	ug/L	180	170	160	130
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27
Cadmium	ug/L	0.073	<0.049	<0.051	<0.051
Chromium	ug/L	1.9	<1.1	<1.1	<1.1
Cobalt	ug/L	1.3	0.49	0.15	<0.19
Lead	ug/L	1.8	0.79	<0.21	<0.21
Lithium	ug/L	4.1	6.3	5.8	5.3
Mercury	ug/L	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	8.6	13	16	15
Selenium	ug/L	<1	--	<0.96	<0.96
Thallium	ug/L	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	0.427	0.898	0.642	0.368
Radium-226	pCi/L	0.453	0.413	0.257	0.253
Radium-228	pCi/L	-0.0262	0.485	0.385	0.115
pH at 25 Degrees C	Std. Units	7.3	7.4	7.5	7.3
Field Oxidation Potential	mV	-100.3	-139.7	-17.8	-66.1
Field Specific Conductance	umhos/cm	1180	1054	873	1109
Field Temperature	deg C	14.1	12.7	--	--
Groundwater Elevation	feet	--	--	703.63	702.31
Oxygen, Dissolved	mg/L	0.13	0.13	0.11	0.26
Turbidity	NTU	118.1	20.8	2.4	10.4
Bicarbonate Alkalinity as CaCO3	mg/L	--	200	200	320
Carbonate Alkalinity as CaCO3	mg/L	--	<3.8	<4.6	<4.6
Total Alkalinity as CaCO3	mg/L	--	200	200	320
Calcium, total	ug/L	--	140000	140000	150000
Iron, total	ug/L	--	2800	1800	1700
Magnesium, total	ug/L	--	45000	46000	45000
Manganese, total	ug/L	--	410	360	380
Iron, dissolved	ug/L	--	1700	1700	1600
Manganese, dissolved	ug/L	--	360	380	340
Potassium, total	ug/L	--	1600	1600	1700
Sodium, total	ug/L	--	33000	34000	33000
Temperature	deg C	--	--	13.6	13.1

Single Location


Name: IPL - Prairie Creek Generating Station

Location ID: MW-309A		Number of Sampling Dates: 4			
Parameter Name	Units	9/15/2020	10/21/2020	4/27/2021	10/22/2021
Boron	ug/L	530	470	780	740
Calcium	mg/L	100	110	110	110
Chloride	mg/L	23	24	26	30
Fluoride	mg/L	<0.23	<0.23	<0.28	<0.28
Field pH	Std. Units	7.26	7.33	7.1	7.19
Sulfate	mg/L	110	110	130	140
Total Dissolved Solids	mg/L	490	460	490	440
Antimony	ug/L	<0.51	<0.51	<1.1	<1.1
Arsenic	ug/L	<0.88	<0.88	0.98	0.87
Barium	ug/L	170	170	190	180
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.049	<0.049	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	0.22	0.32	0.3	0.32
Lead	ug/L	<0.11	<0.11	<0.21	<0.21
Lithium	ug/L	4.1	5.9	5.8	4.9
Mercury	ug/L	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	8.5	7.1	9.1	11
Selenium	ug/L	<1	--	<0.96	<0.96
Thallium	ug/L	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	0.783	0.509	1.06	2.49
Radium-226	pCi/L	0.23	0.0367	0.404	0.306
Radium-228	pCi/L	0.553	0.473	0.659	2.18
pH at 25 Degrees C	Std. Units	7.2	7.4	7.3	7.3
Field Oxidation Potential	mV	-144.8	-181.6	-36.1	-144.2
Field Specific Conductance	umhos/cm	815	749	907	824
Field Temperature	deg C	16.1	15.7	--	--
Groundwater Elevation	feet	--	--	702.92	701.6
Oxygen, Dissolved	mg/L	0.14	0.13	4.8	0.32
Turbidity	NTU	1.3	1.46	12.5	19.8
Bicarbonate Alkalinity as CaCO3	mg/L	--	280	290	370
Carbonate Alkalinity as CaCO3	mg/L	--	<1.9	<4.6	<4.6
Total Alkalinity as CaCO3	mg/L	--	280	290	370
Calcium, total	ug/L	--	100000	110000	110000
Iron, total	ug/L	--	7500	9100	8900
Magnesium, total	ug/L	--	29000	31000	31000
Manganese, total	ug/L	--	710	770	740
Iron, dissolved	ug/L	--	7600	8600	8700
Manganese, dissolved	ug/L	--	710	760	720
Potassium, total	ug/L	--	1700	2000	2000
Sodium, total	ug/L	--	14000	21000	18000
Temperature	deg C	--	--	14.1	15.6

Single Location

Name: IPL - Prairie Creek Generating Station

Location ID: MW-310A		Number of Sampling Dates: 4			
Parameter Name	Units	9/15/2020	10/21/2020	4/27/2021	10/22/2021
Boron	ug/L	330	340	290	240
Calcium	mg/L	180	180	160	140
Chloride	mg/L	46	48	44	48
Fluoride	mg/L	<0.23	<0.23	<0.28	<0.28
Field pH	Std. Units	7.25	7.24	7.19	7.31
Sulfate	mg/L	310	330	240	190
Total Dissolved Solids	mg/L	890	850	690	570
Antimony	ug/L	<0.51	0.66	<1.1	<1.1
Arsenic	ug/L	<0.88	<0.88	<0.75	<0.75
Barium	ug/L	210	210	200	160
Beryllium	ug/L	<0.27	<0.27	<0.27	<0.27
Cadmium	ug/L	<0.049	<0.049	<0.051	<0.051
Chromium	ug/L	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	0.54	2.1	4.4	2.8
Lead	ug/L	<0.11	<0.11	<0.21	<0.21
Lithium	ug/L	3.2	5.3	4.9	3.5
Mercury	ug/L	<0.1	--	<0.15	<0.15
Molybdenum	ug/L	20	21	24	20
Selenium	ug/L	<1	--	<0.96	<0.96
Thallium	ug/L	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	1.21	1.27	0.627	0.673
Radium-226	pCi/L	0.484	0.495	0.32	0.155
Radium-228	pCi/L	0.725	0.779	0.308	0.519
pH at 25 Degrees C	Std. Units	7.6	7.4	7.4	7.4
Field Oxidation Potential	mV	-128.9	-165.8	11.6	-149.4
Field Specific Conductance	umhos/cm	1304	1168	862	963
Field Temperature	deg C	16	15.3	--	--
Groundwater Elevation	feet	--	--	702.69	701.76
Oxygen, Dissolved	mg/L	0.19	0.11	0.12	--
Turbidity	NTU	1.72	2.82	1	19.9
Bicarbonate Alkalinity as CaCO3	mg/L	--	320	300	340
Carbonate Alkalinity as CaCO3	mg/L	--	<3.8	<4.6	<4.6
Total Alkalinity as CaCO3	mg/L	--	320	300	340
Calcium, total	ug/L	--	180000	160000	140000
Iron, total	ug/L	--	6300	7000	6100
Magnesium, total	ug/L	--	48000	42000	37000
Manganese, total	ug/L	--	520	400	360
Iron, dissolved	ug/L	--	6100	6800	6000
Manganese, dissolved	ug/L	--	490	420	330
Potassium, total	ug/L	--	1100	990	880
Sodium, total	ug/L	--	15000	14000	13000
Temperature	deg C	--	--	13.6	15.1



Appendix E
Statistical Evaluation

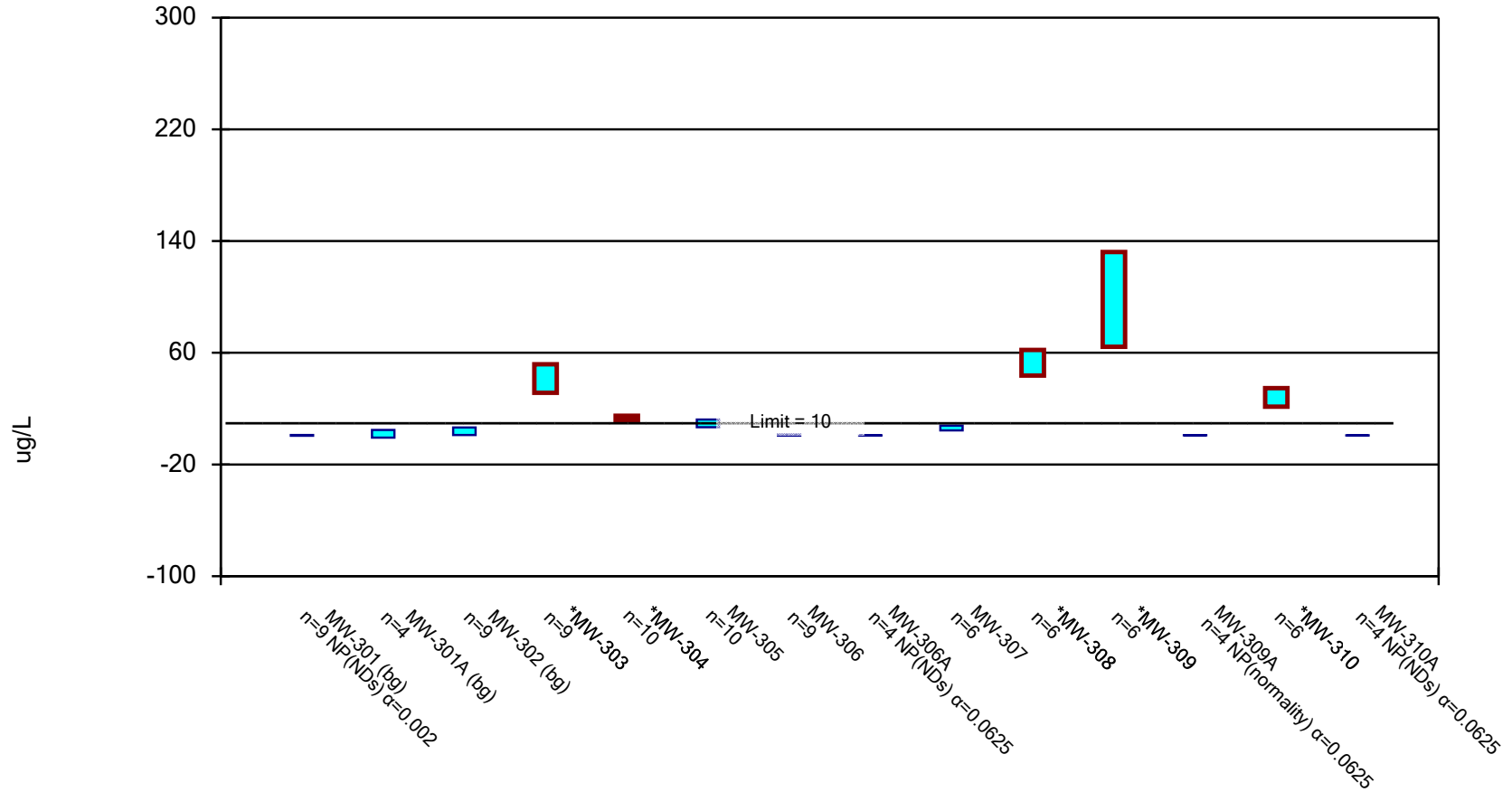
Confidence Interval

Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020 Printed 12/13/2021, 10:21 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (ug/L)	MW-301 (bg)	1.1	0.54	10	No	9	55.56	None	No	0.002	NP (NDs)
Arsenic (ug/L)	MW-301A (bg)	4.758	-0.8232	10	No	4	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-302 (bg)	6.473	1.102	10	No	9	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-303	51.7	31.3	10	Yes	9	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-304	14.82	11.9	10	Yes	10	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-305	12.21	6.707	10	No	10	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-306	1.513	0.6584	10	No	9	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-306A	0.88	0.75	10	No	4	100	None	No	0.0625	NP (NDs)
Arsenic (ug/L)	MW-307	7.8	4.433	10	No	6	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-308	62	43.66	10	Yes	6	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-309	132.1	64.23	10	Yes	6	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-309A	0.98	0.87	10	No	4	50	None	No	0.0625	NP (normality)
Arsenic (ug/L)	MW-310	34.62	21.38	10	Yes	6	0	None	No	0.01	Param.
Arsenic (ug/L)	MW-310A	0.88	0.75	10	No	4	100	None	No	0.0625	NP (NDs)
Lithium (ug/L)	MW-301 (bg)	14.52	8.77	40	No	9	0	None	No	0.01	Param.
Lithium (ug/L)	MW-301A (bg)	4.2	1.25	40	No	4	50	None	No	0.0625	NP (normality)
Lithium (ug/L)	MW-302 (bg)	6.953	3.603	40	No	9	11.11	None	No	0.01	Param.
Lithium (ug/L)	MW-303	19.52	15.21	40	No	9	0	None	No	0.01	Param.
Lithium (ug/L)	MW-304	16.07	9.954	40	No	9	0	None	No	0.01	Param.
Lithium (ug/L)	MW-305	17.51	11.04	40	No	9	0	None	No	0.01	Param.
Lithium (ug/L)	MW-306	3	1.15	40	No	9	88.89	None	No	0.002	NP (NDs)
Lithium (ug/L)	MW-306A	7.516	3.234	40	No	4	0	None	No	0.01	Param.
Lithium (ug/L)	MW-307	16.04	7.686	40	No	6	0	None	ln(x)	0.01	Param.
Lithium (ug/L)	MW-308	46.58	29.7	40	No	7	0	None	No	0.01	Param.
Lithium (ug/L)	MW-309	19	13	40	No	6	0	None	No	0.0155	NP (normality)
Lithium (ug/L)	MW-309A	7.096	3.254	40	No	4	0	None	No	0.01	Param.
Lithium (ug/L)	MW-310	17.6	11.4	40	No	6	0	None	No	0.01	Param.
Lithium (ug/L)	MW-310A	6.565	1.885	40	No	4	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-301 (bg)	0.65	0.285	100	No	9	77.78	None	No	0.002	NP (NDs)
Molybdenum (ug/L)	MW-301A (bg)	3.1	2.1	100	No	4	0	None	No	0.0625	NP (normality)
Molybdenum (ug/L)	MW-302 (bg)	0.99	0.55	100	No	9	66.67	None	No	0.002	NP (NDs)
Molybdenum (ug/L)	MW-303	21.53	11.56	100	No	9	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-304	29.8	22.82	100	No	9	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-305	57.72	26.54	100	No	9	0	None	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-306	258.2	217.4	100	Yes	9	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-306A	20.6	5.704	100	No	4	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-307	8.126	4.64	100	No	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-308	63.04	53.51	100	No	6	0	None	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-309	23.11	16.23	100	No	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-309A	12.6	5.253	100	No	4	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-310	69.77	41.23	100	No	6	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-310A	25.77	17.43	100	No	4	0	None	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 12/13/2021 10:21 PM View: PCS

Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 12/13/2021 10:21 PM View: PCS

Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

	MW-301 (bg)	MW-301A (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307
5/8/2018	0.54 (J)		0.79 (J)	26.9	15	14.3	0.58 (J)		
8/6/2018	1.1		9	35.1	12.3	13	0.7 (J)		
10/9/2018	0.67 (J)		4.5	44.5	14.4	6.6	0.72 (J)		
3/11/2019					12.9	11.6			
4/22/2019	<0.75 (U)		2.1	26	11	5.9	1.9 (J)		
4/23/2019									3.8
10/28/2019	<0.75 (U)		7						7.4
10/29/2019				52	14	7.3	1.6 (J)		
1/9/2020									
4/27/2020	<0.88 (U)		4.4	48	11	6.2	1.3 (J)		
5/27/2020									6.1
9/15/2020		3.7						<0.88 (U)	
10/19/2020	<0.88 (U)		2						6.7
10/20/2020				56	14	9.8	1.1 (J)	<0.88 (U)	
10/21/2020		1.9 (J)							
4/26/2021									6.5
4/27/2021	<0.75 (U)		3.4	39	13	7.9	1 (J)	<0.75 (U)	
4/28/2021		0.87 (J)							
10/20/2021						12	0.87 (J)	<0.75 (U)	
10/21/2021	0.88 (J)		0.9 (J)	46	16				6.2
10/22/2021		1.4 (J)							
Mean	0.8	1.968	3.788	41.5	13.36	9.46	1.086	0.815	6.117
Std. Dev.	0.1586	1.229	2.781	10.56	1.639	3.086	0.4424	0.07506	1.225
Upper Lim.	1.1	4.758	6.473	51.7	14.82	12.21	1.513	0.88	7.8
Lower Lim.	0.54	-0.8232	1.102	31.3	11.9	6.707	0.6584	0.75	4.433

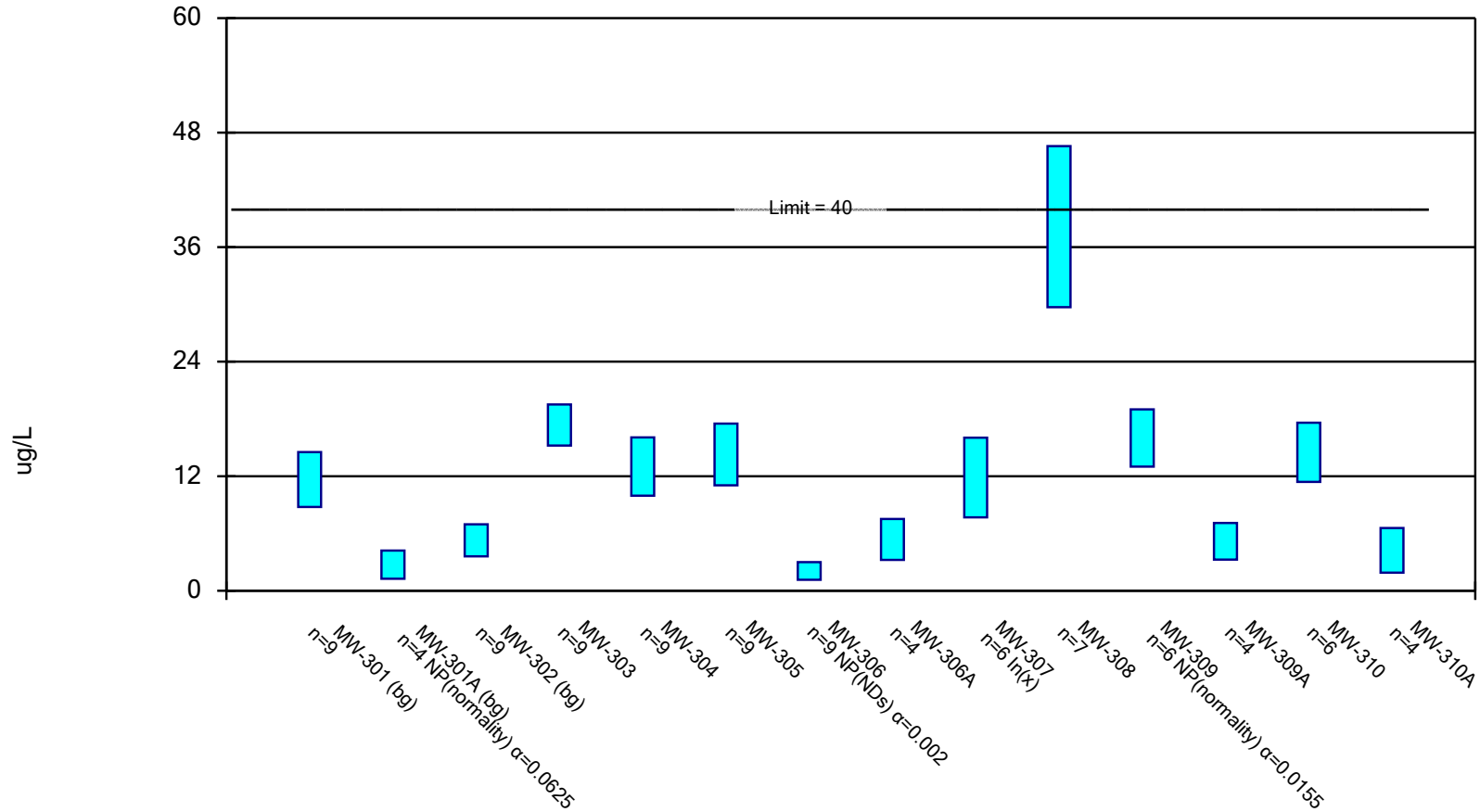
Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 12/13/2021 10:21 PM View: PCS
 Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

	MW-308	MW-309	MW-309A	MW-310	MW-310A
5/8/2018					
8/6/2018					
10/9/2018					
3/11/2019					
4/22/2019					
4/23/2019	45				
10/28/2019	63				
10/29/2019		140		31	
1/9/2020		110		28	
4/27/2020		75		23	
5/27/2020	58				
9/15/2020			<0.88 (U)		<0.88 (U)
10/19/2020	50				
10/20/2020					
10/21/2020		89	<0.88 (U)	36	<0.88 (U)
4/26/2021	53				
4/27/2021		100	0.98 (J)	25	<0.75 (U)
4/28/2021					
10/20/2021					
10/21/2021	48	75			
10/22/2021			0.87 (J)	25	<0.75 (U)
Mean	52.83	98.17	0.9025	28	0.815
Std. Dev.	6.676	24.7	0.05188	4.817	0.07506
Upper Lim.	62	132.1	0.98	34.62	0.88
Lower Lim.	43.66	64.23	0.87	21.38	0.75

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/13/2021 10:21 PM View: PCS

Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 12/13/2021 10:21 PM View: PCS

Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

	MW-301 (bg)	MW-301A (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307
5/8/2018	13.6		5.4 (J)	19	10.8	10.7	<4.6 (U)		
8/6/2018	5.4 (J)		<4.6 (U)	15.4	6.9 (J)	9.5 (J)	<4.6 (U)		
10/9/2018	13.3		4.6 (J)	19.9	13.4	13.3	<4.6 (U)		
4/22/2019	8.5 (J)		4.7 (J)	17	17	15	3 (J)		
4/23/2019									10
10/28/2019	12		5.3 (J)						15
10/29/2019				17	13	14	<2.7 (U)		
1/9/2020									
4/27/2020	11		3.8 (J)	14	11	12	<2.3 (U)		
5/27/2020									8.3 (J)
9/15/2020		4.2 (J)						4.1 (J)	
10/19/2020	15		8.2 (J)						16
10/20/2020				21	17	20	<2.5 (U)	6.3 (J)	
10/21/2020		4.1 (J)							
4/26/2021									9.4 (J)
4/27/2021	13		6.3 (J)	16	14	17	<2.5 (U)	5.8 (J)	
4/28/2021		<2.5 (U)							
7/14/2021									
10/20/2021						17	<2.5 (U)	5.3 (J)	
10/21/2021	13		6.9 (J)	17	14				10
10/22/2021		<2.5 (U)							
Mean	11.64	2.7	5.278	17.37	13.01	14.28	1.794	5.375	11.45
Std. Dev.	2.977	1.675	1.735	2.229	3.166	3.353	0.6821	0.943	3.214
Upper Lim.	14.52	4.2	6.953	19.52	16.07	17.51	3	7.516	16.04
Lower Lim.	8.77	1.25	3.603	15.21	9.954	11.04	1.15	3.234	7.686

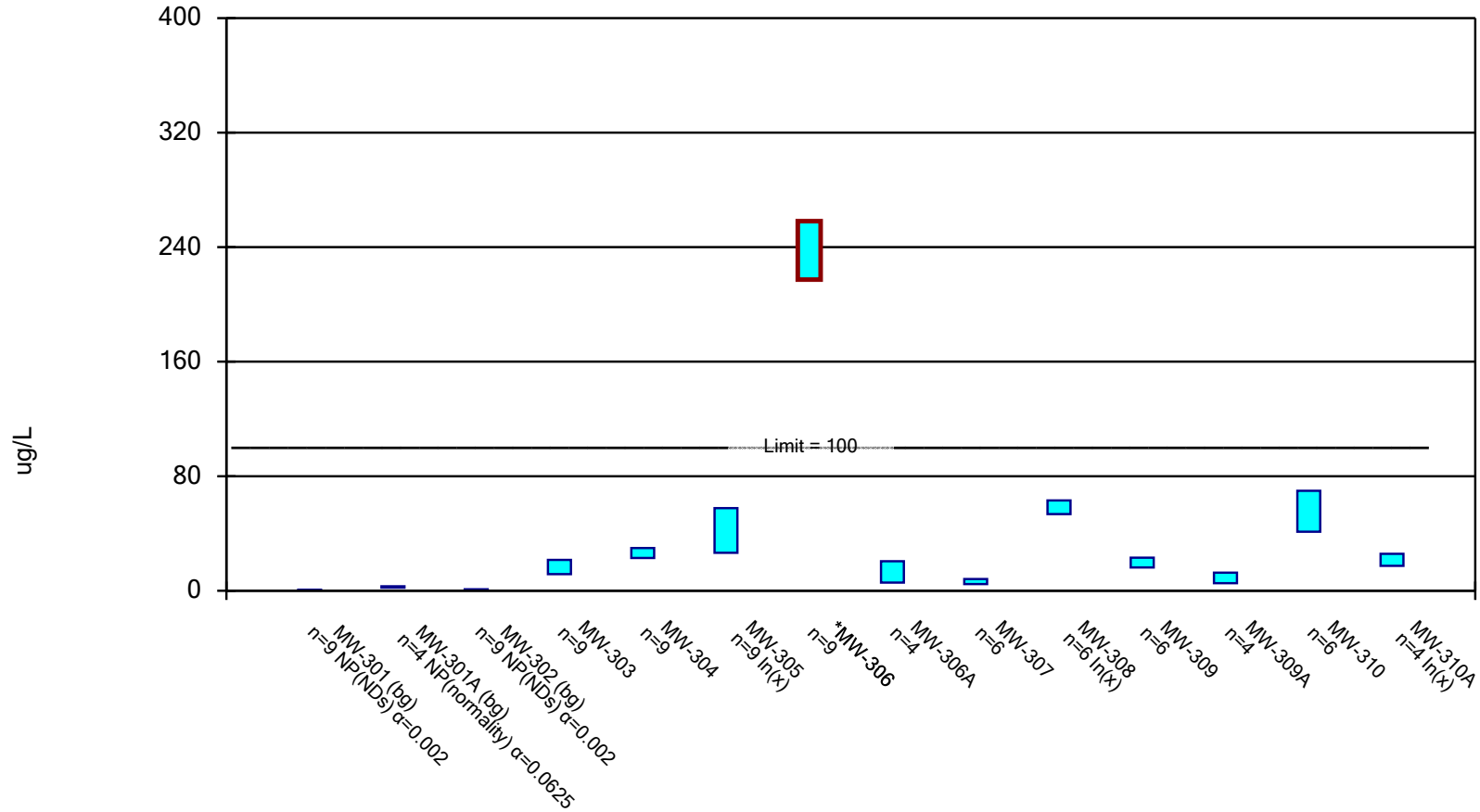
Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 12/13/2021 10:21 PM View: PCS
 Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

	MW-308	MW-309	MW-309A	MW-310	MW-310A
5/8/2018					
8/6/2018					
10/9/2018					
4/22/2019					
4/23/2019	29				
10/28/2019	31				
10/29/2019		15		15	
1/9/2020		15		14	
4/27/2020		13		11	
5/27/2020	35				
9/15/2020			4.1 (J)		3.2 (J)
10/19/2020	47				
10/20/2020					
10/21/2020		19	5.9 (J)	18	5.3 (J)
4/26/2021	39				
4/27/2021		15	5.8 (J)	15	4.9 (J)
4/28/2021					
7/14/2021	47				
10/20/2021					
10/21/2021	39	15			
10/22/2021			4.9 (J)	14	3.5 (J)
Mean	38.14	15.33	5.175	14.5	4.225
Std. Dev.	7.105	1.966	0.8461	2.258	1.031
Upper Lim.	46.58	19	7.096	17.6	6.565
Lower Lim.	29.7	13	3.254	11.4	1.885

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 12/13/2021 10:21 PM View: PCS

Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 12/13/2021 10:21 PM View: PCS
 Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

	MW-301 (bg)	MW-301A (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307
5/8/2018	0.35 (J)		0.99 (J)	23.1	19.8	27.9	271		
8/6/2018	0.44 (J)		0.78 (J)	20.7	25.4	29	234		
10/9/2018	<0.57 (U)		0.67 (J)	21.7	27.6	32	235		
4/22/2019	<1.1 (U)		<1.1 (U)	12	23	26	200		
4/23/2019									5.8
10/28/2019	<1.1 (U)		<1.1 (U)						5.2
10/29/2019				20	31	32	230		
1/9/2020									
4/27/2020	<1.1 (U)		<1.1 (U)	8.4	26	38	250		
5/27/2020									7
9/15/2020		2.1						8.6	
10/19/2020	<1.1 (U)		<1.1 (U)						5.2
10/20/2020				17	28	58	260	13	
10/21/2020		3.1							
4/26/2021									8.5
4/27/2021	<1.3 (U)		<1.3 (U)	12	25	54	240	16	
4/28/2021		3.1							
10/20/2021						84	220	15	
10/21/2021	<1.3 (U)		<1.3 (U)	14	31				6.6
10/22/2021		3.1							
Mean	0.5083	2.85	0.66	16.54	26.31	42.32	237.8	13.15	6.383
Std. Dev.	0.1258	0.5	0.1466	5.161	3.614	19.37	21.15	3.28	1.269
Upper Lim.	0.65	3.1	0.99	21.53	29.8	57.72	258.2	20.6	8.126
Lower Lim.	0.285	2.1	0.55	11.56	22.82	26.54	217.4	5.704	4.64

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 12/13/2021 10:21 PM View: PCS
 Prairie Creek Generating Station Client: SCS Engineers Data: PCS - Chem-export-Dec2020

	MW-308	MW-309	MW-309A	MW-310	MW-310A
5/8/2018					
8/6/2018					
10/9/2018					
4/22/2019					
4/23/2019	58				
10/28/2019	58				
10/29/2019		19		60	
1/9/2020		18		59	
4/27/2020		19		55	
5/27/2020	64				
9/15/2020			8.5		20
10/19/2020	58				
10/20/2020					
10/21/2020		21	7.1	71	21
4/26/2021	53				
4/27/2021		17	9.1	43	24
4/28/2021					
10/20/2021					
10/21/2021	58	24			
10/22/2021			11	45	20
Mean	58.17	19.67	8.925	55.5	21.25
Std. Dev.	3.488	2.503	1.617	10.39	1.893
Upper Lim.	63.04	23.11	12.6	69.77	25.77
Lower Lim.	53.51	16.23	5.253	41.23	17.43