2023 Annual Groundwater Monitoring and Corrective Action Report

Sutherland Generating Station
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Prepared for:

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SCS ENGINEERS

25224076.00 | August 1, 2024

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OVERVIEW OF CURRENT STATUS

Sutherland Generating Station
2023 Annual Report

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

Category	Rule Requirement	Site Status
Monitoring Status – Start of Year	(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Monitoring Status – End of Year	(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;	Assessment
Statistically Significant Increases (SSIs)	(iii) If it was determined that there was an SSI over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e):	
	(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and	SSIs initially determined on July 15, 2019, based on April 2019 monitoring results. In 2022, SSIs for semiannual events for compliance wells at the waste boundary included the following; see **Table 5** for complete results. Compliance Wells: April 2023 Boron: MW-304, MW-305, MW-306

Category	Rule Requirement	Site Status
SSIs (continued)		Calcium: MW-304, MW-305, MW-306 pH: MW-306 Sulfate: MW-303. MW-304, MW-305, MW-306 Total Dissolved Solids (TDS): MW-304, MW-305, MW-306 <u>October 2023</u> Boron: MW-303, MW-304, MW-305, MW-306, MW-312 Calcium: MW-305, MW-306, MW-312 Field pH: MW-306 Sulfate: MW-304, MW-305, MW-306, MW-312 Total Dissolved Solids: MW-305, MW-306, MW-312
	(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	January 13, 2020

Category	Rule Requirement	Site Status
Statistically Significant Levels (SSL) Above Groundwater Protection Standard (GPS)	(iv) If it was determined that there was an SSL above the GPS for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g) include all of the following:	
	(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;	Lithium: Initially determined to be at SSL above the GPS on October 25, 2021 at compliance monitoring well MW-306. In 2023, concentrations determined to be at an SSL above the GPS as follows: <u>April 2023</u> Lithium: MW-306 <u>October 2023</u> Lithium: MW-306
	(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;	January 23, 2022
	(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and	The public meeting has not yet occurred, while evaluation of the nature and extent of lithium concentrations continues.
	(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.	June 22, 2022
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	Not Selected (In Progress)
Corrective Action	(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	Not Initiated

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1.0 INTRODUCTION

This 2023 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the "Coal Combustion Residuals (CCR) Final Rule" published by the U.S. Environmental Protection Agency (U.S. EPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities;* Final Rule, dated April 17, 2015 (U.S. EPA, 2015) and subsequent amendments. Specifically, this report was prepared to fulfill the requirements of 40 Code of Federal Regulations (CFR) 257.100 and 40 CFR 257.90(e) for inactive CCR surface impoundments. The applicable sections of the Rule are provided below in *italics*, followed by applicable information relative to the 2023 Annual Groundwater Monitoring and Corrective Action Report for the CCR unit.

This report covers the period of groundwater monitoring from January 1, 2023, through December 31, 2023.

The groundwater monitoring network at Sutherland Generating Station (SGS) is a multiunit system for the closure area that includes the following inactive CCR units:

- SGS North Primary Pond (inactive surface impoundment – closed June 2020)
- SGS South Primary Pond (inactive surface impoundment – closed June 2020)
- SGS Main Pond (inactive surface impoundment – closed June 2020)
- SGS Polishing Pond (inactive surface impoundment – closed June 2020)

The system is designed to detect monitored constituents at the waste boundary of the SGS CCR units as required by 40 CFR 257.91(d). The groundwater monitoring system consists of two upgradient background monitoring wells, five downgradient compliance monitoring wells at the waste boundary, and nine additional wells installed to delineate the nature and extent of lithium impacts in groundwater (**Table 1**, **Figure 1**, and **Figure 2**).

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 requirement sections:

- Geologic and hydrogeologic setting
- CCR Rule monitoring system

2.1 GEOLOGY AND HYDROGEOLOGY

2.1.1 Regional Information

For the purposes of groundwater monitoring, the surficial alluvium aquifer, composed of glacial drift, sand, and gravel, is considered to be the uppermost aquifer unit, as defined under 40 CFR 257.53, at SGS. Immediately underlying the surficial alluvium aquifer is the Mississippian Limestone unit. Devonian aged units underlie the Mississippian limestone and are composed of shale, dolomite, and limestone. Silurian dolomite underlies the Devonian shale, dolomite, and limestone (**Appendix A**).

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

Unconsolidated deposits at the site consist of clays overlain by loess, which are not productive sources of groundwater (U.S. Department of Agriculture and Soil Conservation Service [USDA], 1981). The uppermost Pennsylvanian bedrock unit is considered to be a regional aquitard.

Regional information indicates that groundwater flow within the Mississippian limestone is to the south-southeast.

2.1.2 Site Information

During drilling of CCR wells MW-301 through MW-311, the unconsolidated materials were identified as consisting primarily of sand, lean clay, and silty sand. The boring logs for the SGS monitoring wells are provided in **Appendix B**. All CCR monitoring wells are screened within interbedded sands, lean clays, and silty sand units.

The shallow groundwater flow at the water table is generally to the east, as shown on the April and October 2023 shallow water table maps (**Figures 3** and **4**). This flow direction is consistent with previous water table maps, and the regional groundwater flow. The groundwater monitoring well network summary is provided in **Table 1**. The sampling event summary is provided in **Table 2**, and the groundwater elevation data for the CCR monitoring wells are provided in **Table 3**. Estimated horizontal gradients and flow velocities for flow at the shallow and deep levels within the aquifer are provided in **Table 4**.

2.2 CCR RULE MONITORING SYSTEM

The groundwater monitoring system established in accordance with the CCR Rule consists of two upgradient (background) monitoring wells and five downgradient monitoring wells (**Table 1** and **Figure 2**). The background wells include MW-301 and MW-302. The downgradient wells include MW-303, MW-304, MW-305, and MW-306. Following the detection of lithium at a statistically significant level (SSL) above the Groundwater Protection Standard (GPS) at monitoring well MW-306, additional upgradient wells MW-307 and MW-308 were installed in November 2021 to provide information on groundwater quality at locations expected to be downgradient from the former coal pile and upgradient from the pond closure area. Three downgradient delineation wells, MW-309, MW-310, and MW-311, were installed in May 2022 to provide information on groundwater quality at locations expected to be downgradient of the pond closure area and to support the assessment of corrective measures. MW-312 was installed in February 2023 and was added to the compliance network based on groundwater flow direction and the location of MW-312 between compliance wells MW-306 and MW-305. MW-306A, MW-313, and MW-314 were also installed in February and March 2023. MW-312A was installed in December 2023 to a depth of 36 feet below ground surface (bgs) into poorly graded sand with gravel. MW-313 and MW-314 were also installed into poorly graded sand.

The CCR Rule wells are installed in the primarily poorly graded sands, clays, and silty sands. Well depths range from approximately 16 to 19 feet, measured from the top of the well casing. The newly installed wells MW-306A and MW-312A are installed approximately 36 feet bgs into the poorly graded sands with gravel.

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

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

This report is submitted to fulfill the report requirement.

4.0 §257.90(E) ANNUAL REPORT REQUIREMENTS

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

4.1 §257.90(E)(1) SITE MAP

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

A map of the location of the site is provided as **Figure 1**. A map showing the site layout and all background (or upgradient) and downgradient monitoring wells with identification numbers for the groundwater monitoring program is provided as **Figure 2**.

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

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

Five wells were installed in 2023 and include MW-306A, MW-312, MW-312A, MW-313, and MW-314. The monitoring well logs and well construction forms are included in **Appendix B**.

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

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

Two groundwater sampling events were completed for the SGS CCR units in 2023. Assessment monitoring continued in 2023 with semiannual sampling events in April and October.

A summary of the groundwater samples collected for analysis from each monitoring well, the dates the samples were collected, and the type of sample collected is included in **Table 2**.

Groundwater samples collected from the background and compliance monitoring wells in the April and October sampling events were analyzed for Appendix III and Appendix IV constituents in accordance with assessment monitoring requirements. The samples collected at delineation wells MW-306A, MW-307, MW-308, MW-309, MW-310, MW-311, MW-313, and MW-314 were analyzed for lithium and for selected additional parameters collected for the selection of remedy. Iron was analyzed for the entire network as an additional parameter to support the selection of remedy for the April and October events.

Lithium was determined to be a SSL above the GPS in MW-306 for the April 2023 event. For the October 2023 event, lithium was determined to be a SSL in MW-306 above the GPS. Molybdenum was detected above the GPS in MW-306 above the GPS, but it was determined that it was not a SSL.

The sampling results for 2023 are summarized in **Table 5**. All field parameter results for the 2023 sampling events are provided in **Table 6**. The analytical laboratory reports from the April through October 2023 monitoring events are provided in **Appendix C**. Historical results for monitoring wells MW-301 through MW-314 are summarized in **Appendix D**.

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

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

There was no monitoring program transition in 2023.

Assessment monitoring for the site was initiated in January 2020 and continued through 2022. An Assessment of Corrective Measures (ACM) was initiated for the SGS CCR Units in January 2022 and completed in June 2022. Assessment monitoring continued during the ACM and will continue during the selection of remedy and implementation of the corrective action program.

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. In 2022, LCL evaluations were completed for lithium, which is the only Appendix IV parameter that has been detected at a concentration exceeding the GPS in at least one sample result since assessment monitoring was initiated. The LCLs were calculated with Sanitas™ using historical concentrations measured since assessment monitoring began in December 2019. The LCL evaluations completed for the April and October 2023 events are provided in **Appendix E**.

Consistent with previous determinations, lithium was determined to be at a SSL above the GPS at monitoring well MW306 in the evaluation of the 2023 assessment monitoring results. The lithium result for new monitoring well MW-312 does not represent a SSL because only two samples have been collected from the well. An additional two samples must be collected to perform an LCL evaluation for MW-312.

In 2023, the monitoring results for the April and October 2023 monitoring events were evaluated for statistically significant increases (SSIs) in detection and assessment monitoring parameters relative to background. The comparison to background was based on a prediction limit or tolerance limit

approach, comparing the results to interwell upper prediction limits (UPLs) or upper tolerance limits (UTLs) based on background monitoring results from the upgradient wells (MW-301 and MW-302). In January 2023, the interwell UPLs for Appendix III parameters were updated and interwell UTLs for Appendix IV parameters were calculated using the background data collected through October 2022. The UPLs calculated in January 2023 were applied to the evaluation of the April and October 2023 monitoring results.

The Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (U.S. EPA, 2009; Section 5.3.1) recommends periodic updating of background for both intrawell and interwell analyses. For semiannual monitoring, an update interval of 2 to 3 years is recommended; therefore, the next background update is planned for 2025 or 2026.

4.5 §257.90(E)(5) OTHER REQUIREMENTS

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

Additional potentially applicable requirements for the annual report, and the location of 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 2023 Annual Groundwater Monitoring and Corrective Action Report for the CCR units.

4.5.1 §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 assessment monitoring.

Summary of Key Actions Completed in 2023.

- Completed statistical evaluation for the October 2022 assessment monitoring event and prepared the October 2022 groundwater monitoring results statistical evaluation and report (February 2023, provided in the 2022 Annual Report).
- Cleared trees for the installation of the delineation monitoring wells (February 2023).
- Installed and developed monitoring wells MW-306A, MW-312, and MW-313 (February 2023).
- Prepared Semiannual Progress Report for the Selection of Remedy (March 2023).
- Installed and developed delineation monitoring well MW-314 (March 2023).
- Completed development and hydraulic conductivity testing of monitoring wells MW-306A, MW-312, MW-313, and MW-314 (March 2023).

- Completed semiannual groundwater sampling and analysis event (April 2023).
- Prepared April 2023 groundwater monitoring results statistical evaluation and report (August 2023).
- Prepared 2022 Annual Groundwater Monitoring and Corrective Action Report (August 2023).
- Prepared Semiannual Progress Report for the Selection of Remedy (September 2023).
- Completed semiannual groundwater sampling and analysis event (October 2023).
- Completion of CCR borings (B1 through B6) to establish the elevation of CCR materials in the Closure Area (October 2023).
- Collected groundwater samples from wells MW-307 and MW-308 to use as background groundwater for leach testing of ash samples (October 2023).
- Conducted pumping test at well MW-306 and collected groundwater samples during the pumping test for laboratory analysis (November 2023).
- Drilled and sampled clay delineation borings to provide further definition of the top of clay layer underlying the uppermost aquifer downgradient of the CCR Unit (December 2023).
- Installed delineation piezometer MW-312A (December 2023).

Description of Any Problems Encountered.

Not applicable. No problems encountered during 2023.

Discussion of Actions to Resolve the Problems.

Not applicable. No problems encountered during 2023.

Projection of Key Activities for the Upcoming Year (2024):

- Complete statistical evaluation and determination of SSLs exceeding the GPS for the October 2023 monitoring event (completed February 2024 and included in Appendix E).
- Update groundwater monitoring network certification to include MW-312 as a compliance well (February 2024).
- Complete semiannual groundwater sampling and analysis event for April 2024.
- Complete well documentation report for monitoring well MW-312A (July 2024).
- Complete statistical evaluation and determination of SSLs exceeding the GPS for the April 2024 monitoring event (August 2024).

- Prepare well documentation reports for the monitoring wells MW-306A, MW-312, MW-313, and MW-314 (July 2023).
- Evaluate results of sequential batch leach testing on base of ash samples.
- Prepare summary memo for the ash borings and ash sample results.
- Evaluate pumping test data and prepare summary memo for pumping test results.
- Review groundwater flow and groundwater quality results, ash leach testing, and aquifer pumping test results to assist in further evaluation of corrective action alternatives.
- Update the conceptual site model based on findings of nature and extent of investigation.
- Prepare ACM Addendum No. 1.
- Continue evaluation of remedial options.
- Complete semiannual groundwater sampling and analysis event for October 2024.
- Complete supplemental monitoring event(s) to support the selection of remedy, if needed.

4.5.2 §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. SGS is no longer in detection monitoring.

4.5.3 §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. No alternative source demonstration was completed in 2023.

4.5.4 §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.

4.5.5 §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 2023 assessment monitoring results, background UPLs, and GPSs established for SGS are provided in Table 5. The laboratory reports are provided in Appendix C. Historical monitoring results are summarized in Appendix D.

4.5.6 §257.95(g)(3)(ii) Alternative Source Demonstration for Assessment Monitoring

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

Not applicable. No alternative source demonstration for assessment monitoring was completed in 2023.

4.5.7 §257.96(a) Extension of Time for Corrective Measures Assessment

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

Not applicable in 2023.

§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.

5.0 REFERENCES

U.S. Department of Agriculture and Soil Conservation Service, 1981, Soil Survey on Marshall County Iowa.

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

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

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Tables

Table 1. Groundwater Monitoring Well Network
Sutherland Generating Station / SCS Engineers Project #25224076.00

Monitoring Well	Location in Monitoring Network	Role in Monitoring Network
MW-301	Upgradient	Background
MW-302	Upgradient	Background
MW-303	Downgradient	Compliance
MW-304	Downgradient	Compliance
MW-305	Downgradient	Compliance
MW-306	Downgradient	Compliance
MW-306A	Downgradient	Delineation
MW-307	Upgradient	Delineation
MW-308	Upgradient	Delineation
MW-309	Downgradient	Delineation
MW-310	Downgradient	Delineation
MW-311	Downgradient	Delineation
MW-312	Downgradient	Compliance
MW-312A	Downgradient	Delineation
MW-313	Downgradient	Delineation
MW-314	Downgradient	Delineation

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Checked by: RM Date: 3/29/2024

Table 2. Groundwater Samples Summary
Sutherland Generating Station / SCS Engineers Project #25224076.00

Sample Dates	Background Wells		Compliance Wells					Delineation Wells								
	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-312	MW-306A	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312A	MW-313	MW-314
4/10-13/2023	A	A	A	A	A	A	A	A	A	A	A	A	A	NI	A	A
10/18-20/2023	A	A	A	A	A	A	A	A	A	A	A	A	A	NI	A	A
Total Samples	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2

Abbreviations:
A = Assessment Monitoring Program sampling event
NI = Not Installed

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Checked by: RM Date: 4/1/2024

I:\25224076.00\Deliverables\2023 Federal Annual Report\Tables\[Table 2 - GW Samples Summary Table.xlsx]GW Summary

Table 3. Groundwater Elevation Summary
Sutherland Generating Station / SCS Engineers Project #25224076.00

Well Number	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312	MW-313	MW-314
Top of Casing Elevation (feet amsl)	866.61	863.08	859.54	860.79	859.81	861.13	860.32	864.87	863.07	859.95	860.55	857.64	859.97	861.25	859.57
Screen Length (ft)	10.00	10.00	10.00	10.00	10.00	10.00	5.00	10.00	10.00	15.00	15.00	10.00	10.00	10.00	10.00
Total Depth (ft from top of casing)	18.80	18.50	18.65	18.80	19.08	18.71	36.30	17.50	16.00	20.00	20.00	15.00	18.40	19.40	18.40
Top of Well Screen Elevation (ft)	857.81	854.58	850.89	851.99	850.73	852.42	829.02	857.37	857.07	854.95	855.55	852.64	851.57	851.85	851.17
Measurement Date															
November 29, 2017	853.76	853.81	851.98	851.74	851.68	851.36	NI	NI	NI	NI	NI	NI	NI	NI	NI
March 26-27, 2018	855.23	855.97	854.35	853.79	853.64	853.49	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 23, 2018	855.45	855.32	854.07	853.92	853.99	854.11	NI	NI	NI	NI	NI	NI	NI	NI	NI
June 26, 2018	856.24	856.55	854.97	854.64	854.55	854.57	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 26, 2018	855.96	855.75	854.14	853.86	854.00	853.94	NI	NI	NI	NI	NI	NI	NI	NI	NI
September 11, 2018	857.41	857.06	855.96	855.66	855.94	856.48	NI	NI	NI	NI	NI	NI	NI	NI	NI
November 28, 2018	856.99	856.74	855.01	854.79	854.87	854.91	NI	NI	NI	NI	NI	NI	NI	NI	NI
January 9, 2019	856.85	856.82	855.11	854.93	854.94	854.94	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 12, 2019	856.59	856.43	854.58	854.41	854.56	854.75	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 2, 2019	857.33	857.12	855.60	855.47	855.67	855.96	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 16, 2019	856.15	855.30	854.90	854.78	854.99	852.16	NI	NI	NI	NI	NI	NI	NI	NI	NI
December 11-12, 2019	857.05	856.11	854.47	854.29	854.33	854.39	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 3, 2020	856.24	856.59	854.57	854.35	854.28	854.14	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 7, 2020	856.16	856.23	854.63	854.54	854.64	854.70	NI	NI	NI	NI	NI	NI	NI	NI	NI
May 11, 2020	NM	NM	NM	NM	853.78	853.71	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 13, 2020	854.44	854.38	851.70	851.30	851.32	851.13	NI	NI	NI	NI	NI	NI	NI	NI	NI
February 24, 2021	NM	NM	NM	NM	NM	850.56	NI	NI	NI	NI	NI	NI	NI	NI	NI
April 6, 2021	854.38	854.85	853.21	853.15	853.02	852.79	NI	NI	NI	NI	NI	NI	NI	NI	NI
July 14, 2021	NM	NM	NM	NM	NM	850.67	NI	NI	NI	NI	NI	NI	NI	NI	NI
October 26, 2021	852.42	852.68	850.54	850.13	850.12	850.00	NI	NI	NI	NI	NI	NI	NI	NI	NI
December 9, 2021	NM	NM	NM	NM	NM	NM	NI	851.56	851.87	NI	NI	NI	NI	NI	NI
April 21-22, 2022	853.87	855.04	852.35	851.97	851.91	851.82	NI	852.76	853.08	NI	NI	NI	NI	NI	NI
May 12, 2022	NM	NM	NM	NM	NM	NM	NI	NM	NM	853.95	853.71	853.56	NI	NI	NI
May 24, 2022	854.22	854.38	853.09	852.98	853.00	853.03	NI	853.83	854.02	851.92	851.94	851.91	NI	NI	NI
August 11, 2022	853.41	853.25	851.39	851.03	851.02	850.92	NI	852.17	852.52	849.47	849.49	849.46	NI	NI	NI
October 10, 2022	851.98	851.94	849.96	849.70	849.73	849.62	NI	850.79	851.18	848.44	848.31	848.21	NI	NI	NI
March 1, 2023	NM	NM	NM	NM	NM	NM	854.26	NM	NM	NM	NM	NM	853.63	854.69	854.20
April 10-13, 2023	854.20	854.63	853.34	853.27	853.13	853.01	853.37	853.97	852.53	851.58	851.70	851.72	853.47	853.15	852.77
October 18-20, 2023	851.34	851.44	849.47	849.24	849.27	849.22	849.60	850.32	850.64	848.35	848.13	847.99	849.64	849.41	849.05
Bottom of Well Elevation (ft)	847.81	844.58	840.89	841.99	840.73	842.42	824.02	847.37	847.07	839.95	840.55	842.64	841.57	841.85	841.17

Notes:
NM = not measured
NI = not installed

Created by: NDK Date: 1/15/2018
Last revision by: BAS Date: 11/6/2023
Checked by: RM Date: 11/6/2023

I:\25224076.00\Deliverables\2023 Federal Annual Report\Tables\[Table 3 - GW Elevation Summary_SGS.xlsx]levels

Table 4A. Horizontal Gradients and Flow Velocity
Sutherland Generating Station /
SCS Engineers Project #25224076.00
January - December 2023

	East				
Sampling Dates	**h1 (ft)**	**h2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**V (ft/d)**
4/10-13/2023	854.00	851.7	2100	0.001	0.2
10/18-20/2023	850.00	847.99	1950	0.001	0.2

Well	**K Value (cm/sec)**	**K Value (ft/d)**
MW-301	6.5E-02	184
MW-302	4.0E-02	113
MW-303	1.7E-02	48
MW-304	1.2E-02	34
MW-305	3.9E-02	111
MW-306	2.6E-02	75
Geometric Mean	2.2E-02	61

Note: Geometric Mean calculation does not include the upgradient wells

Assumed Porosity, n
0.40

Groundwater flow velocity equation: V = [K*(Δh/Δl)] / n

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

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

Created by: NDK Date: 10/6/2022
Last revision by: NLB Date: 4/5/2024
Checked by: JM Date: 5/3/2024

Table 4B. Vertical Gradients
Sutherland Generating Station / SCS Engineers Project #25223076.00
2023

Vertical Hydraulic Gradients	**MW-306/MW-306A**		**MW-312/MW-312A**	
Shallow Well	MW-306		MW-312	
Screen midpoint[(2)] (feet amsl)	847.42		846.57	
Deep Well	MW-306A		MW-312A	
Screen midpoint (feet amsl)	826.52		826.13	
Measurement Date	**Distance Between Midpoints[(2)] (ft)**	**Vertical Gradient (ft/ft)**	**Distance Between Midpoints[(2)] (ft)**	**Vertical Gradient (ft/ft)**
April 10-13, 2023	20.9	0.017	20.4	NI [(2)]
October 18-20, 2023	20.9	0.018	20.4	NI [(2)]

Notes:
1: A positive vertical gradient indicates upward groundwater flow. A negative gradient indicates downward flow.
2: The vertical gradient for the MW-312/312A nest cannot be calculated for 2023 because MW-312A was not installed until December 2023.

NI: Not Installed

Created by:	RM	Date:	3/9/2023
Last rev. by:	NLB	Date:	7/30/2024
Checked by:	EMS	Date:	7/30/2024
Proj Mgr QA/QC:	TK	Date:	7/30/2024

I:\25224076.00\Deliverables\2023 Federal Annual Report\Tables\[Table 4B - SGS Groundwater Vertical Gradients 2023.xls]Table 4B - Vert Gradients

Table 5. Groundwater Analytical Results - 2023
Sutherland Generating Station / SCS Engineers Project #25224
076.00

Parameter Name	UPL Method	UPL	GPS	Background Wells				Compliance Wells									
				MW-301		MW-302		MW-303		MW-304		MW-305		MW-306		MW-312	
				4/11/2023	10/18/2023	4/10/2023	10/18/2023	4/10/2023	10/20/2023	4/11/2023	10/20/2023	4/11/2023	10/20/2023	4/12/2023	10/19/2023	4/11/2023	10/19/2023
Groundwater Elevation (ft amsl)				854.20	851.34	854.63	851.44	853.34	849.47	853.27	849.24	853.13	859.81	853.01	849.22	853.47	849.64
Appendix III																	
Boron, ug/L	P	278		77 J	<76	<76	<76	240	360	440	430	910	1100	3400	4000	--	1400
Calcium, mg/L	P	95.4		69	63	87	71	79	93	120	90	150	100	150	120	140	120
Chloride, mg/L	P	90.9		18	11	22	6.1	4.6 J	11	7.0	8.7	21	36	18	18	17	17
Fluoride, mg/L	NP	0.60		<0.38	<0.38	<0.38	<0.38	0.39 J	<0.38	<0.38	0.40 J	<0.38	0.45 J	<0.38	0.39 J	--	<0.38
Field pH, Std. Units	P	7.67		6.59	6.12	7.03	7.03	7.10	7.28	6.72	7.19	6.93	7.48	7.69	7.72	7.70	7.52
Sulfate, mg/L	P	150		46	28	110	18	150	89	310	150	390	200	400	320	240	250
Total Dissolved Solids, mg/L	P	483		290	270	380	270	430	410	620	460	840	530	720	600	--	560
Appendix IV	**UTL Method**	**UTL**															
Antimony, ug/L	P	1.48	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0
Arsenic, ug/L	NP	21	40	0.77 J	<0.53	3.9	3.8	0.58 J	2.0	<0.53	<0.53	5.8	10	3.5	4.5	--	1.2 J
Barium, ug/L	P	275	2,000	56	43	110	96	46	53	25	22	39	41	63	57	--	56
Beryllium, ug/L	NP	0.48	4	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	--	<0.33
Cadmium, ug/L	NP	0.28	5	0.18 J	<0.10	0.11 J	<0.10	<0.10	<0.10	<0.10	<0.10	0.10 J	<0.10	<0.10	<0.10	--	<0.10
Chromium, ug/L	NP	3.5	100	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	--	<1.1
Cobalt, ug/L	P	17.3	8.8	0.47 J	0.24 J	1.5	1.8	0.21 J	0.69	<0.17	<0.17	1.1	0.69	0.38 J	0.29 J	--	0.96
Fluoride, mg/L	NP	0.60	4	<0.38	<0.38	<0.38	<0.38	0.39 J	<0.38	<0.38	0.40 J	<0.38	0.45 J	<0.38	0.39 J	--	<0.38
Lead, ug/L	NP	2.5	15	0.38 J	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	--	<0.24
Lithium, ug/L	NP	12.6	40	2.8 J	3.1 J	2.8 J	2.8 J	16	21	<2.5	6.3 J	22	36	59	62	58	66
Mercury, ug/L	DQ	DQ	2	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--	<0.14
Molybdenum, ug/L	NP	13.6	100	1.9 J	<0.91	0.91 J	<0.91	4.7	16	<0.91	3.8	27	48	76	100	--	33
Selenium, ug/L	NP	22.0	50	6.8	3.8 J	12	<1.4	9.0	<1.4	3.3 J	<1.4	<1.4	<1.4	<1.4	<1.4	--	<1.4
Thallium, ug/L	NP	0.43	2	0.97 J	<0.26	1.3	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	--	<0.26
Radium 226/228 Combined, pCi/L	P	3.36	5	0.00562	0.957	0.548	0.788	0.000	0.393	0.462	0.975	0.545	0.853	0.474	1.26	--	1.02
Additional Parameters - Selection of Remedy																	
Iron, ug/L	UPL or GPS not applicable			340 F1	220	370	410	84 J	150	<36	<36	350	310	49 J	<36	72 J	90 J
Magnesium, ug/L				--	--	--	--	--	--	--	--	--	--	--	--	22000	23000
Manganese, ug/L				--	--	--	--	--	--	--	--	--	--	--	--	1400	1200
Potassium, ug/L				--	--	--	--	--	--	--	--	--	--	--	--	7500	7700
Sodium, ug/L				--	--	--	--	--	--	--	--	--	--	--	--	26000	26000
Total Alkalinity, mg/L				--	--	--	--	--	--	--	--	--	--	--	--	260	170
Carbonate Alkalinity, mg/L				--	--	--	--	--	--	--	--	--	--	--	--	<2.5	<2.5
Bicarbonate Alkalinity, mg/L				--	--	--	--	--	--	--	--	--	--	--	--	260	170

Blue shaded cell indicates the compliance well result exceeds the UPL and the LOQ.
Yellow shaded cell indicates the compliance well result exceeds the GPS.
Grayscale indicates Additional Parameters sampled for selection of remedy.

Abbreviations:

UPL = Upper Prediction Limit
UTL = Upper Tolerance Limit
ug/L= micrograms per Liter
mg/L = milligrams per Liter
LOD = Limit of Detection
LOQ = Limit of Quantification
P = Parametric UPL with 1-of-2 retesting
NP= Nonparametric UPL (highest background value)
DQ= Double Quantification (not detected in background)
GPS = Groundwater Protection Standard
-- = Not Analyzed
ft amsl = feet above mean sea level

Lab Notes/Qualifiers:

F1 = MS and/or MSD Recovery is outside acceptance limits.
J = Result is less than the reporting limit but greater than limits or equal to the method detection limit and the concentration is an approximate value.

Notes:

1. An individual result above the UPL or GPS does not constitute a statistically significant increase (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 (MCL), 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.
4. For compliance wells, only results confirmed above the LOQ are evaluated as potential SSIs above background or statistically significant level above GPS.

Table 5. Groundwater Analytical Results - 2023
Sutherland Generating Station / SCS Engineers Project #25224
076.00

Parameter Name	UPL Method	UPL	GPS	Delineation Wells															
				MW-306A		MW-307		MW-308		MW-309		MW-310		MW-311		MW-313		MW-314	
				4/12/2023	10/18/2023	4/10/2023	10/18/2023	4/13/2023	10/18/2023	4/11/2023	10/20/2023	4/11/2023	10/20/2023	4/11/2023	10/20/2023	4/12/2023	10/19/2023	4/13/2023	10/19/2023
Groundwater Elevation (ft amsl)				853.37	849.60	853.97	850.64	852.53	850.64	851.58	848.35	851.70	848.13	851.72	847.99	853.15	849.41	852.77	849.05
Appendix III																			
Boron, ug/L	P	278		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, mg/L	P	95.4		170	160	--	--	--	--	140	95	170	130	120	130	150	130	130	140
Chloride, mg/L	P	90.9		21	--	--	--	--	--	19	--	43	--	21	--	15	--	18	--
Fluoride, mg/L	NP	0.60		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field pH, Std. Units	P	7.67		7.48	7.35	6.56	6.58	6.73	6.80	7.25	7.41	6.96	7.30	7.17	7.16	7.03	7.21	7.26	7.15
Sulfate, mg/L	P	150		210	--	--	--	--	--	400	--	460	--	260	--	290	--	310	--
Total Dissolved Solids, mg/L	P	483		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Appendix IV	**UTL Method**	**UTL**																	
Antimony, ug/L	P	1.48	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, ug/L	NP	21	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium, ug/L	P	275	2,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, ug/L	NP	0.48	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, ug/L	NP	0.28	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, ug/L	NP	3.5	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, ug/L	P	17.3	8.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride, mg/L	NP	0.60	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead, ug/L	NP	2.5	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithium, ug/L	NP	12.6	40	38	39	24	11	12	16	21	17	4.0 J	20	20	33	25	44	32	35
Mercury, ug/L	DQ	DQ	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum, ug/L	NP	13.6	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium, ug/L	NP	22.0	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, ug/L	NP	0.43	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Radium 226/228 Combined, pCi/L	P	3.36	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Additional Parameters - Selection of Remedy																			
Iron, ug/L	UPL or GPS not applicable			510	1000	620	280	4700	580	360	950	<36	97 J	<36	47 J	200	110	790	620
Magnesium, ug/L				14000	14000	--	--	--	--	41000	30,000	64000	41,000	31000	34,000	37000	31,000	37000	40,000
Manganese, ug/L				740	770	--	--	--	--	98	180	6.6 J	360	45	87	4100	3200	640	800
Potassium, ug/L				9900	9600	--	--	--	--	4700	3,500	220 J	4,100	3600	5,100	4100	5,500	4900	5,900
Sodium, ug/L				29000	27000	--	--	--	--	43000	33,000	36000	41,000	39000	43,000	30000	34,000	38000	47,000
Total Alkalinity, mg/L				340	280	--	--	--	--	220	190	260	200	240	220	340	180	250	210
Carbonate Alkalinity, mg/L				<2.5	<2.5	--	--	--	--	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Bicarbonate Alkalinity, mg/L				340	280	--	--	--	--	220	190	260	200	240	220	340	180	250	210

Blue shaded cell indicates the compliance well result exceeds the UPL and the LOQ.
Yellow shaded cell indicates the compliance well result exceeds the GPS.
Grayscale indicates Additional Parameters sampled for selection of remedy.

Abbreviations:

UPL = Upper Prediction Limit
UTL = Upper Tolerance Limit
ug/L= micrograms per Liter
mg/L = milligrams per Liter
LOD = Limit of Detection
LOQ = Limit of Quantification
P = Parametric UPL with 1-of-2 retesting
NP= Nonparametric UPL (highest background value)
DQ= Double Quantification (not detected in background)
GPS = Groundwater Protection Standard
-- = Not Analyzed
ft amsl = feet above mean sea level

Lab Notes/Qualifiers:

F1 = MS and/or MSD Recovery is outside acceptance limits.
J = Result is less than the reporting limit but greater than limits or equal to the method detection limit and the concentration is an approximate value.

Notes:

1. An individual result above the UPL or GPS does not constitute a statistically significant increase (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 (MCL), 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.
4. For compliance wells, only results confirmed above the LOQ are evaluated as potential SSIs above background or statistically significant level above GPS.

Created by: NDK Date: 11/1/2022
Last revision by: NLB Date: 3/28/2024
Checked by: RM Date: 4/3/2024
Proj Mgr QA/QC: TK Date: 7/6/2024

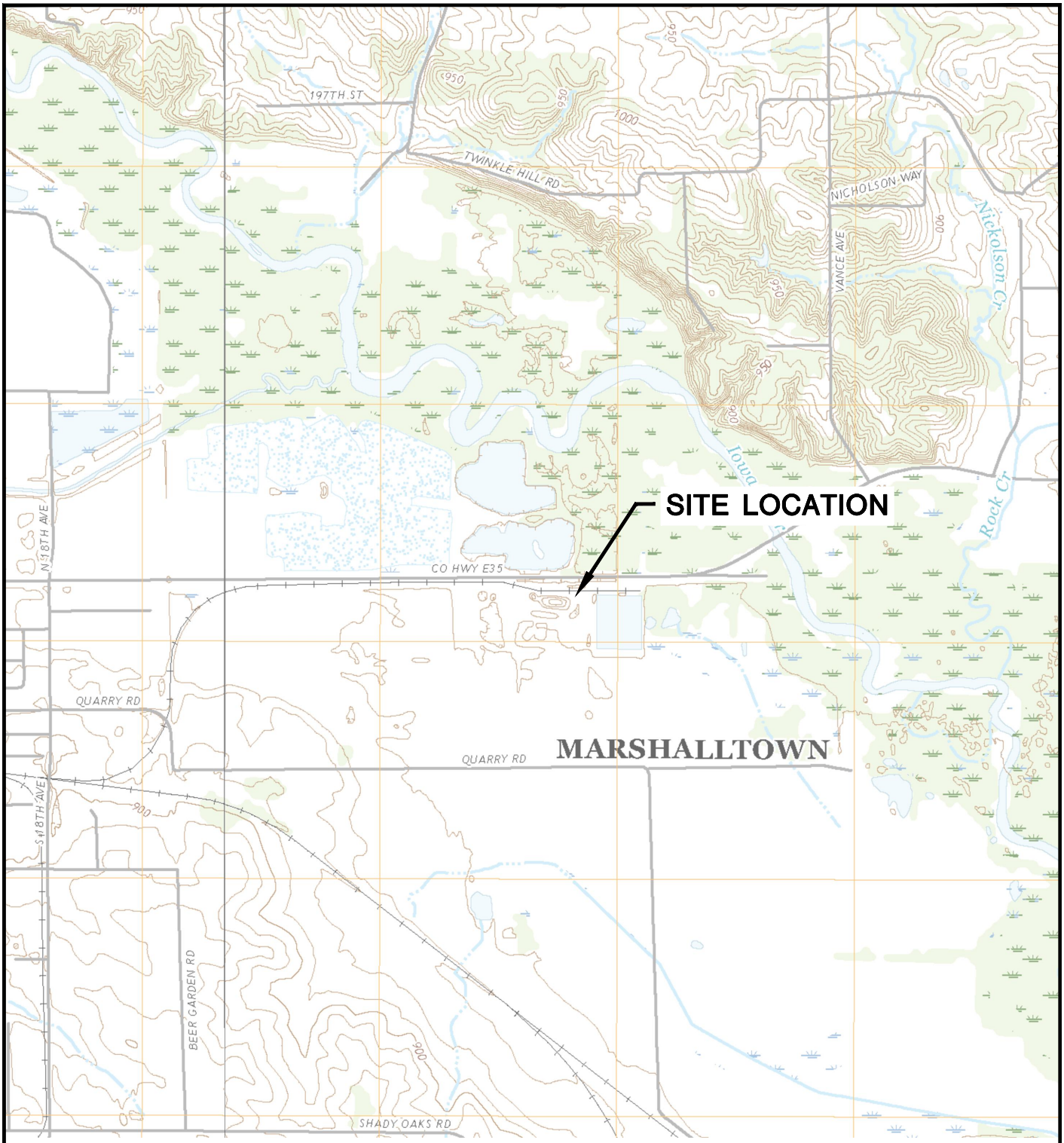
Table 6. 2023 Groundwater Field Data Summary
Sutherland Generating Station / SCS Engineers Project #25224076.00
January - December 2023

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	4/11/2023	854.20	8.8	6.59	0.38	462	134	36.2
	10/18/2023	851.34	17.5	6.12	1.52	499	129	18.0
MW-302	4/10/2023	854.63	8.9	7.03	1.99	571	60	5.39
	10/18/2023	851.44	14.4	7.03	0.65	525	11	8.7
MW-303	4/10/2023	853.34	7.7	7.10	0.00	560	193	0.02
	10/20/2023	849.47	15.0	7.28	1.22	741	9	5.33
MW-304	4/11/2023	853.27	6.7	6.72	2.62	816	196	0.02
	10/20/2023	849.24	12.2	7.19	0.99	775	108	5.09
MW-305	4/11/2023	853.13	9.4	6.93	0.13	1,044	140	0.02
	10/20/2023	849.27	14.2	7.48	0.64	911	29	6.19
MW-306	4/12/2023	853.01	11.4	7.69	0.14	988	-9	0.02
	10/19/2023	849.22	933	7.72	0.60	933	27	6.60
MW-306A	4/12/2023	853.37	12.6	7.48	0.11	940	-69	4.53
	10/18/2023	849.60	14.1	7.35	0.69	1,016	-59	15.2
MW-307	4/10/2023	853.97	10.7	6.56	0.00	1,686	136	1.27
	10/18/2023	850.32	14.2	6.58	0.71	991	30	10.8
MW-308	4/13/2023	852.53	9.3	6.73	0.11	1,160	48	40.0
	10/18/2023	850.64	13.8	6.80	0.61	981	29	4.96
MW-309	4/11/2023	851.58	9.7	7.25	0.44	1,017	97	1.69
	10/20/2023	848.35	11.5	7.41	0.92	1,128	84	36.0
MW-310	4/11/2023	851.70	7.7	6.96	2.83	1,189	88	0.02
	10/20/2023	848.13	12.3	7.30	1.81	1,123	82	8.17
MW-311	4/11/2023	851.72	6.9	7.17	1.88	847	113	0.02
	10/20/2023	847.99	13.9	7.16	1.62	1,075	94	7.50
MW-312	4/12/2023	853.47	10.5	7.70	0.10	848	19	0.02
	10/19/2023	849.64	14.4	7.52	1.30	934	8	10.0
MW-313	4/13/2023	853.15	9.7	7.03	0.07	1,013	61	4.45
	10/19/2023	849.41	12.7	7.21	1.30	1,076	39	13.2
MW-314	4/13/2023	852.77	7.4	7.26	0.22	967	55	30.0
	10/19/2023	849.05	13.4	7.15	2.14	1195	78	26.2

Notes:
1. Dissolved oxygen values recorded at MW-303 and MW-307 during the April 2023 sampling events were negative values and were adjusted to 0.00 mg/L for this table.

Created by:	RM	Date:	10/6/2022
Last revision by:	NLB	Date:	3/22/2024
Checked by:	RM	Date:	4/1/2024

Figures



N

LE GRAND QUADRANGLE
IOWA–MARSHALL COUNTY
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'

CLIENT	ALLIANT ENERGY 4902 N. BILTMORE LANE, #1000 MADISON, WI 53718	SITE	ALLIANT ENERGY SUTHERLAND GENERATING STATION MARSHALLTOWN, IOWA

SITE LOCATION MAP

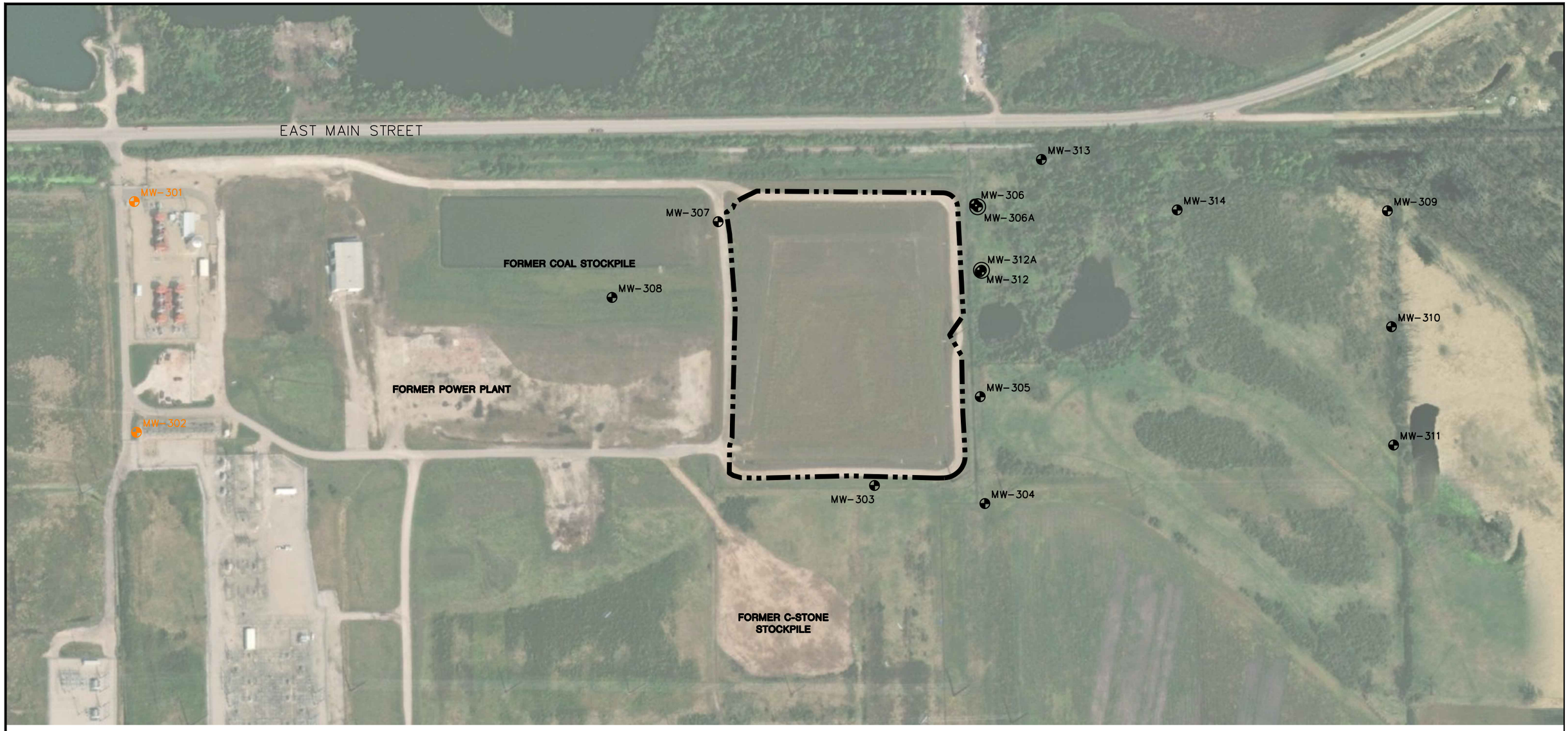
PROJECT NO.	25222076.00	DRAWN BY:	BSS
DRAWN:	11/15/2019	CHECKED BY:	MDB
REVISED:	01/14/2020	APPROVED BY:	TK 3/20/2022

ENGINEER

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

FIGURE
1

I:\25222076.00\Drawings\Site Location Map.dwg, 2/17/2022 4:49:10 PM



LEGEND

- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- CCR PIEZOMETER
- FINAL CLOSURE AREA LIMITS

NOTES:

1. 2020 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.
2. MONITORING WELLS MW-301 THROUGH MW-306 WERE INSTALLED BY DIRECT PUSH ANALYTICAL, NOVEMBER 20-21, 2017.
3. MONITORING WELLS MW-307 AND MW-308 WERE INSTALLED BY TERRACON, INC. IN NOVEMBER 30, 2021.
4. MONITORING WELLS MW-309, MW-310, AND MW-311 WERE INSTALLED BY DIRECT PUSH ANALYTICAL ON MAY 4, 2022.
5. MONITORING WELLS MW-306A, MW-312, MW-313, AND MW-314 WERE INSTALLED BY DIRECT PUSH ANALYTICAL ON FEBRUARY 28, 2023 THROUGH MARCH 1, 2023.
6. MONITORING WELL MW-312A WAS INSTALLED BY IMPACT 7G, INC. ON DECEMBER 27, 2023.
7. THE BACKGROUND MONITORING WELLS FOR THE SUTHERLAND GENERATING STATION ARE MW-301 AND MW-302.

N

300 0 300

SCALE: 1" = 300'

PROJECT NO.	25224076.00	DRAWN BY:	BSS
DRAWN:	11/14/2019	CHECKED BY:	NLB
REVISED:	07/30/2024	APPROVED BY:	TK 7/30/2024

ENGINEER: 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
SUTHERLAND GENERATING STATION
MARSHALLTOWN, IOWA

SITE PLAN AND MONITORING WELL LOCATIONS

FIGURE 2

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EAST MAIN STREET

MW-301
854.20

MW-302
854.63

MW-303
853.34

MW-304
853.27

MW-305
853.13

MW-306
853.01
MW-306A

MW-307
853.97

MW-308
852.53*

MW-309
851.58

MW-310
851.70

MW-311
851.72

MW-312
853.47
MW-312A

MW-313
853.15

MW-314
852.77

FORMER COAL STOCKPILE

FORMER POWER PLANT

C-STONE STOCKPILE

854.5
854.0
853.5
853.0
852.5
852.0

LEGEND

- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- 854.38 WATER TABLE ELEVATION
- WATER TABLE CONTOUR CONTOUR 0.5' INTERVAL (DASHED WHERE INFERRED)
- FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEE FIGURE 2 FOR BASE MAP NOTES.
2. THE BACKGROUND MONITORING WELLS FOR THE SUTHERLAND GENERATING STATION ARE MW-301 AND MW-302.
3. WATER TABLE CONTOURS ARE ESTIMATED BASED ON DATA OBTAINED ON APRIL 10-13, 2023.
4. * NOT USED IN INTERPRETATION.

N

300 0 300

SCALE: 1" = 300'

PROJECT NO.	25224076.00	DRAWN BY:	KP/SB
DRAWN:	05/05/2023	CHECKED BY:	NLB
REVISED:	07/30/2024	APPROVED BY:	TK 7/30/2024

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

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

SITE: ALLIANT ENERGY
SUTHERLAND GENERATING STATION
MARSHALLTOWN, IOWA

WATER TABLE MAP
APRIL 2023

FIGURE
3

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EAST MAIN STREET

MW-301
851.34

MW-302
851.44

FORMER COAL STOCKPILE

FORMER POWER PLANT

C-STONE STOCKPILE

MW-307
850.32

MW-308
850.64

MW-313
849.41

MW-306
849.22
MW-306A

MW-312A
MW-312
849.64

MW-314
849.05

MW-309
848.35

MW-310
848.13

MW-305
849.27

MW-311
847.99

MW-303
849.47

MW-304
849.24

851.0
850.5
850.0
849.5
849.0
848.5
848.0

LEGEND

⊕	CCR MONITORING WELL
⊕	CCR BACKGROUND MONITORING WELL
854.38	WATER TABLE ELEVATION
——— – – –	WATER TABLE CONTOUR CONTOUR 0.5' INTERVAL (DASHED WHERE INFERRED)
- - →	FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4)
→	APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEE FIGURE 2 FOR BASE MAP NOTES.
2. THE BACKGROUND MONITORING WELLS FOR THE SUTHERLAND GENERATING STATION ARE MW-301 AND MW-302.
3. WATER TABLE CONTOURS ARE ESTIMATED BASED ON DATA OBTAINED ON OCTOBER 18-20, 2023.

N

300 0 300

SCALE: 1" = 300'

PROJECT NO.	25224076.00	DRAWN BY:	KP/SB
DRAWN:	12/04/2023	CHECKED BY:	NLB
REVISED:	07/30/2024	APPROVED BY:	TK 7/30/2024

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

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

SITE: ALLIANT ENERGY
SUTHERLAND GENERATING STATION
MARSHALLTOWN, IOWA

WATER TABLE MAP
OCTOBER 2023

FIGURE
4

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Appendix A

Summary of Regional Hydrogeologic Stratigraphy

The aquifers and rocks in central Iowa

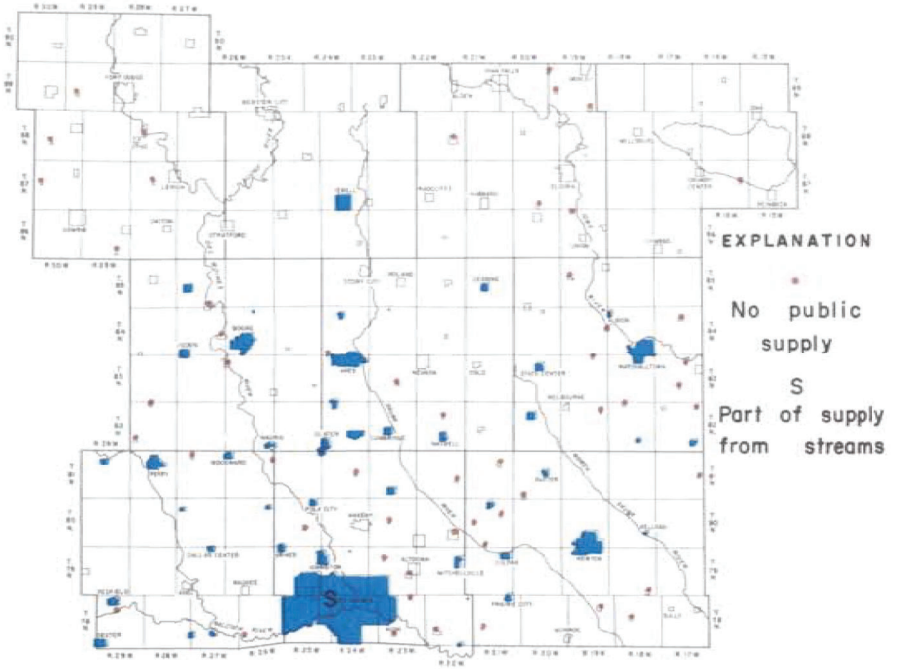
Aquifers	General thickness (feet)	Age of rocks	Name of rock units	General description of rock units
Surficial Alluvial Buried-channel Drift	0-380	Quaternary (0-1 million years old)	Undifferentiated	Primarily alluvium and drift composed of gravel, sand, silt, and clay
	0-900	Cretaceous (63-135 million years old)	Undifferentiated	Shale, limestone, and sandstone; in Webster County only
	0-550	Permian(?) (230-280 million years old)	Fort Dodge beds	Gypsum and shales; in Webster County only
		Pennsylvanian (280-310 million years old)	Undifferentiated	Shale, sandstone, thin limestones, and coal
Upper bedrock	0-475	Mississippian (310-345 million years old)	Ste. Genevieve St. Louis Warsaw Keokuk Burlington Gilmore City Hampton	Shale and limestone Limestone, sandy Shale and dolomite Dolomite and limestone Dolomite and limestone Limestone Limestone and dolomite
	5-200		McCraney English River Maple Mill Aplington Sheffield	Limestone Siltstone Shale Dolomite Shale
Middle bedrock	400-750	Devonian (345-405 million years old)	Lime Creek Cedar Valley Wapsipinicon	Dolomite and shale Limestone and dolomite Limestone, dolomite, and shale
	330-700	Silurian (405-425 million years old)	Undifferentiated	Dolomite and sandy dolomite
		Ordovician (425-500 million years old)	Maquoketa Galena Decorah Platteville	Dolomite and shale Dolomite and chert Limestone and shale Limestone, shale, and sandstone
Lower bedrock	375-560		St. Peter Prairie du Chien	Sandstone Dolomite and sandstone
		Cambrian (500-600 million years old)	Jordan St. Lawrence	Sandstone Dolomite
	350-550		Franconia Galesville Eau Claire Mt. Simon	Sandstone, siltstone, and shale Sandstone Sandstone, shale, and dolomite Sandstone
	-----	Precambrian (600 million to more than 2 billion years old)		Igneous and metamorphic rocks, locally overlain by sedimentary rocks that are chiefly sandstone

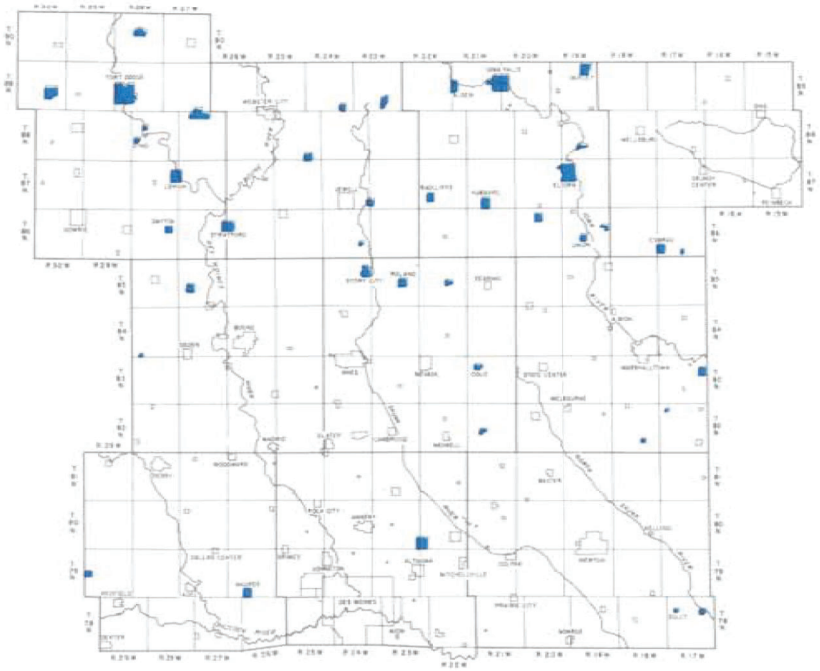
Source: F.R. Twenter and R.W. Coble, "The Water Story in Central Iowa," Iowa Geologic Survey Water Atlas Number 1, 1965.

The aquifers that supply water for cities and communities

Various reasons determine why a city or community will choose one aquifer over the other as a source of water for their municipal supply. In general, however, the aquifer selected will be one that will provide the largest quantity of good water at the lowest cost.

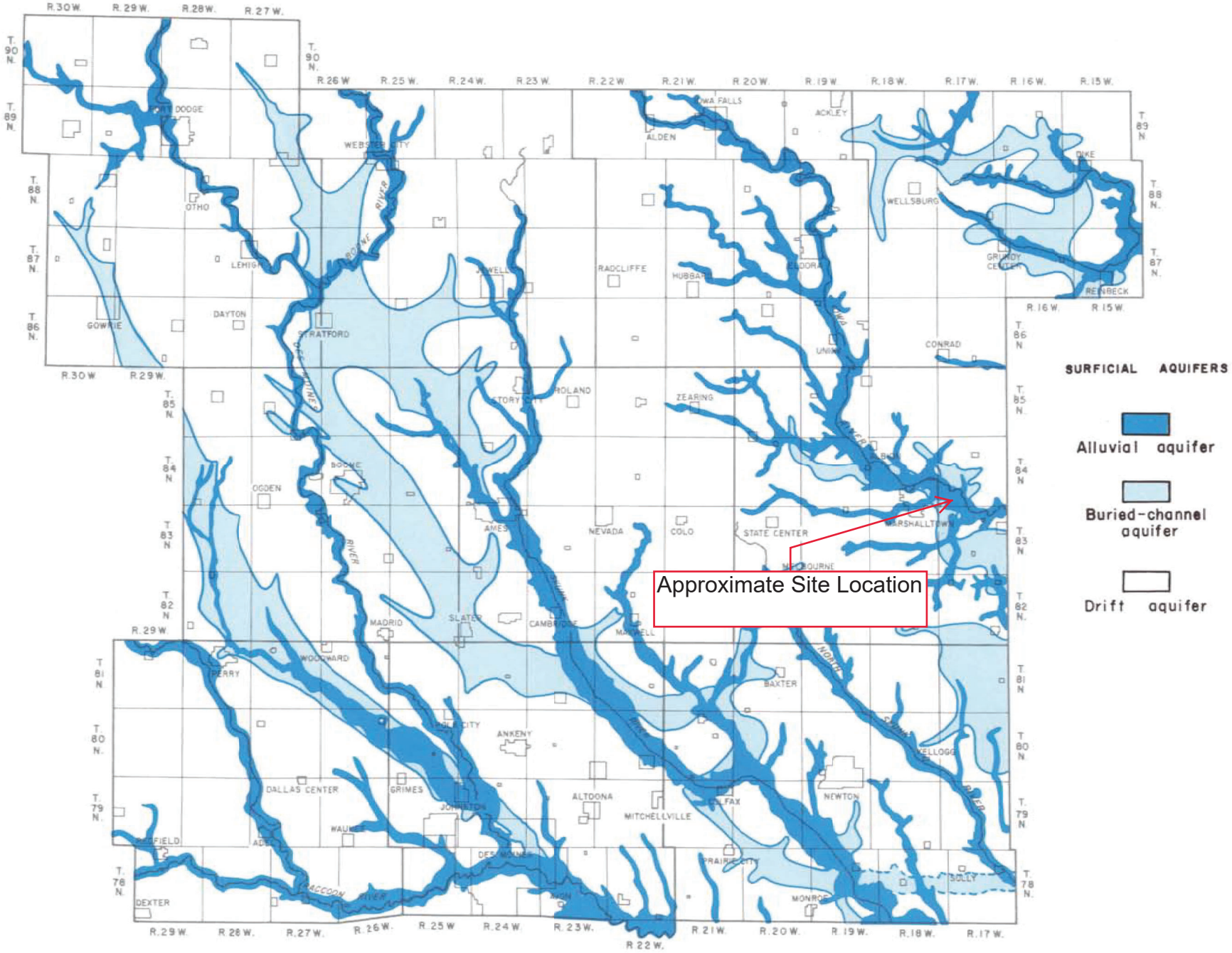
The surficial aquifers are the source of water for municipal supplies in nearly 100 cities and communities in central Iowa. Also, they are the source of water for individual supplies in many of the small communities that have no municipal supply.



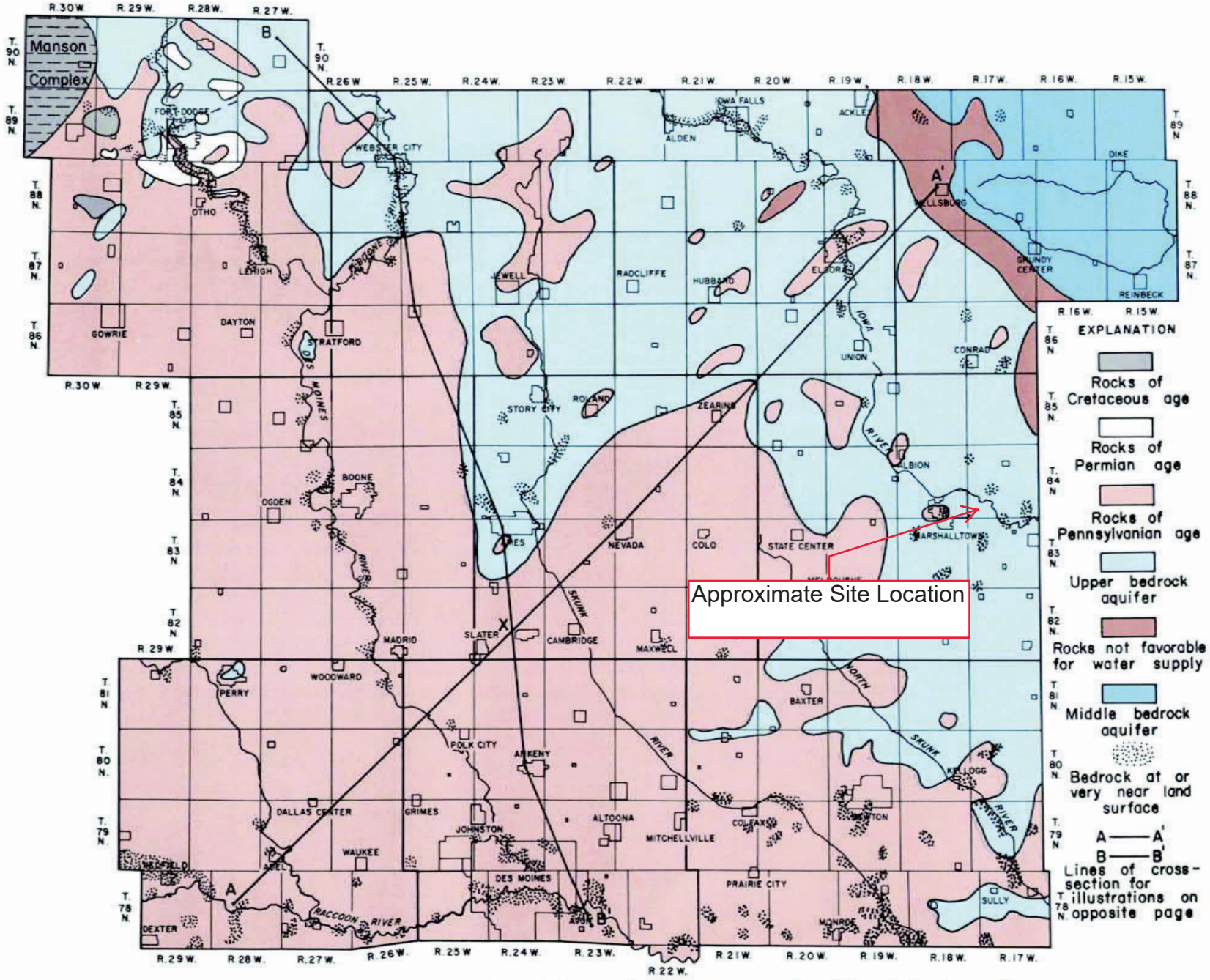


More than 40 cities and communities take all or most of their water from the upper bedrock aquifer.

Source: F.R. Twenter and R.W. Coble, "The Water Story in Central Iowa," Iowa Geologic Survey Water Atlas Number 1, 1965.



Source: F.R. Twenter and R.W. Coble, "The Water Story in Central Iowa," Iowa Geologic Survey Water Atlas Number 1, 1965.



The areal distribution and spatial relations of the upper and middle bedrock aquifers.

Source: F.R. Twenter and R.W. Coble, "The Water Story in Central Iowa," Iowa Geologic Survey Water Atlas Number 1, 1965.

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	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Station SCS#: 25216149.00		MW-301

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	11/20/2017	11/20/2017	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-301	Feet	863.5 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,478 N, 5,094,231 E S/C/N
NW 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–8	POORLY GRADED SAND, fine to medium, tan, (10YR 4/6), (construction fill sand to fill in hydrovac hole cleared to 8 ft bgs). Blind drilled to 8 feet.	SP									
S1	30		8–12	POORLY GRADED SAND, fine to coarse, dark brown, (7.5YR 3/3).	SP					M+/W				Depth to water at ~8 feet
S2	30		14							W				
			16	End of boring at 16.19 feet.										

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

Signature: [signature] for Katie Hewes
Firm: SCS Engineers, 2830 Dairy Drive Madison, WI 53711
Tel: (608) 224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Station SCS#: 25216149.00		MW-302

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	11/20/2017	11/20/2017	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-302	Feet	860.1 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,480,768 N, 5,094,238 E S/C/N
NW 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, fine to coarse, (10YR 4/6), (construction fill sand to fill in hydrovac hole cleared to 8 ft bgs).										
			2	Blind drilled to 8 feet.										
			3											
			4		SP									
			5											
			6											
			7											
			8	LEAN CLAY, gray (10YR 6/1), soft, plastic.	CL									
			9	SILTY SAND, fine to medium sand, brown, (10YR 4/3).	SM									
S1	36		10	POORLY GRADED SAND, fine to coarse, grayish/brown, (10YR 5/2).						M+/W				Depth to water at ~9 feet.
			11											
			12											
			13		SP									
S2	26		14	Same as above but very dark gray (10YR 3/1).						W				
			15											
				End of boring at 15.98 feet.										

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

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

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Statation SCS#: 25216149.00		MW-303

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	11/20/2017	11/20/2017	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-303	Feet	856.7 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,480,604 N, 5,096,509 E S/C/N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, fine to coarse, tan, (10YR 4/6), (construction fill sand to fill in hydrovac hole cleared to 8 ft bgs).										
			2	Blind drilled to 8 feet.										
			3											
			4		SP									
			5											
			6											
			7											
			8	POORLY GRADED SAND with few fine sub-rounded gravel, dark brown, (5YR 3/3).										
			9											
S1	24		10							W				Depth to water at ~8 feet.
			11											
			12		SP									
			13											
S2	30		14							W				
			15											
			16	End of boring at 16.31 feet.										

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

Signature	Firm	
Mark Hamm for Nate Harms	SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Statation SCS#: 25216149.00		MW-304

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	11/20/2017	11/20/2017	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-304	Feet	857.8 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,480,549 N, 5,096,849 E S/C/N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, fine to coarse, tan, (construction fill sand to fill in hydrovac hole). Blind drilled to 4 feet.	SP									
			2											
			3											
			4	LEAN CLAY, brown, (7.5YR 4/3), soft, plastic, trace organic fibers.										
			5											
S1	30		6							M+/W				Depth to water at ~7 feet.
			7											
			8		CL									
			9											
S2	32		10							W				
			11											
			12	POORLY GRADED SAND, fine to coarse, dark yellow brown, (10YR 3/6).	SP									
			13	SILTY SAND, very dark gray, (10YR 3/1), soft.										
S3	42		14		SM					W				
			15	POORLY GRADED SAND with fine sub-rounded gravel, fine to coarse, dark yellow brown, (10YR 3/6).	SP									
			16	End of boring at 16.30 feet.										

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

Signature Kyle Hamm for Nicole Harms

Firm SCS Engineers
2830 Dairy Drive Madison, WI 53711

Tel: (608) 224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Station SCS#: 25216149.00		MW-305

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	11/21/2017	11/21/2017	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-305	Feet	856.8 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,480,877 N, 5,096,835 E S/C/N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, fine to coarse, tan, (construction fill sand to fill in hydrovac hole cleared to 7.5 ft bgs). Blind drilled to 4 feet.	SP									
			2											
			3											
			4	POORLY GRADED SAND, fine to coarse, dark yellowish brown, (10YR 4/4), (construction fill sand to fill in hydrovac hole cleared to 7.5 ft bgs).										
			5											
S1	18		6		SP					M+/W				Depth to water at ~7 feet.
			7											
			8	LEAN CLAY with trace medium to coarse sand, very dark gray, (2.5YR 3/1), medium stiffness.	CL									
			9	POORLY GRADED SAND with trace fine sub-rounded gravel, fine to coarse, light olive brown, (2.5YR 3/1 and 2.5YR 5/4).										
S2	12		10							W				
			11											
			12		SP									
			13											
S3	30		14							W				
			15											
			16	End of boring at 16.58 feet.										

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

Signature Kyle Thum for Nate Helms
Firm SCS Engineers
2830 Dairy Drive Madison, WI 53711
Tel: (608) 224-2830
Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Station SCS#: 25216149.00		MW-306

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	11/21/2017	11/21/2017	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-306	Feet	858.2 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,470 N, 5,096,817 E S/C/N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	POORLY GRADED SAND, fine to coarse, tan, (construction fill sand to fill in hydrovac hole cleared to 8 ft bgs).										
			2	Blind drilled to 4 feet.	SP									
			3											
			4	POORLY GRADED SAND, fine to coarse, strong brown, (7.5YR 4/6), (construction fill sand to fill in hydrovac hole cleared to 8 ft bgs).										
			5											
S1	12		6							M				
			7											
			8											
			9											
S2	12		10		SP					W				Depth to water at ~8 feet.
			11											
			12											
			13											
S3	36		14	Same as above but dark yellowish brown color (10YR 3/4).						W				
			15											
			16	End of boring at 16.23 feet.										

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

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

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Statation SCS#: 25221243.00		MW-307

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Duncan List Terracon	11/30/2021	11/30/2021	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-307	13.3 Feet bgs	862.3 Feet	8.25 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,415 N, 5,096,028 E S / C / N
NE 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5	Hydroexcavated to 7.5' bgs										
			3.0											
			4.5											
			6.0											
			7.5											
S1	20		9.0	SANDY CLAY, dark brown, medium stiff	CL					M				
S2	18		10.5							M				
S3	17		12.0	POORLY-GRADED SAND, fine to coarse, dense, trace gravel	SP					W				
S4	17		13.5							W				
S5	16		15.0							W				
			16.5	color change to reddish brown at 17' bgs										
			18.0	End of boring at 18' bgs.										

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

Signature	Firm	Tel:
	SCS Engineers	Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
IPL-Sutherland Generating Statation SCS#: 25221243.00		MW-308

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Duncan List Terracon	11/30/2021	11/30/2021	hollow stem auger

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-308	11.2 Feet bgs	860.8 Feet	8.25 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,182 N, 5,095,701 E S / C / N
NE 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	Hydroexcavated to 8.5'										
			1.5											
			3.0											
			4.5											
			6.0											
			7.5											
S1	9		9.0	POORLY GRADED SAND, medium to coarse, brown, dense	SP					W				
S2	14		10.5	trace gravel						W				
S3	15		12.0							W				
S4	9		13.5							W				
			15.0											
				End of boring at 16' bgs.										

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

Signature	Firm	Tel:
	SCS Engineers	Fax:

SCS ENGINEERS
Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Sutherland Generating Station SCS#: 25221243.00		MW-309

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Kinzer Direct Push Analytical	5/4/2022	5/4/2022	Geoprobe/HSA

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-309	854.2 Feet	857.7 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 3,481,449 N, 5,095,701 E S/C/N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W

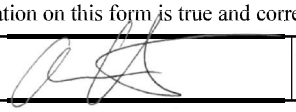
Lat 42° 2' 55.1"
Long 92° 50' 56.1"

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

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	CLAY, black, soft with roots and sticks and plant material (Topsoil).										
S1	22		2		CL					M				Dual core and MC5 geoprobe were used.
			3											
			4	LEAN CLAY, brownish gray with orange mottling and trace organics, roots, and sand throughout, soft to medium stiff.										
			5											
S2	41		6							M				
			7		CL									
			8											
			9											
S3	29		10	SILT, brownish gray with orange mottling, and black organic material (looks like decaying wood).						M				
			11		CL-ML									
			12	SILT, gray to dark gray, very soft to soft with trace organics/wood.										
			13		ML									
S4	22		14							W				
			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:

Boring Number MW-309 Page 2 of 2

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S5	43		16 17 18 19 20	POORLY GRADED SAND, fine to coarse grained, brown to reddish brown and dark brown. Same as above but fine to mostly coarse grained, brown to dark brown with fine and trace gravel.	SP					W				
			21	End of boring at 21' below ground surface.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Sutherland Generating Station SCS#: 25221243.00		MW-310

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Kinzer Direct Push Analytical	5/4/2022	5/4/2022	Geoprobe/HSA

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-310	851.9 Feet	858.1 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 3,481,093 N, 5,098,101 E S/C/N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W

Lat 42° 2' 51.6"
Long 92° 50' 56.0"

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

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	CLAY, black with roots and sticks and plant material (Topsoil).										
S1	20		2							M				Dual core and MC5 geoprobe were used.
			3											
			4	LEAN CLAY, light brown to brown, orange mottling with trace gray, roots and fine to medium grained sand, soft.										
			5											
S2	22		6							M				
			7											
			8	Same as above but with trace sand and silt, soft.	CL									
			9											
S3	26		10							M				
			11	Same as above but dark gray.										
			12	SANDY SILT, dark gray, sand is fine grained, soft.	ML									
			13											
S4	36		14	POORLY GRADED SAND, fine to coarse grained, brown with trace orange and gravel.	SP					W				Driller noted water at 13' bgs.
			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:

Boring Number MW-310 Page 2 of 2

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S5	24		16 17 18 19 20	POORLY GRADED SAND, fine to coarse grained, brown with trace orange and gravel. *(continued)*	SP					W				
			21	End of boring at 21' below ground surface.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Sutherland Generating Station SCS#: 25221243.00		MW-311

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Kinzer Direct Push Analytical	5/4/2022	5/4/2022	Geoprobe/HSA

Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-311	849.6 Feet	855.3 Feet	8.3 in

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 3,480,729 N, 5,098,107 E S/C/N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat 42° 2' 48.0"
Long 92° 50' 56.0"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	Civil Town/City/ or Village
	Marshall	Marshalltown

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	CLAY, black, soft with roots and sticks (Topsoil).										
S1	27		2							M				Dual core and MC5 geoprobe were used.
			3	POORLY GRADED SAND, fine to coarse grained, brown with trace fine gravel and clay.										
			4											
			5											
S2	8		6							W				Driller noted water at 4' bgs.
			7											
			8	Same as above but with more gravel, fine to coarse grained, brown to dark brown.										
			9		SP									
S3	13		10							W				
			11											
			12											
			13											
S4	18		14							W				
			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:

Boring Number MW-311 Page 2 of 2

Sample: Number and Type	Sample: Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
				POORLY GRADED SAND, fine to coarse grained, brown with trace fine gravel and clay. *(continued)*	SP									
			16	End of boring at 16' below ground surface.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Sutherland Generating Station SCS#: 25221243.00		MW-306A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	2/21/2023	2/28/2023	hollow stem auger

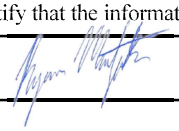
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-306A	854.26 Feet	857.28 Feet	8.25 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,462 N, 5,096,827 E S / C / N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat N42°02'55.30"
Long W92°51'12.86"
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Marshall		Marshalltown

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	Blind drilled 0'-16'. See MW-306 boring log.										
S1	48		1.5							M				
			3.0											
			4.5											
S2	48		6.0							M				
			7.5											
			9.0											Depth to water at 8' bgs.
S3	48		10.5							W				
			12.0											
			13.5											
S4	48		15.0							W				
			16.5	POORLY GRADED SAND WITH GRAVEL, fine to coarse grained, red.	SP									
S5	48		18.0	Same as above but gray.	SP					W				
			19.5											

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:

Boring Number MW-306A

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			21.0	POORLY GRADED SAND WITH GRAVEL, fine to coarse grained, gray.										
S6	48		22.5		SP					W				
			24.0	Same as above but gray/brown.										
S7	48		25.5		SP					W				
			27.0											
			28.5	Same as above but finer grain size.										
S8	48		30.0		SP					W				
			31.5											
				Same as above but brown.	SP									
			33.0	FAT CLAY, trace fine grained, sand and gravel, gray.										
S9	48		34.5							W				
			36.0											
			37.5											
S10	48		39.0							W				
			40.5		CH									
S11	48		42.0							W				
			43.5											
			45.0											
S12	48		46.5							W				
			48.0	End of Boring at 48' below ground surface.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Sutherland Generating Station SCS#: 25221243.00		MW-312

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	2/21/2023	2/28/2023	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-312	853.63 Feet	856.82 Feet	8.25 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,262 N, 5,096,834 E S / C / N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat N42°02'53.32" Long W92°51'12.78"
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Marshall		Marshalltown

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S1	19		1.5	POORLY GRADED SAND, fine to coarse grained, medium to dark brown.	SP					M				
			3.0											
			4.5											
S2	22		6.0							M				
			7.5											
			9.0	POORLY GRADED SAND WITH GRAVEL, fine to coarse grained, dark brown.										
S3	24		10.5							W				1" lense of sub-round gravel at 12'.
			12.0											
			13.5											
S4	24		15.0		SP					W				
			16.5											
S5	26		18.0							W				
			19.5											

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:

Boring Number MW-312

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			21.0	POORLY GRADED SAND WITH GRAVEL, fine to coarse grained, gray.										
S6	24		22.5							W				
			24.0											
			25.5											
S7	24		27.0		SP					W				
			28.5											
S8	30		30.0							W				
			31.5											
			33.0											
S9	40		34.5	GRAVEL, coarse, sub-rounded, multi colored.	GW					W				
				FAT CLAY, trace fine grained sand and gravel, dark brown.	CH									
			36.0	End of Boring at 36' below ground surface.										

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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Sutherland Generating Station SCS#: 25221243.00		MW-313

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	2/28/2023	2/28/2023	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-313	854.69 Feet	858.55 Feet	8.25 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,607 N, 5,097,023 E S / C / N
NW 1/4 of NE 1/4 of Section 32 , T 84 N, R 17 W
Lat N42°02'56.72" Long W92°51'10.24"
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Marshall		Marshalltown

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	SANDY SILT, black, with roots.	ML									
S1	18		1.5	POORLY GRADED SAND, fine to coarse grained, medium brown, trace fine to coarse gravel.	SP									
			3.0	FAT CLAY, tan to dark brown.	CH					M				
S2	27		4.5							M				
			6.0											
			7.5	SILTY SAND, gray, fine to coarse grained.	SM									Depth to water at 8' bgs.
S3	31		9.0	POORLY GRADED SAND, fine to medium grained, light brown.	SP					W				
			10.5											
			12.0											
S4	16		13.5	POORLY GRADED SAND, fine to coarse grained, light brown, with fine to coarse gravel.						W				
			15.0											
			16.5		SP									
S5	22		18.0							W				
			19.5											

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:

Boring Number MW-313 Page 2 of 2

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			21.0											
S6	31		22.5		SP					W				
			24.0											
S7	13		25.5							W				
				End of Boring at 26' below ground surface.										

SCS ENGINEERS
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SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Sutherland Generating Station SCS#: 25221243.00		MW-314

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Patrick Goetz Direct Push Analytical	3/1/2023	3/1/2023	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-314	854.20 Feet	856.75 Feet	8.25 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 3,481,452 N, 5,097,441 E S / C / N
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W
Lat N42°02'55.15" Long W92°51'04.72"
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Marshall		Marshalltown

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	SANDY SILT, dark brown.	ML									
S1	28		1.5	SILTY SAND, fine grained, light brown.	SM					M				
			3.0											Depth to water at 4' bgs.
			4.5	POORLY GRADED SAND, fine to coarse grained, medium brown.										
S2	18		6.0		SP					M				
			7.5											
			9.0	POORLY GRADED SAND, fine to coarse grained, medium brown, trace fine gravel.										
S3	14		10.5		SP					W				
			12.0	POORLY GRADED SAND, fine to coarse grained, medium brown, trace fine to coarse gravel.										
S4	27		13.5							W				
			15.0		SP									
			16.5											
S5	24		18.0							W				
			19.5											

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:

Boring Number MW-314

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			21.0											
S6	20		22.5							W				
			24.0		SP									
			25.5											
S7	32		27.0							W				
				FAT CLAY, dark brown, trace fine grained sand.										
			28.5											
S8	44		30.0		CH					W				
			31.5											
				End of Boring at 32' below ground surface.										

Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-301

Dates Started: 11/20/2017 Date Completed: 11/20/2017

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): 3481477.68 N, 5094230.68 E

Specify corner of site: NW of parcel 8417-32-126-002

Distance & direction along boundary: 82' E

Distance & direction from boundary to wall: 173' S

Elevations (± 0.01 ft MSL):

Ground Surface: 863.50

Top of protective casing: 866.9

Top of well casing: 866.61

Benchmark elevation: 590.75

Benchmark description: BM-001

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Direct Push Analytical
4N969 Old Lafox Rd Unit F
St. Charles, IL 60175

Name of Driller: Patrick Goetz

Drilling Method: 4 1/4 Hollow Stem Auger

Drilling Fluid: N/A

Bore Hole Diameter: 8.5"

Soil Sampling Method: 2" Split Spoon

Depth of Boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 5'

Outside casing diameter: 2.38"

Inside casing diameter: 2"

Casing joint type: Flush Threaded

Casing/screen joint type: PVC

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of well: 15'

Filter Pack: 3.5'-15.69' bgs

Material: RW Sidley

Grain size: #5

Volume: 2.1 cu ft

Seal (minimum 3 ft length above filter pack): 0.5'-3.5' bgs

Material: 3/8" Benseal Bentonite Chips

Placement method: Gravity

Volume: 0.66 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design: 0'-0.5' bgs

Material of protective casing: Steel, 4" diameter

Material of grout between protective casing and well casing: Sand

Protective cap: 6" diameter

Material: Steel

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

Well Cap: 2" diameter

Material: Plastic with rubber gasket

Vented: ☑ Yes ☐ No

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

Water level: 12.80 Stabilization Time: <5 min

Well development method: surged with bailer and pumped

Average depth of frostline: 4 feet

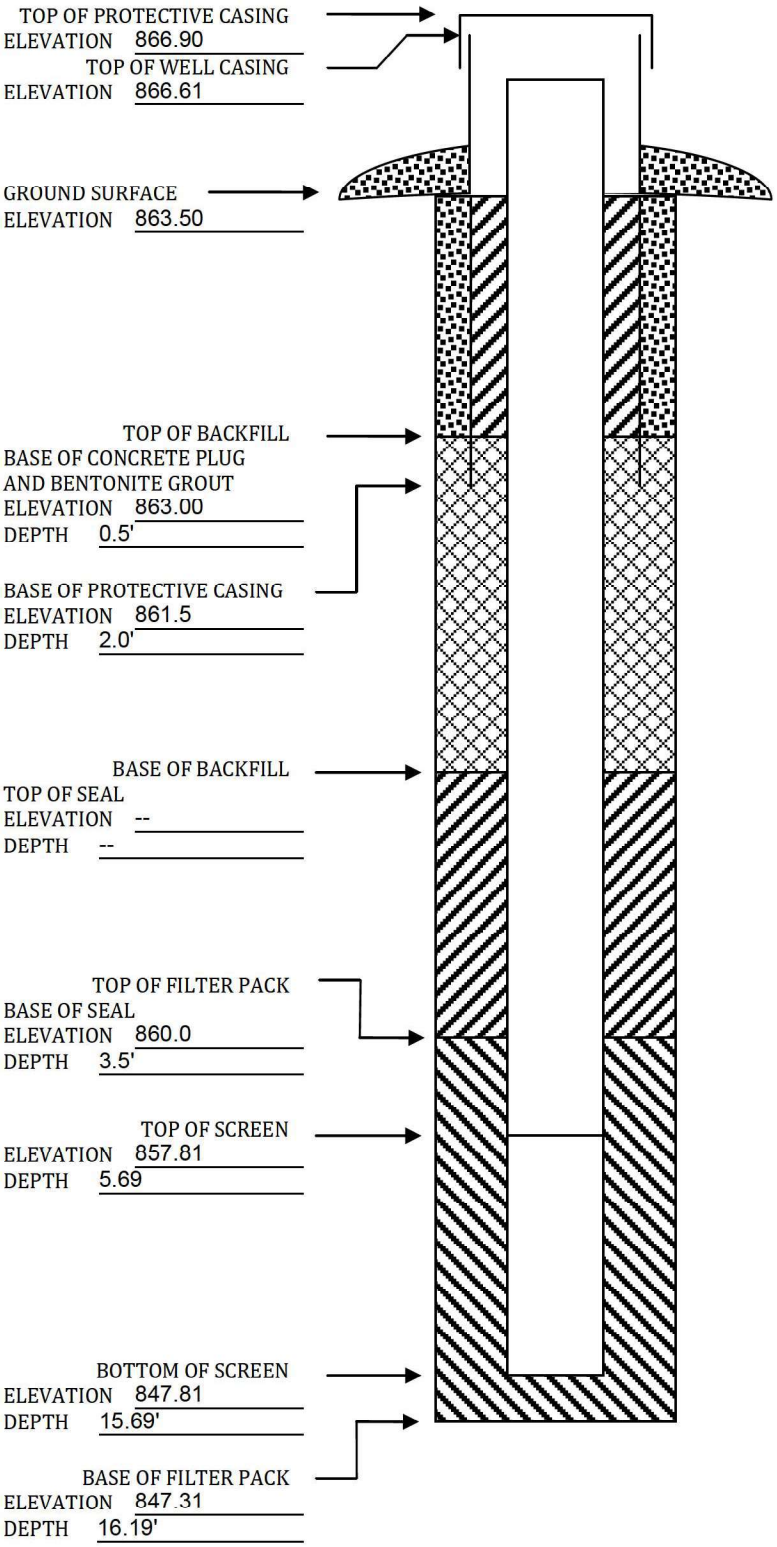
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-302

Dates Started: 11/20/2017 Date Completed: 11/20/2017

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): 3480767.91 N, 5094237.526 E

Specify corner of site: SW of parcel 8417-32-126-002

Distance & direction along boundary: 324' N

Distance & direction from boundary to wall: 42' E

Elevations (± 0.01 ft MSL):

Ground Surface: 860.06

Top of protective casing: 863.32

Top of well casing: 863.08

Benchmark elevation: 590.75

Benchmark description: BM-001

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Direct Push Analytical
4N969 Old Lafox Rd Unit F
St. Charles, IL 60175

Name of Driller: Patrick Goetz

Drilling Method: 4 1/4 Hollow Stem Auger

Drilling Fluid: N/A

Bore Hole Diameter: 8.5"

Soil Sampling Method: 2" Split Spoon

Depth of Boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 5'

Outside casing diameter: 2.38"

Inside casing diameter: 2"

Casing joint type: Flush Threaded

Casing/screen joint type: PVC

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of well: 15'

Filter Pack: 3.5'-15.48' bgs

Material: RW Sidley

Grain size: #5

Volume: 2.1 cu ft

Seal (minimum 3 ft length above filter pack): 0.5'-3.5' bgs

Material: 3/8" Benseal Bentonite Chips

Placement method: Gravity

Volume: 0.66 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design: 0'-0.5' bgs

Material of protective casing: Steel, 4" diameter

Material of grout between protective casing and well casing: Sand

Protective cap: 6" diameter

Material: Steel

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

Well Cap: 2" diameter

Material: Plastic with rubber gasket

Vented: ☒ Yes ☐ No

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

Water level: 9.10 Stabilization Time: <5 min

Well development method: surged with bailer and pumped

Average depth of frostline: 4 feet

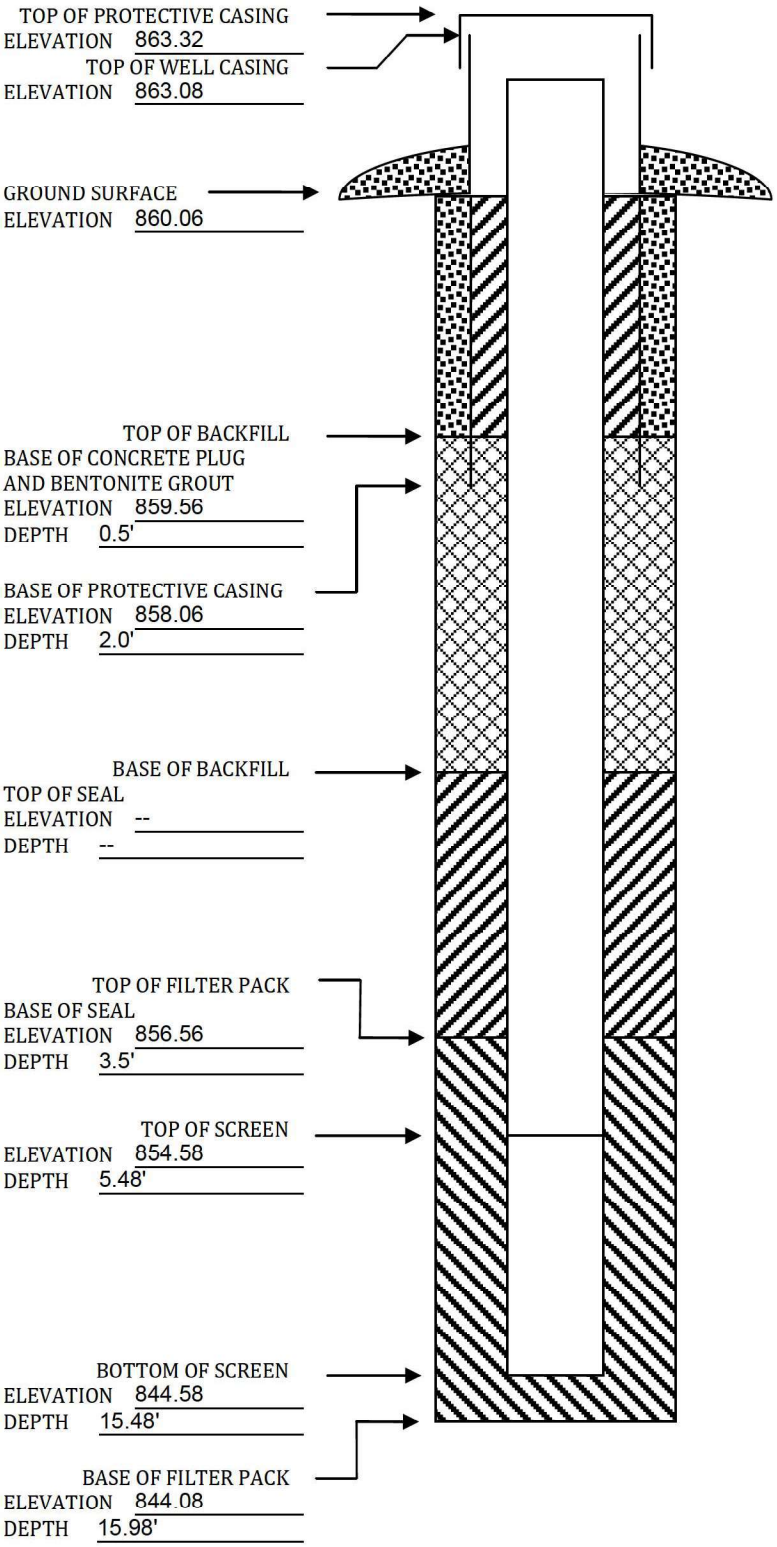
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-303

Dates Started: 11/20/2017 Date Completed: 11/20/2017

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): 3480604.15 N, 5096509.24 E

Specify corner of site: SE of parcel 8417-32-126-002

Distance & direction along boundary: 326' W

Distance & direction from boundary to wall: 200' N

Elevations (± 0.01 ft MSL):

Ground Surface: 856.70

Top of protective casing: 859.74

Top of well casing: 859.54

Benchmark elevation: 590.75

Benchmark description: BM-001

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Direct Push Analytical
4N969 Old Lafox Rd Unit F
St. Charles, IL 60175

Name of Driller: Patrick Goetz

Drilling Method: 4 1/4 Hollow Stem Auger

Drilling Fluid: N/A

Bore Hole Diameter: 8.5"

Soil Sampling Method: 2" Split Spoon

Depth of Boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 5'

Outside casing diameter: 2.38"

Inside casing diameter: 2"

Casing joint type: Flush Threaded

Casing/screen joint type: PVC

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of well: 15'

Filter Pack: 3.5'- 15.81' bgs

Material: RW Sidley

Grain size: #5

Volume: 2.1 cu ft

Seal (minimum 3 ft length above filter pack): 0.5'-3.5' bgs

Material: 3/8" Benseal Bentonite Chips

Placement method: Gravity

Volume: 0.66 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design: 0'-0.5' bgs

Material of protective casing: Steel, 4" diameter

Material of grout between protective casing and well casing: Sand

Protective cap: 6" diameter

Material: Steel

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

Well Cap: 2" diameter

Material: Plastic with rubber gasket

Vented: ☑ Yes ☐ No

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

Water level: 7.35 Stabilization Time: <5 min

Well development method: surged with bailer and pumped

Average depth of frostline: 4 feet

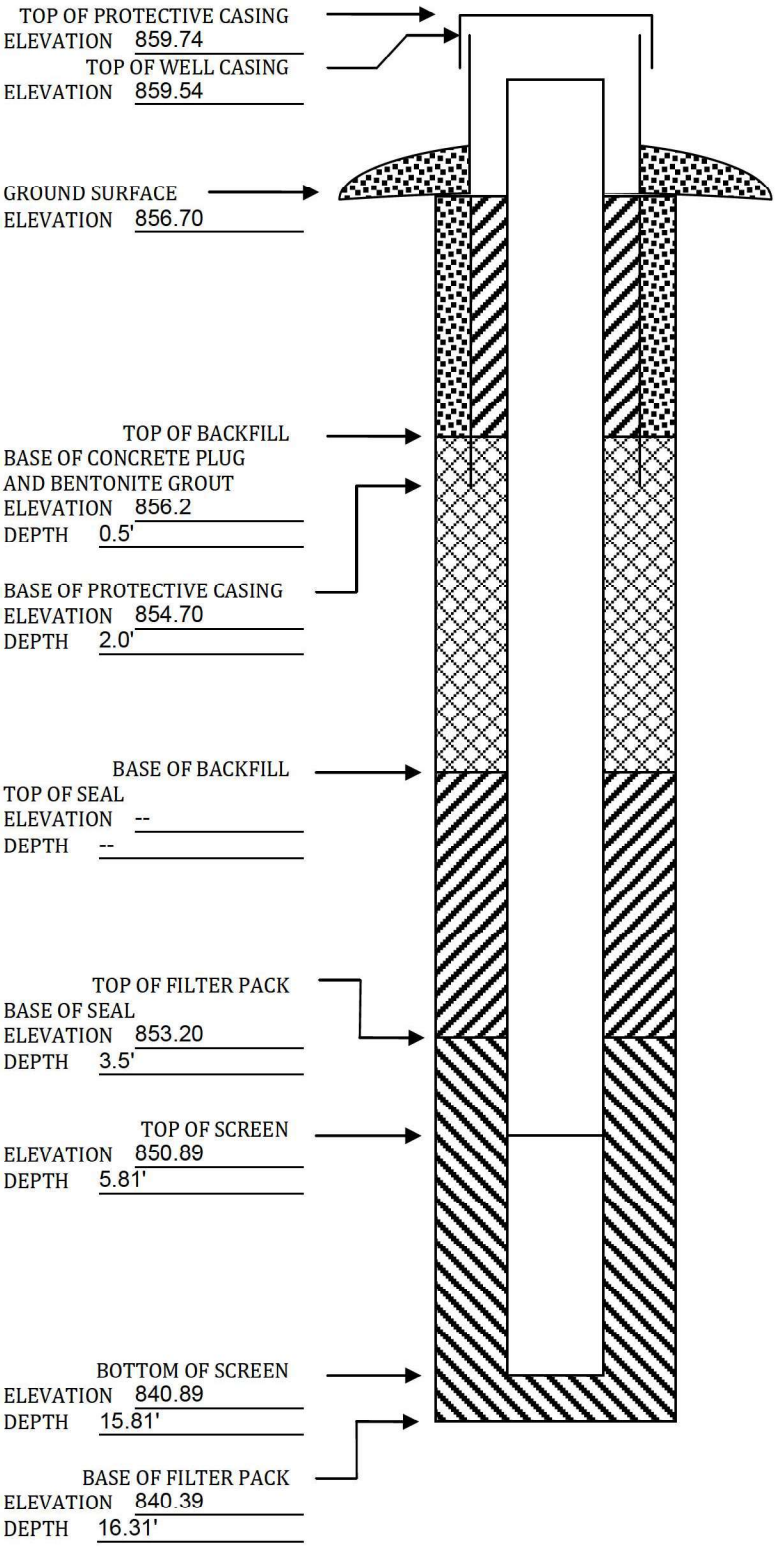
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-304

Dates Started: 11/20/2017 Date Completed: 11/20/2017

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): 3480548.65 N, 5096849.06 E

Specify corner of site: SW of parcel 8417-32-200-002

Distance & direction along boundary: 156' N

Distance & direction from boundary to wall: 10' E

Elevations (± 0.01 ft MSL):

Ground Surface: 857.79

Top of protective casing: 861.06

Top of well casing: 860.79

Benchmark elevation: 590.75

Benchmark description: BM-001

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Direct Push Analytical
4N969 Old Lafox Rd Unit F
St. Charles, IL 60175

Name of Driller: Patrick Goetz

Drilling Method: 4 1/4 Hollow Stem Auger

Drilling Fluid: N/A

Bore Hole Diameter: 8.5"

Soil Sampling Method: 2" Split Spoon

Depth of Boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 5'

Outside casing diameter: 2.38"

Inside casing diameter: 2"

Casing joint type: Flush Threaded

Casing/screen joint type: PVC

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of well: 15'

Filter Pack: 3.5'-15.80' bgs

Material: RW Sidley

Grain size: #5

Volume: 2.1 cu ft

Seal (minimum 3 ft length above filter pack): 0.5'- 3.5' bgs

Material: 3/8" Benseal Bentonite Chips

Placement method: Gravity

Volume: 0.66 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design: 0'-0.5' bgs

Material of protective casing: Steel, 4" diameter

Material of grout between protective casing and well casing: Sand

Protective cap: 6" diameter

Material: Steel

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

Well Cap: 2" diameter

Material: Plastic with rubber gasket

Vented: ☒ Yes ☐ No

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

Water level: 8.91 Stabilization Time: <5 min

Well development method: surged with bailer and pumped

Average depth of frostline: 4 feet

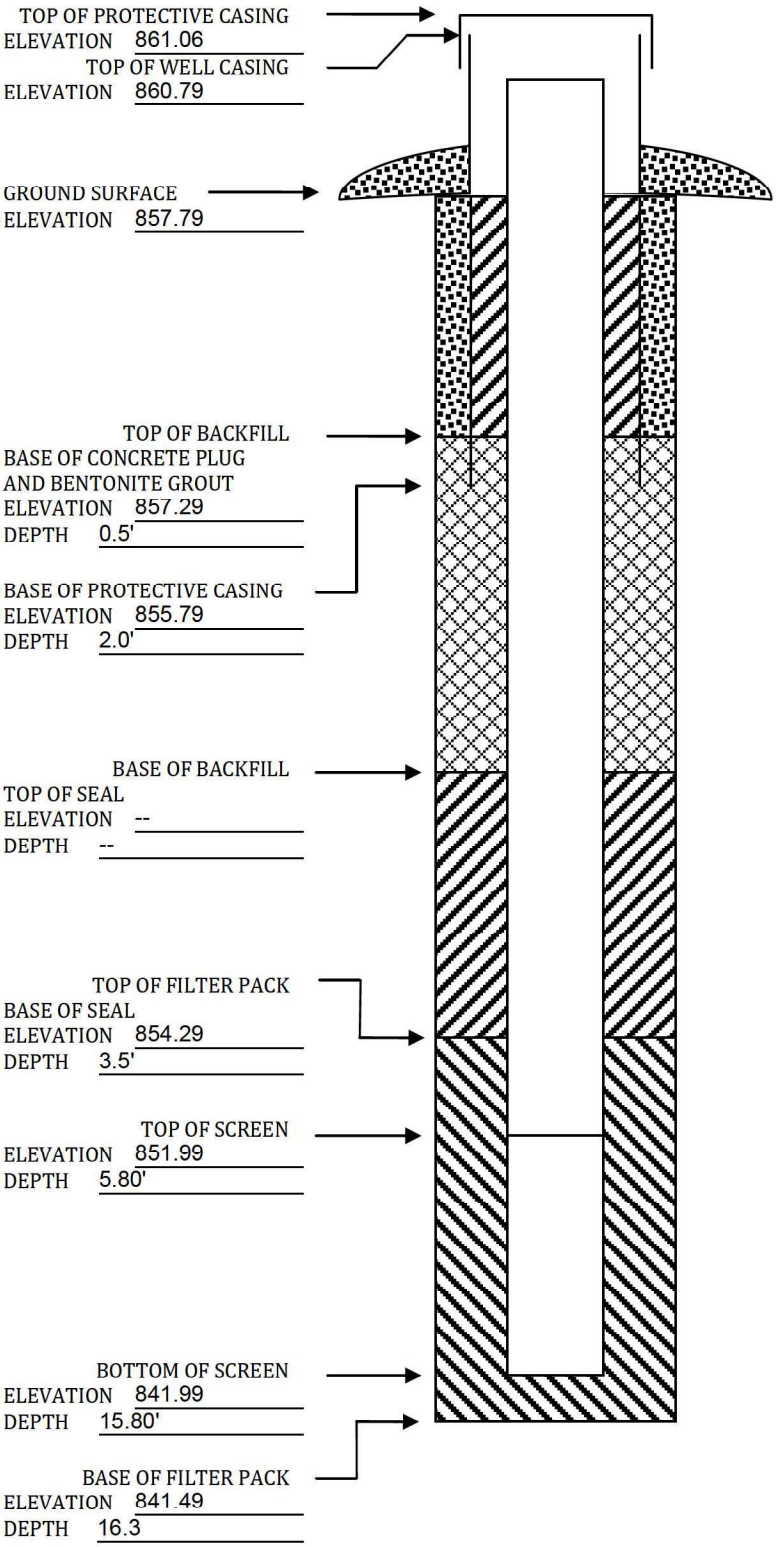
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-305

Dates Started: 11/21/2017 Date Completed: 11/21/2017

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft): 3480877.26 N, 5096834.70 E

Specify corner of site: SW of parcel 8417-32-200-002

Distance & direction along boundary: 545' N

Distance & direction from boundary to wall: 12' E

Elevations (± 0.01 ft MSL):

Ground Surface: 856.81

Top of protective casing: 860.12

Top of well casing: 859.81

Benchmark elevation: 590.75

Benchmark description: BM-001

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Direct Push Analytical
4N969 Old Lafox Rd Unit F
St. Charles, IL 60175

Name of Driller: Patrick Goetz

Drilling Method: 4 1/4 Hollow Stem Auger

Drilling Fluid: N/A

Bore Hole Diameter: 8.5"

Soil Sampling Method: 2" Split Spoon

Depth of Boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 5'

Outside casing diameter: 2.38"

Inside casing diameter: 2"

Casing joint type: Flush Threaded

Casing/screen joint type: PVC

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of well: 15'

Filter Pack: 3.5'-16.08' bgs

Material: RW Sidley

Grain size: #5

Volume: 2.1 cu ft

Seal (minimum 3 ft length above filter pack): 0.5'-3.5' bgs

Material: 3/8" Benseal Bentonite Chips

Placement method: Gravity

Volume: 0.66 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design: 0'-0.5' bgs

Material of protective casing: Steel, 4" diameter

Material of grout between protective casing and well casing: Sand

Protective cap: 6" diameter

Material: Steel

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

Well Cap: 2" diameter

Material: Plastic with rubber gasket

Vented: ☑ Yes ☐ No

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

Water level: 8.24 Stabilization Time: <5 min

Well development method: surged with bailer and pumped

Average depth of frostline: 4 feet

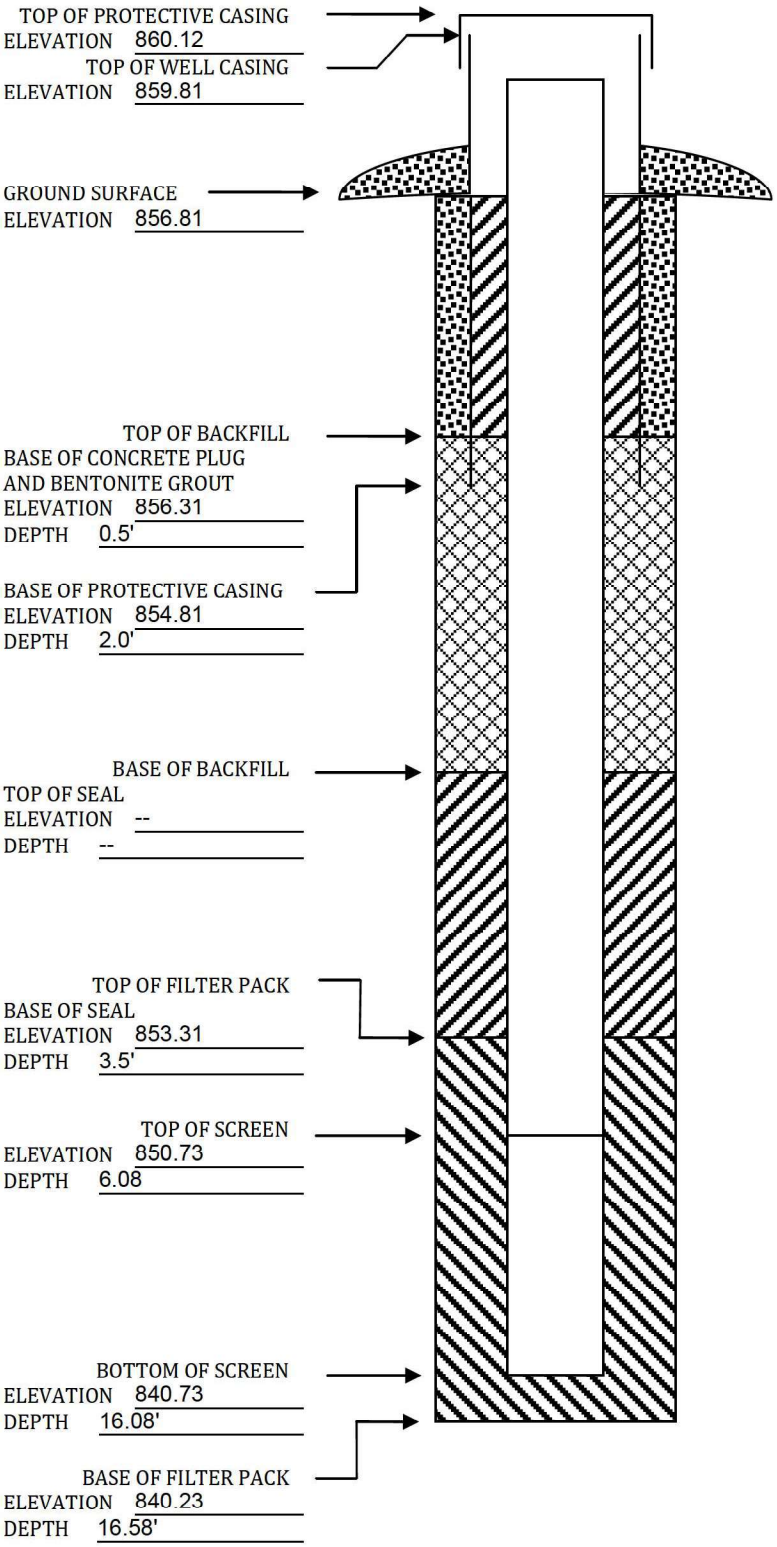
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



Print Form

IOWA DEPARTMENT OF NATURAL RESOURCES

MONITORING WELL/PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

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

Well or Piezometer No: MW-306

Dates Started: 11/21/2017 Date Completed: 11/21/2017

A. SURVEYED LOCATIONS AND ELEVATIONS

Locations (± 0.5 ft):

Specify corner of site: NW of parcel 8417-32-200-001

Distance & direction along boundary: 222' S

Distance & direction from boundary to wall: 17' E

Elevations (± 0.01 ft MSL):

Ground Surface: 858.15

Top of protective casing: 861.36

Top of well casing: 861.13

Benchmark elevation: 590.75

Benchmark description: BM-001

B. SOIL BORING INFORMATION

Name & Address of Construction Company:
Direct Push Analytical
4N969 Old Lafox Rd Unit F
St. Charles, IL 60175

Name of Driller: Patrick Goetz

Drilling Method: 4 1/4 Hollow Stem Auger

Drilling Fluid: N/A

Bore Hole Diameter: 8.5"

Soil Sampling Method: 2" Split Spoon

Depth of Boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 5'

Outside casing diameter: 2.38"

Inside casing diameter: 2"

Casing joint type: Flush Threaded

Casing/screen joint type: PVC

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of well: 15'

Filter Pack: 3.5'-15.73' bgs

Material: RW Sidley

Grain size: #5

Volume: 2.1 cu ft

Seal (minimum 3 ft length above filter pack): 0.5'-3.5' bgs

Material: 3/8" Benseal Bentonite Chips

Placement method: Gravity

Volume: 0.66 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design: 0'-0.5' bgs

Material of protective casing: Steel, 4" diameter

Material of grout between protective casing and well casing: Sand

Protective cap: 6" diameter

Material: Steel

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

Well Cap: 2" diameter

Material: Plastic with rubber gasket

Vented: ☑ Yes ☐ No

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

Water level: 9.77 Stabilization Time: <5 min

Well development method: surged with bailer and pumped

Average depth of frostline: 4 feet

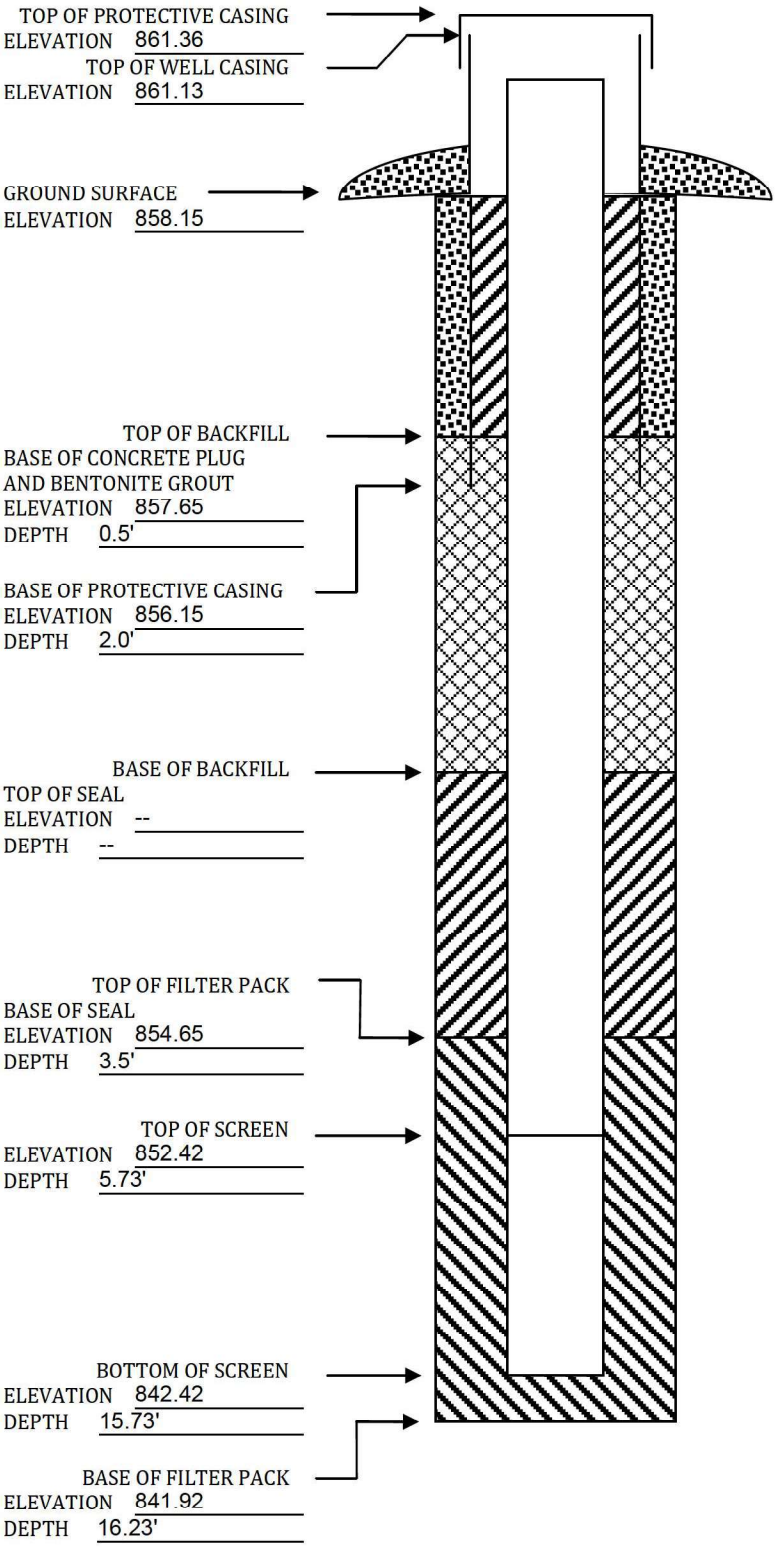
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 ½x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL Sutherland Generating Station | Permit No.: County: WP2021-1(a)

Well or Piezometer No.: MW-307 | Dates Started: 11/30/2021 | Date Completed: 11/30/2021

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

Specify corner of site: NE | Distance and direction along boundary: 774 feet west

Distance and direction from boundary to surface monitoring well: 274 feet south

Elevation (+0.01 ft. MSL)

Ground Surface: 862.27 | Top of protective casing: 865.1

Top of well casing: 864.87 | Benchmark elevation

Benchmark description

B. SOIL BORING INFORMATION

Construction Company Name: Terracon

Address: 2640 12th Street SW | City, State, Zip Code: Cedar Rapids, IA 52404

Name of driller: Duncan List

Drilling method: Hollow-stem auger | Drilling fluid: none | Bore Hole diameter: 8.25"

Soil sampling method: Split spoon | Depth of boring: 18'

C. MONITORING WELL INSTALLATION

Casing material: PVC | Placement method: Gravity - poured

Length of casing: 10' | Volume: 2.67 cu. ft.

Outside casing diameter: 2.38" | Backfill (if different from seal): Same as seal

Inside casing diameter: 2.01" | Material

Casing joint type: Flush threaded | Placement method

Casing/screen joint type: Flush threaded | Volume

Screen material: PVC - factory slotted | Surface seal design:

Screen opening size: 0.010" | Material of protective casing: Steel

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

Screen length: 10' | Protective cap:

Depth of Well: 17.5' | Material: Steel

Filter Pack: | Vented?: ☒ Y ☐ N | Locking?: ☒ Y ☐ N

Material: Sand - Gillibrand Industrial | Well cap:

Grain Size | Material: Plastic

Volume: 2 cu. ft. | Vented?: ☒ Y ☐ N

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

Material: 3/8" Bentonite chips - Holeplug

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

Water level: 13.24' | **Stabilization time:** <20 minutes

Well development method: Surged and purged with submersible pump. 10 well volumes removed during development.

Average depth of frost line: 4'

DRILLER'S CERTIFICATION

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

Signature [signature] **Certification #** 1183 **Date** 12/23/21

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

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

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

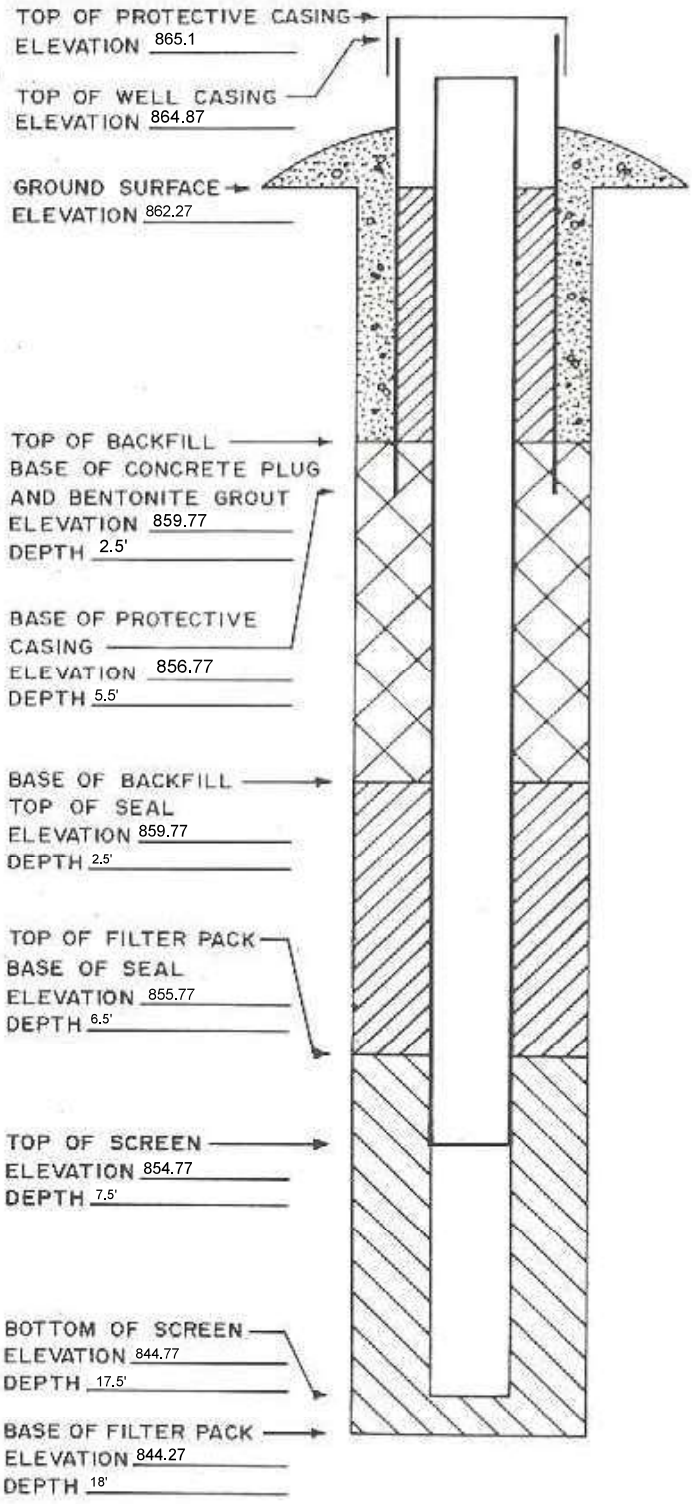
09/2017 cmc

DNR Form 542-1277

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: IPL Sutherland Generating Station | Permit No. | County: WP2021-1(b)

Well or Piezometer No.: MW-308 | Dates Started: 11/30/2021 | Date Completed: 11/30/2021

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

Specify corner of site: NE | Distance and direction along boundary: 1,101 feet west

Distance and direction from boundary to surface monitoring well: 508 feet south

Elevation (+0.01 ft. MSL)

Ground Surface: 860.83 | Top of protective casing: 863.37

Top of well casing: 863.07 | Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Terracon

Address: 2640 12th Street SW | City, State, Zip Code: Cedar Rapids, IA 52404

Name of driller: Duncan List

Drilling method: Hollow-stem auger | Drilling fluid: none | Bore Hole diameter: 8.25"

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

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 10'

Outside casing diameter: 2.38"

Inside casing diameter: 2.01"

Casing joint type: Flush threaded

Casing/screen joint type: Flush threaded

Screen material: PVC - factory slotted

Screen opening size: 0.010"

Screen length: 10'

Depth of Well: 16'

Filter Pack:

Material: Sand - Gillibrand Industrial

Grain Size:

Volume: 2 cu. ft.

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

Material: 3/8" Bentonite chips - Holeplug

Placement method: Gravity - poured

Volume: 2.67 cu. ft.

Backfill (if different from seal): Same as seal

Material:

Placement method:

Volume:

Surface seal design:

Material of protective casing: Steel

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

Protective cap:

Material: Steel

Vented?: ☒ Y ☐ N Locking?: ☒ Y ☐ N

Well cap:

Material: Plastic

Vented?: ☒ Y ☐ N

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

Water level: 11.12' | **Stabilization time**: <20 minutes

Well development method: Surged and purged with submersible pump. 10 well volumes removed during development.

Average depth of frost line: 4

DRILLER'S CERTIFICATION

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

Signature: [signature] | **Certification #**: 11183 | **Date**: 12/23/21

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

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

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

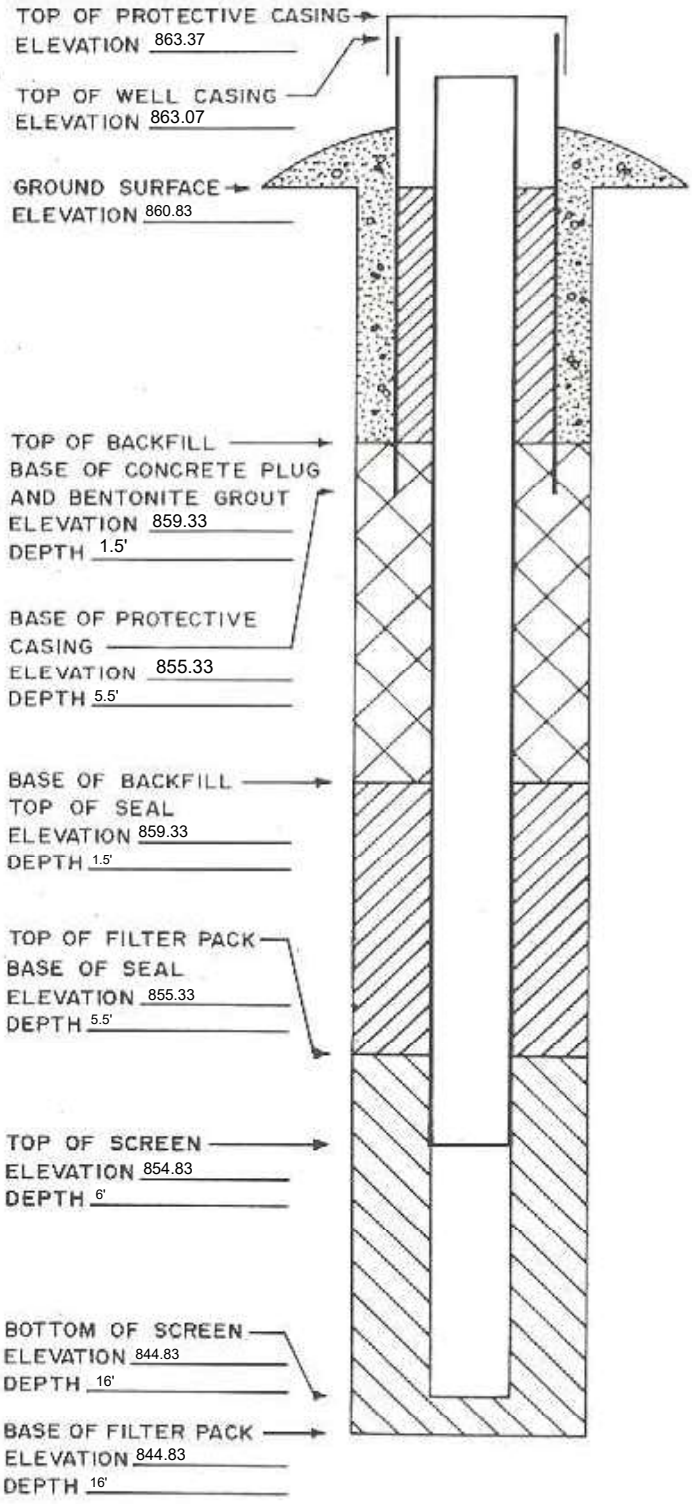
09/2017 cmc

DNR Form 542-1277

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Sutherland Genterating Station — Permit No.: WP-2022-3

Well or Piezometer No.: MW-309 — Dates Started: 5/4/2022 — Date Completed: 5/4/2022

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

Specify corner of site: NE — Distance and direction along boundary:

Distance and direction from boundary to surface monitoring well:

Elevation (+0.01 ft. MSL):

Ground Surface: 857.705' — Top of protective casing: 860.193'

Top of well casing: 859.954' — Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Direct Push Analytical

Address: 4N969 Old Lafox Rd Unit E — City, State, Zip Code: Saint charles, IL 60175

Name of driller: Bryan Kinzer

Drilling method: Geoprobe/HSA — Drilling fluid: None — Bore Hole diameter: 8.25"

Soil sampling method: 5' sample tubes — Depth of boring: 22'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC — Placement method: Poured/Hydrated

Length of casing: 23.19' — Volume:

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

Inside casing diameter: 2.05" — Material:

Casing joint type: Threaded — Placement method:

Casing/screen joint type: Threaded — Volume:

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

Screen opening size: 0.01" — Material of protective casing: Steel

Material of grout between protective casing and well casing:

Screen length: 15'

Depth of Well: 21' — Protective cap:

Filter Pack: — Material: Steel

Material: RW Sidley filter sand — Vented?: ☒ Y ☐ N — Locking?: ☒ Y ☐ N

Grain Size: #5 — Well cap:

Volume: 2.75 ft^3 (5.5 bags) — Material: Plastic

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

Material: 3/8" Bentonite chips

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

Water level: 5.83 — **Stabilization time:**

Well development method: Surge and purge with pump

Average depth of frost line: 4.5"

DRILLER'S CERTIFICATION

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

Signature: [signature] — **Certification #:** 0498 — **Date:** 8-23-22

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

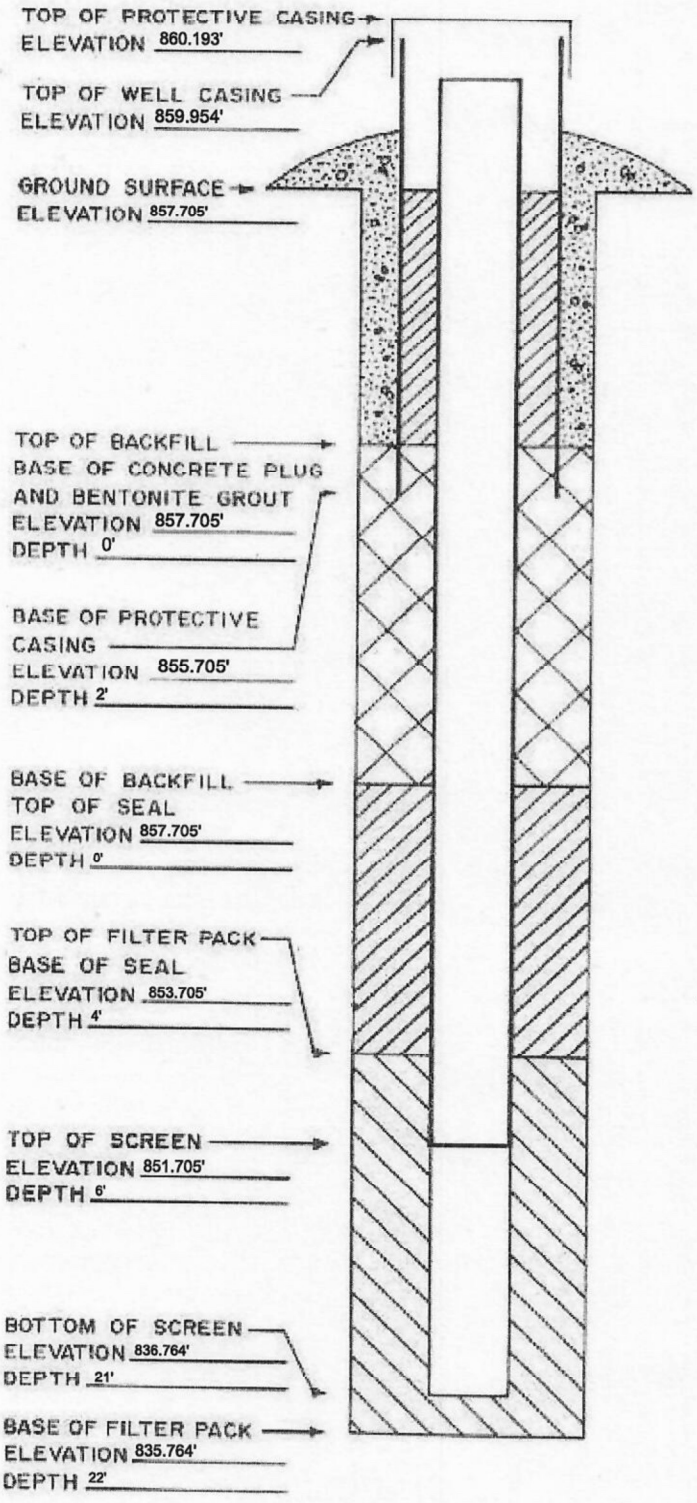
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Sutherland Genterating Station — Permit No.: WP-2022-3

Well or Piezometer No.: MW-310 — Dates Started: 5/4/2022 — Date Completed: 5/4/2022

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

Specify corner of site: NE — Distance and direction along boundary:

Distance and direction from boundary to surface monitoring well:

Elevation (+0.01 ft. MSL):

Ground Surface: 858.096' — Top of protective casing: 860.925'

Top of well casing: 860.546' — Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Direct Push Analytical

Address: 4N969 Old Lafox Rd Unit E — City, State, Zip Code: Saint charles, IL 60175

Name of driller: Bryan Kinzer

Drilling method: Geoprobe/HSA — Drilling fluid: None — Bore Hole diameter: 8.25"

Soil sampling method: 2" sample tubes — Depth of boring: 22'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC

Length of casing: 23.46'

Outside casing diameter: 2.4"

Inside casing diameter: 2.05"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: Sch. 40 PVC

Screen opening size: 0.01"

Screen length: 15'

Depth of Well: 21'

Filter Pack:

- Material: RW Sidley filter sand
- Grain Size: #5
- Volume: 2.75 ft^3 (5.5 bags)

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

- Material: 3/8" Bentonite chips

Placement method: Poured/Hydrated

Volume: 1, 50lbs bags

Backfill (if different from seal):

- Material:
- Placement method:
- Volume:

Surface seal design:

Material of protective casing: Steel

Material of grout between protective casing and well casing:

Protective cap:

- Material: Steel
- Vented?: ☒ Y ☐ N — Locking?: ☒ Y ☐ N

Well cap:

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

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

Water level: 6.74' — **Stabilization time:**

Well development method: Surge and purge with pump

Average depth of frost line: 4.5"

DRILLER'S CERTIFICATION

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

Signature: [signature] — **Certification #:** 2496 — **Date:** 8-23-22

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

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

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

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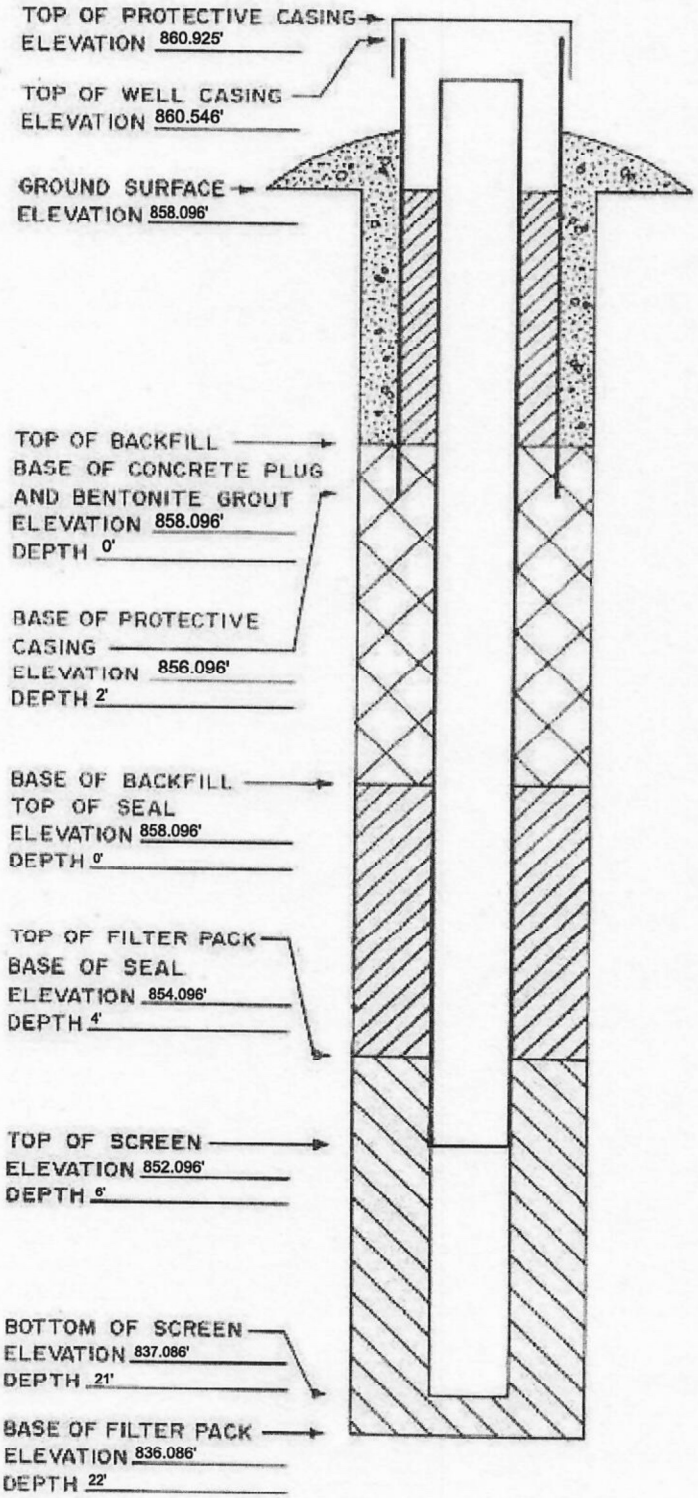
ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Sutherland Genterating Station — Permit No.: WP-2022-3

Well or Piezometer No.: MW-311 — Dates Started: 5/4/2022 — Date Completed: 5/4/2022

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

Specify corner of site: NE — Distance and direction along boundary:

Distance and direction from boundary to surface monitoring well:

Elevation (+0.01 ft. MSL):

Ground Surface: 855.26' — Top of protective casing: 858.01'

Top of well casing: 857.638' — Benchmark elevation:

Benchmark description:

B. SOIL BORING INFORMATION

Construction Company Name: Direct Push Analytical

Address: 4N969 Old Lafox Rd Unit E — City, State, Zip Code: Saint charles, IL 60175

Name of driller: Bryan Kinzer

Drilling method: Geoprobe/HSA — Drilling fluid: None — Bore Hole diameter: 8.25"

Soil sampling method: 2" sample tubes — Depth of boring: 17'

C. MONITORING WELL INSTALLATION

Casing material: Sch. 40 PVC

Length of casing: 18.41'

Outside casing diameter: 2.4"

Inside casing diameter: 2.05"

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: Sch. 40 PVC

Screen opening size: 0.01"

Screen length: 10'

Depth of Well: 16'

Filter Pack:

- Material: RW Sidley filter sand
- Grain Size: #5
- Volume: 1 ft^3 (2 bags)

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

- Material: 3/8" Bentonite chips

Placement method: Poured/Hydrated

Volume: 1, 50lbs bags

Backfill (if different from seal):

- Material:
- Placement method:
- Volume:

Surface seal design:

Material of protective casing: Steel

Material of grout between protective casing and well casing:

Protective cap:

- Material: Steel
- Vented?: ☒ Y ☐ N — Locking?: ☒ Y ☐ N

Well cap:

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

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

Water level: 4.05' — **Stabilization time:**

Well development method: Surge and purge with pump

Average depth of frost line: 4.5"

DRILLER'S CERTIFICATION

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

Signature: [signature] — **Certification #:** 8498 — **Date:** 8-23-22

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

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

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

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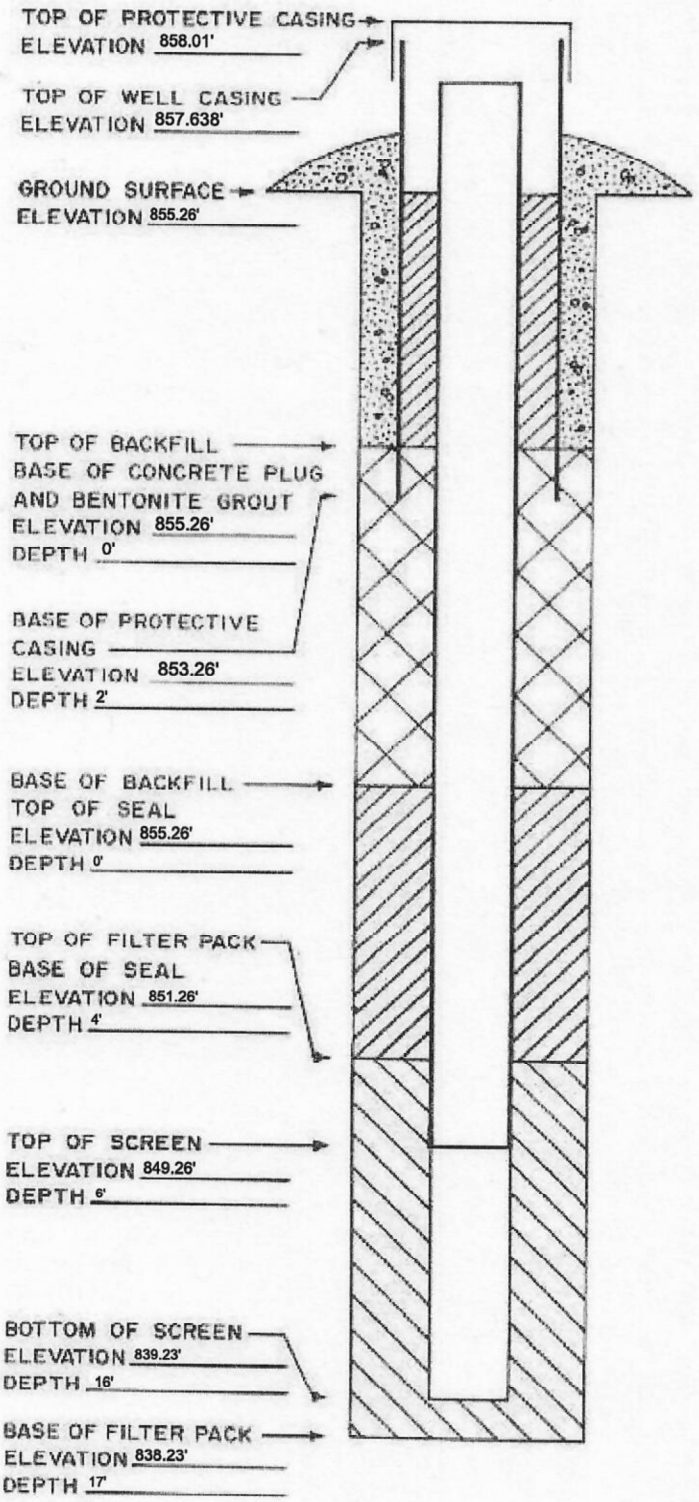
ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Sutherland Generating Station | Permit No.: 2023-7

Well or Piezometer No.: MW-306A | Dates Started: 2/21/2023 | Date Completed: 2/28/2023

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

Specify corner of site: NW parcel 8417-32-200-001 | Distance and direction along boundary: 485' north

Distance and direction from boundary to surface monitoring well: 17' west

Elevation (+0.01 ft. MSL): 857.28

Ground Surface: 857.28 | Top of protective casing: 860.54

Top of well casing: 860.32 | Benchmark elevation: 861.47

Benchmark description: Brass monument in concrete

B. SOIL BORING INFORMATION

Construction Company Name: Direct Push Analytical

Address: 4N969 Old Lafox Rd Unit E | City, State, Zip Code: St. Charles, IL 60175

Name of driller: Patrick Goetz

Drilling method: Hollow Stem Auger | Drilling fluid: None | Bore Hole diameter: 8.25"

Soil sampling method: Geoprobe | Depth of boring: 34'

C. MONITORING WELL INSTALLATION

Casing material: PVC | Placement method: Gravity

Length of casing: 31' | Volume: 2.75 cu ft

Outside casing diameter: 2.37 | Backfill (if different from seal): N/A

Inside casing diameter: 2.01 | Material: N/A

Casing joint type: Threaded | Placement method: N/A

Casing/screen joint type: Threaded | Volume: N/A

Screen material: PVC | Surface seal design:

Screen opening size: 0.010" | Material of protective casing: Steel

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

Screen length: 5' | Protective cap: Yes

Depth of Well: 33' | Material: Steel

Filter Pack: | Vented?: ☐ Y ☒ N | Locking?: ☒ Y ☐ N

Material: Sand | Well cap: Yes

Grain Size: R.W. Sidley #5 | Material: Plastic

Volume: 0.75 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: 6.06 | **Stabilization time**:

Well development method: Surge and Purge with Pump

Average depth of frost line:

DRILLER'S CERTIFICATION

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

Signature: [signature] | **Certification #**: 6496 | **Date**: 5-8-23

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

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

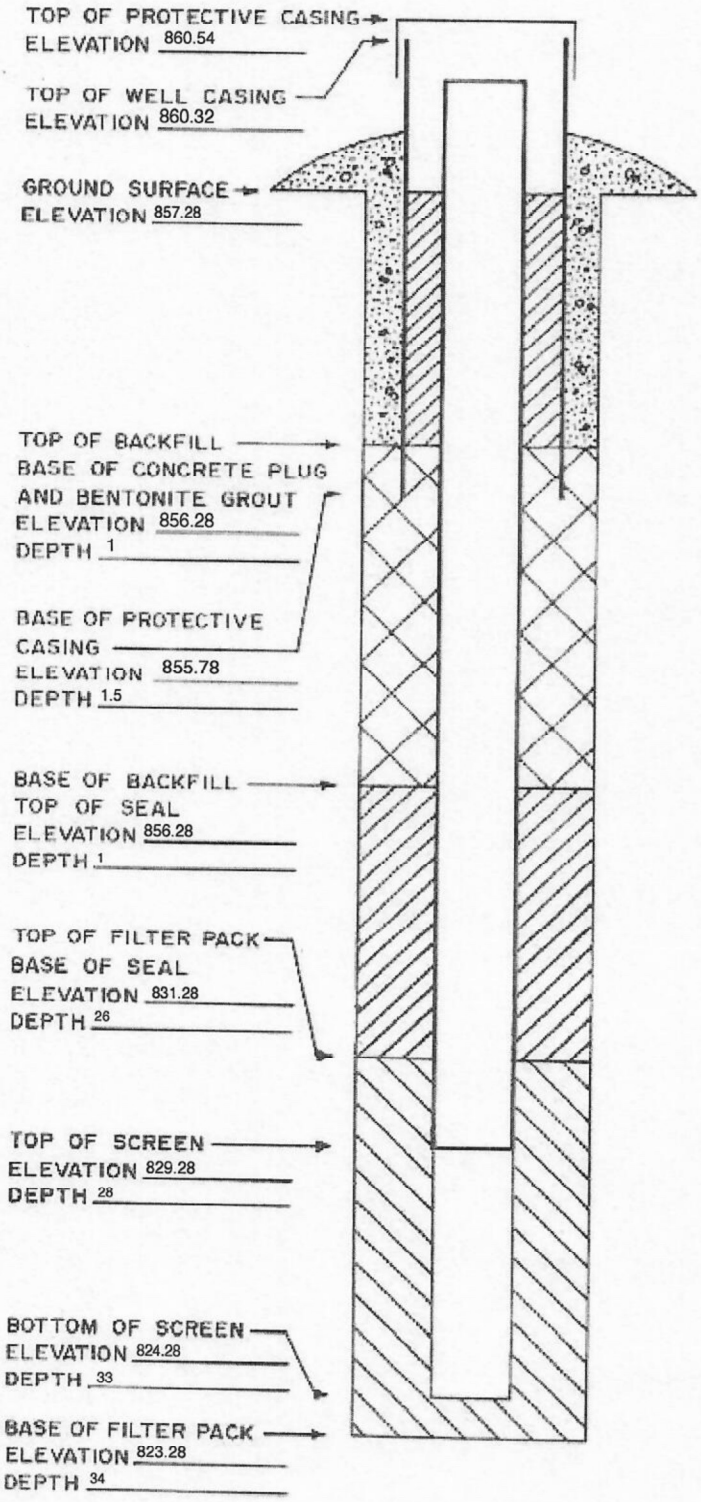
Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

09/2017 cmc

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Sutherland Generating Station | Permit No.: 2023-7

Well or Piezometer No.: MW-312 | Dates Started: 2/21/2023 | Date Completed: 2/28/2023

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

Specify corner of site: SW parcel 8417-32-200-001 | Distance and direction along boundary: 18' east

Distance and direction from boundary to surface monitoring well: 283' north

Elevation (+0.01 ft. MSL): 856.82

Ground Surface: 856.82 | Top of protective casing: 860.27

Top of well casing: 859.97 | Benchmark elevation: 861.47

Benchmark description: Brass monument in concrete

B. SOIL BORING INFORMATION

Construction Company Name: Direct Push Analytical

Address: 4N969 Old Lafox Rd Unit E | City, State, Zip Code: St. Charles, IL 60175

Name of driller: Patrick Goetz

Drilling method: Hollow Stem Auger | Drilling fluid: None | Bore Hole diameter: 8.25"

Soil sampling method: Geoprobe | Depth of boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC | Placement method: Gravity

Length of casing: 8' | Volume: 0.75 cu ft

Outside casing diameter: 2.37 | Backfill (if different from seal): N/A

Inside casing diameter: 2.01 | Material: N/A

Casing joint type: Threaded | Placement method: N/A

Casing/screen joint type: Threaded | Volume: N/A

Screen material: PVC | Surface seal design:

Screen opening size: 0.010" | Material of protective casing: Steel

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

Screen length: 10' | Protective cap: Yes

Depth of Well: 15' | Material: Steel

Filter Pack: | Vented?: ☐ Y ☒ N | Locking?: ☒ Y ☐ N

Material: Sand | Well cap: Yes

Grain Size: R.W. Sidley #5 | Material: Plastic

Volume: 0.75 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: 6.24 | **Stabilization time:**

Well development method: Surge and Purge with Pump

Average depth of frost line:

DRILLER'S CERTIFICATION

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

Signature: [signature] | **Certification #:** 6496 | **Date:** 5-8-2023

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

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

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

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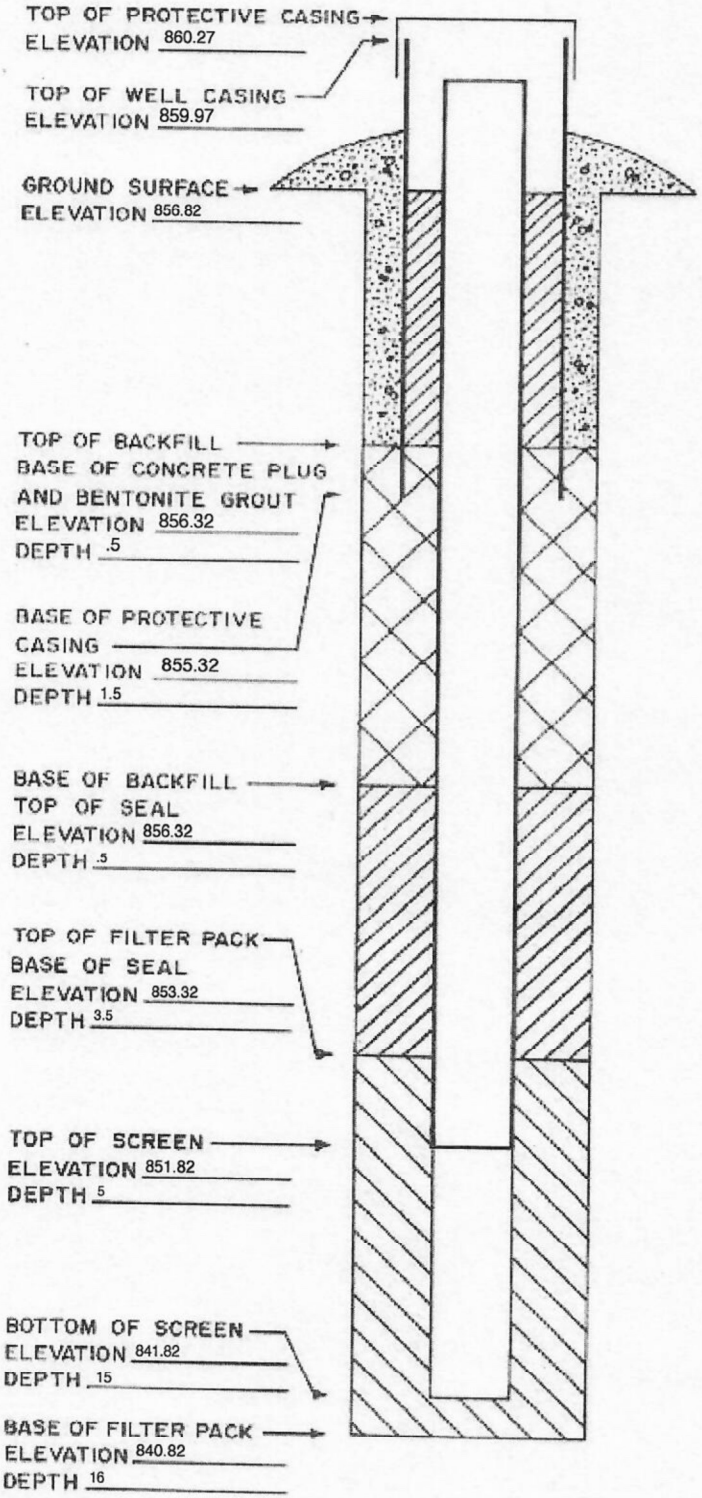
ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Sutherland Generating Station | Permit No.: 2023-7

Well or Piezometer No.: MW-313 | Dates Started: 2/28/2023 | Date Completed: 2/28/2023

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

Specify corner of site: N parcel 8417-32-200-001 | Distance and direction along boundary: 85' south

Distance and direction from boundary to surface monitoring well: 217' east

Elevation (+0.01 ft. MSL)

Ground Surface: 858.55 | Top of protective casing: 861.59

Top of well casing: 861.25 | Benchmark elevation: 861.47

Benchmark description: Brass monument in concrete

B. SOIL BORING INFORMATION

Construction Company Name: Direct Push Analytical

Address: 4N969 Old Lafox Rd Unit E | City, State, Zip Code: St. Charles, IL 60175

Name of driller: Patrick Goetz

Drilling method: Hollow Stem Auger | Drilling fluid: None | Bore Hole diameter: 8.25"

Soil sampling method: Geoprobe | Depth of boring: 17'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 9'

Outside casing diameter: 2.37

Inside casing diameter: 2.01

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of Well: 16'

Filter Pack:

Material: Sand

Grain Size: R.W. Sidley #5

Volume: 2 cu ft

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

Material: 3/8" Bentonite Chips

Placement method: Gravity

Volume: 1 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design:

Material of protective casing: Steel

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

Protective cap: Yes

Material: Steel

Vented?: ☐ Y ☒ N Locking?: ☒ Y ☐ N

Well cap: Yes

Material: Plastic

Vented?: ☐ Y ☒ N

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

Water level: 6.56' | **Stabilization time:**

Well development method: Surge and Purge with Pump

Average depth of frost line:

DRILLER'S CERTIFICATION

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

Signature: [signature] **Certification #:** 6498 **Date:** 5-6-23

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

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

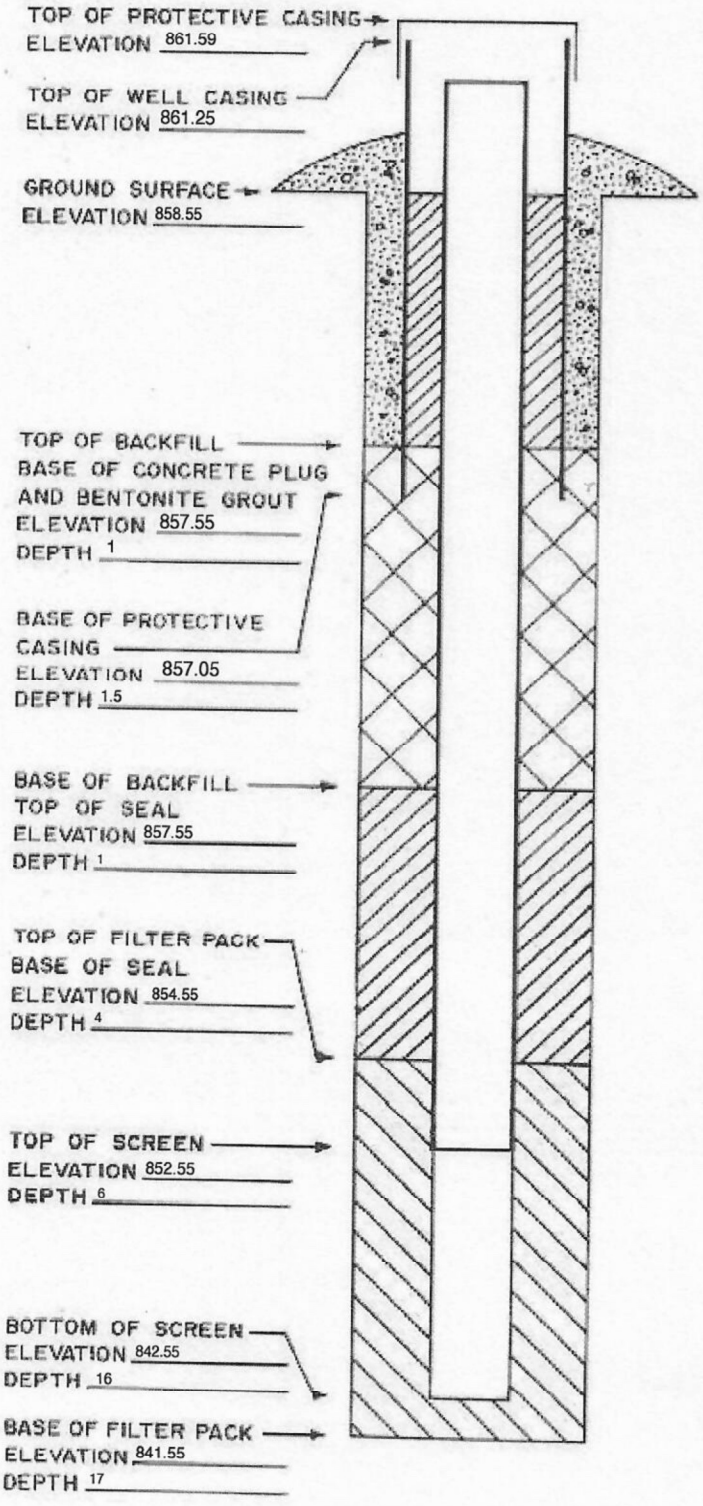
Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

09/2017 cmc

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: Sutherland Generating Station | Permit No.: 2023-7

Well or Piezometer No.: MW-314 | Dates Started: 3/1/2023 | Date Completed: 3/1/2023

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

Specify corner of site: NW parcel 8417-32-200-002 | Distance and direction along boundary: 121' south

Distance and direction from boundary to surface monitoring well: 72' east

Elevation (+0.01 ft. MSL): 856.75

Ground Surface: 856.75 | Top of protective casing: 859.82

Top of well casing: 859.57 | Benchmark elevation: 861.47

Benchmark description: Brass monument in concrete

B. SOIL BORING INFORMATION

Construction Company Name: Direct Push Analytical

Address: 4N969 Old Lafox Rd Unit E | City, State, Zip Code: St. Charles, IL 60175

Name of driller: Patrick Goetz

Drilling method: Hollow Stem Auger | Drilling fluid: None | Bore Hole diameter: 8.25"

Soil sampling method: Geoprobe | Depth of boring: 16'

C. MONITORING WELL INSTALLATION

Casing material: PVC

Length of casing: 8'

Outside casing diameter: 2.37

Inside casing diameter: 2.01

Casing joint type: Threaded

Casing/screen joint type: Threaded

Screen material: PVC

Screen opening size: 0.010"

Screen length: 10'

Depth of Well: 15'

Filter Pack:

Material: Sand

Grain Size: R.W. Sidley #5

Volume: 1.5 cu ft

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

Material: 3/8" Bentonite Chips

Placement method: Gravity

Volume: 1 cu ft

Backfill (if different from seal): N/A

Material: N/A

Placement method: N/A

Volume: N/A

Surface seal design:

Material of protective casing: Steel

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

Protective cap: Yes

Material: Steel

Vented?: ☐ Y ☒ N | Locking?: ☒ Y ☐ N

Well cap: Yes

Material: Plastic

Vented?: ☐ Y ☒ N

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

Water level: 5.37' | **Stabilization time:**

Well development method: Surge and Purge with Pump

Average depth of frost line:

DRILLER'S CERTIFICATION

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

Signature: [signature] | **Certification #:** 6496 | **Date:** 5-8-23

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

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

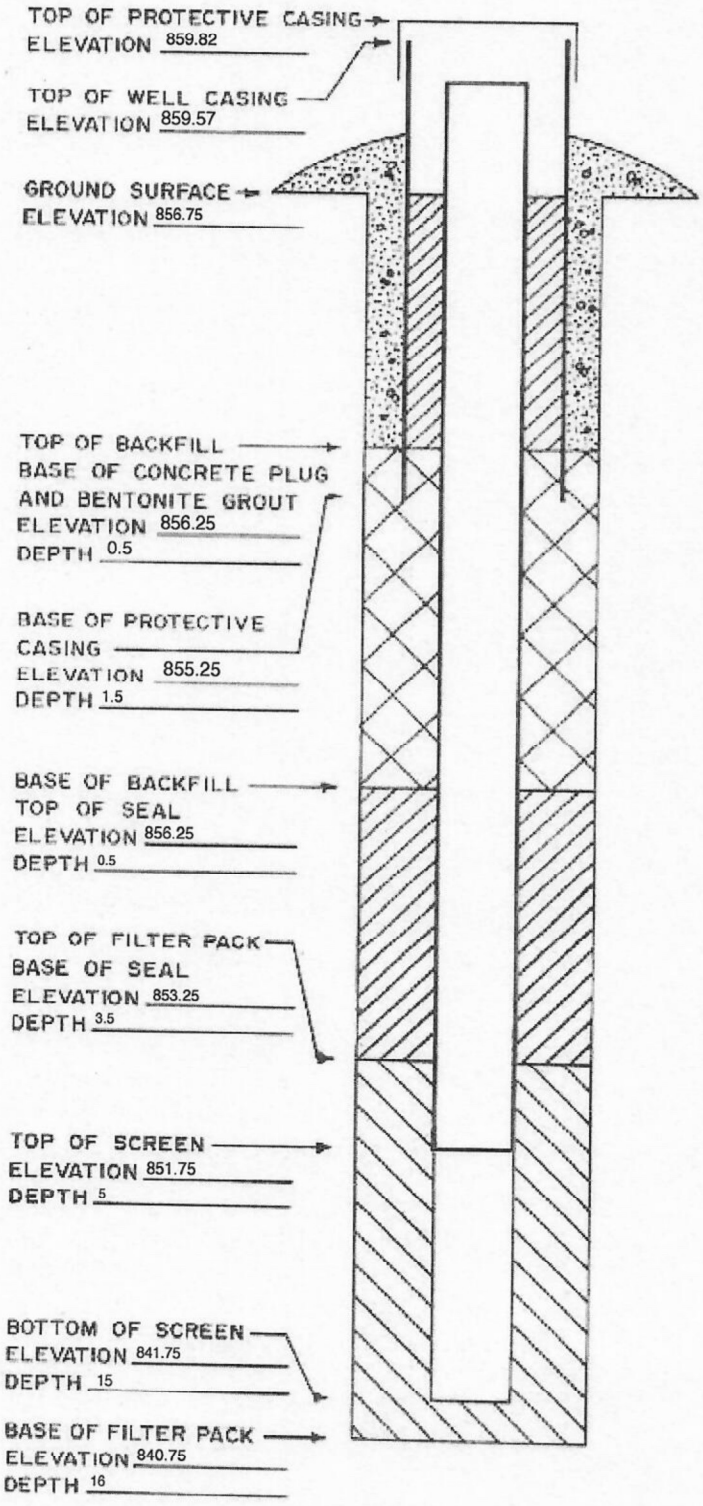
Questions? Call or Email: Nina Booker Environmental Engineer Sr., 515-725-8309, nina.booker@dnr.iowa.gov

09/2017 cmc

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM GROUND SERFACE

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



Appendix C

Analytical Laboratory Reports

C1 April 2023 Assessment Monitoring

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/18/2023 10:05:05 PM

JOB DESCRIPTION

Sutherland Generating Station 25223076

JOB NUMBER

310-253690-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Eurofins Cedar Falls

Job Notes

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

Authorization

Generated
5/18/2023 10:05:05 PM

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

Table of Contents

Job ID: 310-253690-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-253690-1

Comments
No additional comments.

Receipt
The samples were received on 4/14/2023 4:25 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 0.9º C, 1.8º C, 2.1º C and 2.7º C.

HPLC/IC
Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-253690-1), MW-302 (310-253690-2), MW-304 (310-253690-4), MW-305 (310-253690-5) and MW-306 (310-253690-6). Elevated reporting limits (RLs) are provided.

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

RAD
Methods 903.0, 9315: Radium 226 batch 610859
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 (310-253690-1), MW-302 (310-253690-2), MW-303 (310-253690-3), MW-304 (310-253690-4), MW-305 (310-253690-5), MW-306 (310-253690-6), FIELD BLANK (310-253690-16), (LCS 160-608721/2-A), (LCSD 160-608721/3-A), (MB 160-608721/1-A), (400-236111-A-4-D), (400-236111-A-4-E MS) and (400-236111-A-4-F MSD)

Method 904.0: Radium 228 batch 608727
The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: MW-301 (310-253690-1). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium 228 batch 608727
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 (310-253690-1), MW-302 (310-253690-2), MW-303 (310-253690-3), MW-304 (310-253690-4), MW-305 (310-253690-5), MW-306 (310-253690-6), FIELD BLANK (310-253690-16), (LCS 160-608727/2-A), (LCSD 160-608727/3-A) and (MB 160-608727/1-A)

Method PrecSep_0: Radium-228 Prep Batch 160-608727
The following sample was prepared at a reduced aliquot due to Matrix: MW-301 (310-253690-1). 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-228 160-608727
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-302 (310-253690-2), MW-303 (310-253690-3), MW-304 (310-253690-4), MW-305 (310-253690-5), MW-306 (310-253690-6) and FIELD BLANK (310-253690-16). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-608721
The following sample was prepared at a reduced aliquot due to Matrix: MW-301 (310-253690-1). 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 160-608721
Insufficient sample volume was available to perform a sample duplicate for the following samples: MW-302 (310-253690-2), MW-303 (310-253690-3), MW-304 (310-253690-4), MW-305 (310-253690-5), MW-306 (310-253690-6) and FIELD BLANK (310-253690-16). 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.

Job ID: 310-253690-1 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

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

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

Sample Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-253690-1	MW-301	Water	04/11/23 09:04	04/14/23 16:25
310-253690-2	MW-302	Water	04/10/23 14:30	04/14/23 16:25
310-253690-3	MW-303	Water	04/10/23 14:18	04/14/23 16:25
310-253690-4	MW-304	Water	04/11/23 09:57	04/14/23 16:25
310-253690-5	MW-305	Water	04/11/23 10:54	04/14/23 16:25
310-253690-6	MW-306	Water	04/12/23 14:25	04/14/23 16:25
310-253690-7	MW-306A	Water	04/12/23 13:35	04/14/23 16:25
310-253690-8	MW-307	Water	04/10/23 15:53	04/14/23 16:25
310-253690-9	MW-308	Water	04/13/23 11:43	04/14/23 16:25
310-253690-10	MW-309	Water	04/11/23 14:00	04/14/23 16:25
310-253690-11	MW-310	Water	04/11/23 12:58	04/14/23 16:25
310-253690-12	MW-311	Water	04/11/23 12:05	04/14/23 16:25
310-253690-13	MW-312	Water	04/11/23 15:30	04/14/23 16:25
310-253690-14	MW-313	Water	04/12/23 09:45	04/14/23 16:25
310-253690-15	MW-314	Water	04/13/23 08:15	04/14/23 16:25
310-253690-16	FIELD BLANK	Water	04/13/23 00:00	04/14/23 16:25

Detection Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-301 — Lab Sample ID: 310-253690-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	46		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	0.77	J	2.0	0.53	ug/L	1		6020B	Total/NA
Barium	56		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	77	J	100	76	ug/L	1		6020B	Total/NA
Cadmium	0.18	J	0.20	0.10	ug/L	1		6020B	Total/NA
Calcium	69		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.47	J	0.50	0.17	ug/L	1		6020B	Total/NA
Iron	340	F1	100	36	ug/L	1		6020B	Total/NA
Lead	0.38	J	0.50	0.24	ug/L	1		6020B	Total/NA
Lithium	2.8	J	10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	1.9	J	2.0	0.91	ug/L	1		6020B	Total/NA
Selenium	6.8		5.0	1.4	ug/L	1		6020B	Total/NA
Thallium	0.97	J	1.0	0.26	ug/L	1		6020B	Total/NA
Total Dissolved Solids	290		50	34	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	854.20				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	134.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.38				mg/L	1		Field Sampling	Total/NA
pH, Field	6.59				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	461.5				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.8				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	36.2				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-253690-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	22		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	110		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	3.9		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	110		2.0	0.64	ug/L	1		6020B	Total/NA
Cadmium	0.11	J	0.20	0.10	ug/L	1		6020B	Total/NA
Calcium	87		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	1.5		0.50	0.17	ug/L	1		6020B	Total/NA
Iron	370		100	36	ug/L	1		6020B	Total/NA
Lithium	2.8	J	10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	0.91	J	2.0	0.91	ug/L	1		6020B	Total/NA
Selenium	12		5.0	1.4	ug/L	1		6020B	Total/NA
Thallium	1.3		1.0	0.26	ug/L	1		6020B	Total/NA
Total Dissolved Solids	380		50	34	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	854.63				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	59.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.99				mg/L	1		Field Sampling	Total/NA
pH, Field	7.03				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	571.1				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	5.39				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-303
Lab Sample ID: 310-253690-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.6	J	5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.39	J	1.0	0.38	mg/L	5		9056A	Total/NA
Sulfate	150		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	0.58	J	2.0	0.53	ug/L	1		6020B	Total/NA
Barium	46		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	240		100	76	ug/L	1		6020B	Total/NA
Calcium	79		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.21	J	0.50	0.17	ug/L	1		6020B	Total/NA
Iron	84	J	100	36	ug/L	1		6020B	Total/NA
Lithium	16		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	4.7		2.0	0.91	ug/L	1		6020B	Total/NA
Selenium	9.0		5.0	1.4	ug/L	1		6020B	Total/NA
Total Dissolved Solids	430		50	34	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	853.34				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	193.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	-0.08				mg/L	1		Field Sampling	Total/NA
pH, Field	7.10				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	560				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	7.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304
Lab Sample ID: 310-253690-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.0		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	310		5.0	2.1	mg/L	5		9056A	Total/NA
Barium	25		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	440		100	76	ug/L	1		6020B	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020B	Total/NA
Selenium	3.3	J	5.0	1.4	ug/L	1		6020B	Total/NA
Total Dissolved Solids	620		50	34	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	853.27				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	195.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	2.62				mg/L	1		Field Sampling	Total/NA
pH, Field	6.72				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	816				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	6.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305
Lab Sample ID: 310-253690-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	390		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	5.8		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	39		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	910		100	76	ug/L	1		6020B	Total/NA
Cadmium	0.10	J	0.20	0.10	ug/L	1		6020B	Total/NA
Calcium	150		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	1.1		0.50	0.17	ug/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-305 (Continued)
Lab Sample ID: 310-253690-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	350		100	36	ug/L	1		6020B	Total/NA
Lithium	22		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	27		2.0	0.91	ug/L	1		6020B	Total/NA
Total Dissolved Solids	840		50	34	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	853.13				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	140.0				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.13				mg/L	1		Field Sampling	Total/NA
pH, Field	6.93				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1044				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306
Lab Sample ID: 310-253690-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	400		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	3.5		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	63		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	3400		100	76	ug/L	1		6020B	Total/NA
Calcium	150		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.38	J	0.50	0.17	ug/L	1		6020B	Total/NA
Iron	49	J	100	36	ug/L	1		6020B	Total/NA
Lithium	59		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	76		2.0	0.91	ug/L	1		6020B	Total/NA
Total Dissolved Solids	720		50	34	mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	853.01				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-8.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.14				mg/L	1		Field Sampling	Total/NA
pH, Field	7.69				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	988				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A
Lab Sample ID: 310-253690-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	210		5.0	2.1	mg/L	5		9056A	Total/NA
Calcium	170000		500	190	ug/L	1		6020B	Total/NA
Iron	510		100	36	ug/L	1		6020B	Total/NA
Lithium	38		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	14000		500	150	ug/L	1		6020B	Total/NA
Manganese	740		10	3.6	ug/L	1		6020B	Total/NA
Potassium	9900		500	150	ug/L	1		6020B	Total/NA
Sodium	29000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	340		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	340		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	853.37				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-69.0				millivolts	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample ID: MW-306A (Continued) — Lab Sample ID: 310-253690-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxygen, Dissolved, Client Supplied	0.11				mg/L	1		Field Sampling	Total/NA
pH, Field	7.48				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	940				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	12.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.53				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-253690-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	620		100	36	ug/L	1		6020B	Total/NA
Lithium	24		10	2.5	ug/L	1		6020B	Total/NA
Ground Water Elevation	853.97				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	136.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	-0.06				mg/L	1		Field Sampling	Total/NA
pH, Field	6.56				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1686				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	1.27				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-308 — Lab Sample ID: 310-253690-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	4700		100	36	ug/L	1		6020B	Total/NA
Lithium	12		10	2.5	ug/L	1		6020B	Total/NA
Ground Water Elevation	852.53				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	47.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.11				mg/L	1		Field Sampling	Total/NA
pH, Field	6.73				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1160				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	40.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309 — Lab Sample ID: 310-253690-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	400		5.0	2.1	mg/L	5		9056A	Total/NA
Calcium	140000		500	190	ug/L	1		6020B	Total/NA
Iron	360		100	36	ug/L	1		6020B	Total/NA
Lithium	21		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	41000		500	150	ug/L	1		6020B	Total/NA
Manganese	98		10	3.6	ug/L	1		6020B	Total/NA
Potassium	4700		500	150	ug/L	1		6020B	Total/NA
Sodium	43000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	220		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	851.58				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	96.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.44				mg/L	1		Field Sampling	Total/NA
pH, Field	7.25				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1017				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.7				Degrees C	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-309 (Continued) — Lab Sample ID: 310-253690-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Turbidity, Field	1.69				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310 — Lab Sample ID: 310-253690-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	43		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	460		5.0	2.1	mg/L	5		9056A	Total/NA
Calcium	170000		500	190	ug/L	1		6020B	Total/NA
Lithium	4.0	J	10	2.5	ug/L	1		6020B	Total/NA
Magnesium	64000		500	150	ug/L	1		6020B	Total/NA
Manganese	6.6	J	10	3.6	ug/L	1		6020B	Total/NA
Potassium	220	J	500	150	ug/L	1		6020B	Total/NA
Sodium	36000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	260		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	260		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	851.70				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	88.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	2.83				mg/L	1		Field Sampling	Total/NA
pH, Field	6.96				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1189				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	7.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-311 — Lab Sample ID: 310-253690-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	21		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	260		5.0	2.1	mg/L	5		9056A	Total/NA
Calcium	120000		500	190	ug/L	1		6020B	Total/NA
Lithium	20		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	31000		500	150	ug/L	1		6020B	Total/NA
Manganese	45		10	3.6	ug/L	1		6020B	Total/NA
Potassium	3600		500	150	ug/L	1		6020B	Total/NA
Sodium	39000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	240		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	240		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	851.72				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	112.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.88				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	847				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	6.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-312 — Lab Sample ID: 310-253690-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	240		5.0	2.1	mg/L	5		9056A	Total/NA
Calcium	140000		500	190	ug/L	1		6020B	Total/NA
Iron	72	J	100	36	ug/L	1		6020B	Total/NA
Lithium	58		10	2.5	ug/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-312 (Continued)
Lab Sample ID: 310-253690-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	22000		500	150	ug/L	1		6020B	Total/NA
Manganese	1400		10	3.6	ug/L	1		6020B	Total/NA
Potassium	7500		500	150	ug/L	1		6020B	Total/NA
Sodium	26000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	260		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	260		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	853.47				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	19.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.1				mg/L	1		Field Sampling	Total/NA
pH, Field	7.7				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	848				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.5				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-313
Lab Sample ID: 310-253690-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	290		5.0	2.1	mg/L	5		9056A	Total/NA
Calcium	150000		500	190	ug/L	1		6020B	Total/NA
Iron	200		100	36	ug/L	1		6020B	Total/NA
Lithium	25		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	37000		500	150	ug/L	1		6020B	Total/NA
Manganese	4100		10	3.6	ug/L	1		6020B	Total/NA
Potassium	4100		500	150	ug/L	1		6020B	Total/NA
Sodium	30000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	340		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	340		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	853.15				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	61.1				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.07				mg/L	1		Field Sampling	Total/NA
pH, Field	7.03				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1013				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.45				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-314
Lab Sample ID: 310-253690-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	310		5.0	2.1	mg/L	5		9056A	Total/NA
Calcium	130000		500	190	ug/L	1		6020B	Total/NA
Iron	790		100	36	ug/L	1		6020B	Total/NA
Lithium	32		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	37000		500	150	ug/L	1		6020B	Total/NA
Manganese	640		10	3.6	ug/L	1		6020B	Total/NA
Potassium	4900		500	150	ug/L	1		6020B	Total/NA
Sodium	38000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	250		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	250		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Ground Water Elevation	852.77				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	55.4				millivolts	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-314 (Continued) — Lab Sample ID: 310-253690-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxygen, Dissolved, Client Supplied	0.22				mg/L	1		Field Sampling	Total/NA
pH, Field	7.26				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	967				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	7.4				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	30.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: FIELD BLANK — Lab Sample ID: 310-253690-16

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.

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-301
Date Collected: 04/11/23 09:04
Date Received: 04/14/23 16:25

Lab Sample ID: 310-253690-1
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		5.0	2.3	mg/L			04/21/23 21:08	5
Fluoride	<0.38		1.0	0.38	mg/L			04/21/23 21:08	5
Sulfate	46		5.0	2.1	mg/L			04/21/23 21:08	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 19:12	1
Arsenic	0.77	J	2.0	0.53	ug/L		04/19/23 08:45	05/01/23 19:12	1
Barium	56		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 19:12	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 19:12	1
Boron	77	J	100	76	ug/L		04/19/23 08:45	05/01/23 19:12	1
Cadmium	0.18	J	0.20	0.10	ug/L		04/19/23 08:45	05/01/23 19:12	1
Calcium	69		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 19:12	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 19:12	1
Cobalt	0.47	J	0.50	0.17	ug/L		04/19/23 08:45	05/01/23 19:12	1
Iron	340	F1	100	36	ug/L		04/19/23 08:45	05/01/23 19:12	1
Lead	0.38	J	0.50	0.24	ug/L		04/19/23 08:45	05/01/23 19:12	1
Lithium	2.8	J	10	2.5	ug/L		04/19/23 08:45	05/01/23 19:12	1
Molybdenum	1.9	J	2.0	0.91	ug/L		04/19/23 08:45	05/01/23 19:12	1
Selenium	6.8		5.0	1.4	ug/L		04/19/23 08:45	05/01/23 19:12	1
Thallium	0.97	J	1.0	0.26	ug/L		04/19/23 08:45	05/01/23 19:12	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 14:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	290		50	34	mg/L			04/17/23 15:04	1
pH (SM 4500 H+ B)	7.0	HF	0.1	0.1	SU			04/14/23 17:31	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.00562	U	0.212	0.212	1.00	0.431	pCi/L	04/25/23 13:40	05/17/23 07:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*54.8*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:20*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	-0.123	U G	0.750	0.750	1.00	1.43	pCi/L	04/25/23 14:34	05/15/23 12:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*54.8*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*
Y Carrier	*71.4*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-301
Lab Sample ID: 310-253690-1
Date Collected: 04/11/23 09:04
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.00562	U	0.779	0.779	5.00	1.43	pCi/L		05/17/23 15:21	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	854.20				ft			04/11/23 09:04	1
Oxidation Reduction Potential	134.1				millivolts			04/11/23 09:04	1
Oxygen, Dissolved, Client Supplied	0.38				mg/L			04/11/23 09:04	1
pH, Field	6.59				SU			04/11/23 09:04	1
Specific Conductance, Field	461.5				umhos/cm			04/11/23 09:04	1
Temperature, Field	8.8				Degrees C			04/11/23 09:04	1
Turbidity, Field	36.2				NTU			04/11/23 09:04	1

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-302
Date Collected: 04/10/23 14:30
Date Received: 04/14/23 16:25

Lab Sample ID: 310-253690-2
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22**		5.0	2.3	mg/L			04/21/23 21:24	5
Fluoride	<0.38		1.0	0.38	mg/L			04/21/23 21:24	5
Sulfate	**110**		5.0	2.1	mg/L			04/21/23 21:24	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 19:25	1
Arsenic	**3.9**		2.0	0.53	ug/L		04/19/23 08:45	05/01/23 19:25	1
Barium	**110**		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 19:25	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 19:25	1
Boron	<76		100	76	ug/L		04/19/23 08:45	05/01/23 19:25	1
Cadmium	**0.11**	**J**	0.20	0.10	ug/L		04/19/23 08:45	05/01/23 19:25	1
Calcium	**87**		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 19:25	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 19:25	1
Cobalt	**1.5**		0.50	0.17	ug/L		04/19/23 08:45	05/01/23 19:25	1
Iron	**370**		100	36	ug/L		04/19/23 08:45	05/01/23 19:25	1
Lead	<0.24		0.50	0.24	ug/L		04/19/23 08:45	05/01/23 19:25	1
Lithium	**2.8**	**J**	10	2.5	ug/L		04/19/23 08:45	05/01/23 19:25	1
Molybdenum	**0.91**	**J**	2.0	0.91	ug/L		04/19/23 08:45	05/01/23 19:25	1
Selenium	**12**		5.0	1.4	ug/L		04/19/23 08:45	05/01/23 19:25	1
Thallium	**1.3**		1.0	0.26	ug/L		04/19/23 08:45	05/01/23 19:25	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**380**		50	34	mg/L			04/17/23 15:04	1
pH (SM 4500 H+ B)	**7.3**	**HF**	0.1	0.1	SU			04/14/23 17:37	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0634	U	0.110	0.110	1.00	0.194	pCi/L	04/25/23 13:40	05/17/23 07:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*81.6*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:24*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.485	U	0.357	0.359	1.00	0.537	pCi/L	04/25/23 14:34	05/15/23 12:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*81.6*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*
Y Carrier	*81.5*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-302
Lab Sample ID: 310-253690-2
Date Collected: 04/10/23 14:30
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.548		0.374	0.375	5.00	0.537	pCi/L		05/17/23 15:21	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	854.63				ft			04/10/23 14:30	1
Oxidation Reduction Potential	59.7				millivolts			04/10/23 14:30	1
Oxygen, Dissolved, Client Supplied	1.99				mg/L			04/10/23 14:30	1
pH, Field	7.03				SU			04/10/23 14:30	1
Specific Conductance, Field	571.1				umhos/cm			04/10/23 14:30	1
Temperature, Field	8.9				Degrees C			04/10/23 14:30	1
Turbidity, Field	5.39				NTU			04/10/23 14:30	1

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25223076

Job ID: 310-253690-1

Client Sample ID: MW-303

Date Collected: 04/10/23 14:18
Date Received: 04/14/23 16:25

Lab Sample ID: 310-253690-3

Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.6**	**J**	5.0	2.3	mg/L			04/21/23 21:39	5
Fluoride	**0.39**	**J**	1.0	0.38	mg/L			04/21/23 21:39	5
Sulfate	**150**		5.0	2.1	mg/L			04/21/23 21:39	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 19:42	1
Arsenic	**0.58**	**J**	2.0	0.53	ug/L		04/19/23 08:45	05/01/23 19:42	1
Barium	**46**		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 19:42	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 19:42	1
Boron	**240**		100	76	ug/L		04/19/23 08:45	05/01/23 19:42	1
Cadmium	<0.10		0.20	0.10	ug/L		04/19/23 08:45	05/01/23 19:42	1
Calcium	**79**		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 19:42	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 19:42	1
Cobalt	**0.21**	**J**	0.50	0.17	ug/L		04/19/23 08:45	05/01/23 19:42	1
Iron	**84**	**J**	100	36	ug/L		04/19/23 08:45	05/01/23 19:42	1
Lead	<0.24		0.50	0.24	ug/L		04/19/23 08:45	05/01/23 19:42	1
Lithium	**16**		10	2.5	ug/L		04/19/23 08:45	05/01/23 19:42	1
Molybdenum	**4.7**		2.0	0.91	ug/L		04/19/23 08:45	05/01/23 19:42	1
Selenium	**9.0**		5.0	1.4	ug/L		04/19/23 08:45	05/01/23 19:42	1
Thallium	<0.26		1.0	0.26	ug/L		04/19/23 08:45	05/01/23 19:42	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**430**		50	34	mg/L			04/17/23 15:04	1
pH (SM 4500 H+ B)	**7.4**	**HF**	0.1	0.1	SU			04/14/23 17:39	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.0324	U	0.0706	0.0707	1.00	0.176	pCi/L	04/25/23 13:40	05/17/23 07:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*91.4*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:24*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	-0.0206	U	0.322	0.322	1.00	0.604	pCi/L	04/25/23 14:34	05/15/23 12:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*91.4*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*
Y Carrier	*78.5*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-303
Lab Sample ID: 310-253690-3
Date Collected: 04/10/23 14:18
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.000	U	0.330	0.330	5.00	0.604	pCi/L		05/17/23 15:21	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**853.34**				ft			04/10/23 14:18	1
Oxidation Reduction Potential	**193.1**				millivolts			04/10/23 14:18	1
Oxygen, Dissolved, Client Supplied	**-0.08**				mg/L			04/10/23 14:18	1
pH, Field	**7.10**				SU			04/10/23 14:18	1
Specific Conductance, Field	**560**				umhos/cm			04/10/23 14:18	1
Temperature, Field	**7.7**				Degrees C			04/10/23 14:18	1
Turbidity, Field	**0.02**				NTU			04/10/23 14:18	1

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-304
Date Collected: 04/11/23 09:57
Date Received: 04/14/23 16:25

Lab Sample ID: 310-253690-4
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.0**		5.0	2.3	mg/L			04/21/23 21:55	5
Fluoride	<0.38		1.0	0.38	mg/L			04/21/23 21:55	5
Sulfate	**310**		5.0	2.1	mg/L			04/21/23 21:55	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 19:45	1
Arsenic	<0.53		2.0	0.53	ug/L		04/19/23 08:45	05/01/23 19:45	1
Barium	**25**		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 19:45	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 19:45	1
Boron	**440**		100	76	ug/L		04/19/23 08:45	05/01/23 19:45	1
Cadmium	<0.10		0.20	0.10	ug/L		04/19/23 08:45	05/01/23 19:45	1
Calcium	**120**		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 19:45	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 19:45	1
Cobalt	<0.17		0.50	0.17	ug/L		04/19/23 08:45	05/01/23 19:45	1
Iron	<36		100	36	ug/L		04/19/23 08:45	05/01/23 19:45	1
Lead	<0.24		0.50	0.24	ug/L		04/19/23 08:45	05/01/23 19:45	1
Lithium	<2.5		10	2.5	ug/L		04/19/23 08:45	05/01/23 19:45	1
Molybdenum	<0.91		2.0	0.91	ug/L		04/19/23 08:45	05/01/23 19:45	1
Selenium	**3.3**	**J**	5.0	1.4	ug/L		04/19/23 08:45	05/01/23 19:45	1
Thallium	<0.26		1.0	0.26	ug/L		04/19/23 08:45	05/01/23 19:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 14:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**620**		50	34	mg/L			04/17/23 15:04	1
pH (SM 4500 H+ B)	**7.1**	**HF**	0.1	0.1	SU			04/14/23 17:41	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0319	U	0.0999	0.100	1.00	0.191	pCi/L	04/25/23 13:40	05/17/23 07:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.2*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:25*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.430	U	0.366	0.368	1.00	0.576	pCi/L	04/25/23 14:34	05/15/23 12:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.2*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*
Y Carrier	*82.6*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:15*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-304
Lab Sample ID: 310-253690-4
Date Collected: 04/11/23 09:57
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.462	U	0.379	0.381	5.00	0.576	pCi/L		05/17/23 15:21	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.27				ft			04/11/23 09:57	1
Oxidation Reduction Potential	195.7				millivolts			04/11/23 09:57	1
Oxygen, Dissolved, Client Supplied	2.62				mg/L			04/11/23 09:57	1
pH, Field	6.72				SU			04/11/23 09:57	1
Specific Conductance, Field	816				umhos/cm			04/11/23 09:57	1
Temperature, Field	6.7				Degrees C			04/11/23 09:57	1
Turbidity, Field	0.02				NTU			04/11/23 09:57	1

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-305
Date Collected: 04/11/23 10:54
Date Received: 04/14/23 16:25

Lab Sample ID: 310-253690-5
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21**		5.0	2.3	mg/L			04/21/23 22:42	5
Fluoride	<0.38		1.0	0.38	mg/L			04/21/23 22:42	5
Sulfate	**390**		5.0	2.1	mg/L			04/21/23 22:42	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 19:48	1
Arsenic	**5.8**		2.0	0.53	ug/L		04/19/23 08:45	05/01/23 19:48	1
Barium	**39**		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 19:48	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 19:48	1
Boron	**910**		100	76	ug/L		04/19/23 08:45	05/01/23 19:48	1
Cadmium	**0.10**	**J**	0.20	0.10	ug/L		04/19/23 08:45	05/01/23 19:48	1
Calcium	**150**		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 19:48	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 19:48	1
Cobalt	**1.1**		0.50	0.17	ug/L		04/19/23 08:45	05/01/23 19:48	1
Iron	**350**		100	36	ug/L		04/19/23 08:45	05/01/23 19:48	1
Lead	<0.24		0.50	0.24	ug/L		04/19/23 08:45	05/01/23 19:48	1
Lithium	**22**		10	2.5	ug/L		04/19/23 08:45	05/01/23 19:48	1
Molybdenum	**27**		2.0	0.91	ug/L		04/19/23 08:45	05/01/23 19:48	1
Selenium	<1.4		5.0	1.4	ug/L		04/19/23 08:45	05/01/23 19:48	1
Thallium	<0.26		1.0	0.26	ug/L		04/19/23 08:45	05/01/23 19:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 14:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**840**		50	34	mg/L			04/17/23 15:04	1
pH (SM 4500 H+ B)	**7.3**	**HF**	0.1	0.1	SU			04/14/23 17:43	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	**0.187**		0.134	0.135	1.00	0.183	pCi/L	04/25/23 13:40	05/17/23 07:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*89.2*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:25*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.358	U	0.303	0.305	1.00	0.473	pCi/L	04/25/23 14:34	05/15/23 12:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*89.2*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:16*	*1*
Y Carrier	*89.3*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:16*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-305
Lab Sample ID: 310-253690-5
Date Collected: 04/11/23 10:54
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.545		0.331	0.334	5.00	0.473	pCi/L		05/17/23 15:21	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.13				ft			04/11/23 10:54	1
Oxidation Reduction Potential	140.0				millivolts			04/11/23 10:54	1
Oxygen, Dissolved, Client Supplied	0.13				mg/L			04/11/23 10:54	1
pH, Field	6.93				SU			04/11/23 10:54	1
Specific Conductance, Field	1044				umhos/cm			04/11/23 10:54	1
Temperature, Field	9.4				Degrees C			04/11/23 10:54	1
Turbidity, Field	0.02				NTU			04/11/23 10:54	1

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-306
Date Collected: 04/12/23 14:25
Date Received: 04/14/23 16:25

Lab Sample ID: 310-253690-6
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**18**		5.0	2.3	mg/L			04/21/23 22:57	5
Fluoride	<0.38		1.0	0.38	mg/L			04/21/23 22:57	5
Sulfate	**400**		5.0	2.1	mg/L			04/21/23 22:57	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 19:51	1
Arsenic	**3.5**		2.0	0.53	ug/L		04/19/23 08:45	05/01/23 19:51	1
Barium	**63**		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 19:51	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 19:51	1
Boron	**3400**		100	76	ug/L		04/19/23 08:45	05/01/23 19:51	1
Cadmium	<0.10		0.20	0.10	ug/L		04/19/23 08:45	05/01/23 19:51	1
Calcium	**150**		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 19:51	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 19:51	1
Cobalt	**0.38**	**J**	0.50	0.17	ug/L		04/19/23 08:45	05/01/23 19:51	1
Iron	**49**	**J**	100	36	ug/L		04/19/23 08:45	05/01/23 19:51	1
Lead	<0.24		0.50	0.24	ug/L		04/19/23 08:45	05/01/23 19:51	1
Lithium	**59**		10	2.5	ug/L		04/19/23 08:45	05/01/23 19:51	1
Molybdenum	**76**		2.0	0.91	ug/L		04/19/23 08:45	05/01/23 19:51	1
Selenium	<1.4		5.0	1.4	ug/L		04/19/23 08:45	05/01/23 19:51	1
Thallium	<0.26		1.0	0.26	ug/L		04/19/23 08:45	05/01/23 19:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**720**		50	34	mg/L			04/17/23 15:04	1
pH (SM 4500 H+ B)	**7.9**	**HF**	0.1	0.1	SU			04/14/23 17:45	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0722	U	0.0989	0.0991	1.00	0.167	pCi/L	04/25/23 13:40	05/17/23 07:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.2*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:28*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.402	U	0.384	0.386	1.00	0.616	pCi/L	04/25/23 14:34	05/15/23 12:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*90.2*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:28*	*1*
Y Carrier	*78.1*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:28*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-306
Lab Sample ID: 310-253690-6
Date Collected: 04/12/23 14:25
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.474	U	0.397	0.399	5.00	0.616	pCi/L		05/17/23 15:21	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.01				ft			04/12/23 14:25	1
Oxidation Reduction Potential	-8.9				millivolts			04/12/23 14:25	1
Oxygen, Dissolved, Client Supplied	0.14				mg/L			04/12/23 14:25	1
pH, Field	7.69				SU			04/12/23 14:25	1
Specific Conductance, Field	988				umhos/cm			04/12/23 14:25	1
Temperature, Field	11.4				Degrees C			04/12/23 14:25	1
Turbidity, Field	0.02				NTU			04/12/23 14:25	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-306A
Lab Sample ID: 310-253690-7
Date Collected: 04/12/23 13:35
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		5.0	2.3	mg/L			04/19/23 20:00	5
Sulfate	210		5.0	2.1	mg/L			04/19/23 20:00	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	170000		500	190	ug/L		04/19/23 08:45	05/01/23 19:54	1
Iron	510		100	36	ug/L		04/19/23 08:45	05/01/23 19:54	1
Lithium	38		10	2.5	ug/L		04/19/23 08:45	05/01/23 19:54	1
Magnesium	14000		500	150	ug/L		04/19/23 08:45	05/01/23 19:54	1
Manganese	740		10	3.6	ug/L		04/19/23 08:45	05/01/23 19:54	1
Potassium	9900		500	150	ug/L		04/19/23 08:45	05/01/23 19:54	1
Sodium	29000		1000	460	ug/L		04/19/23 08:45	05/01/23 19:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	340		5.0	2.5	mg/L			04/17/23 18:32	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 18:32	1
Total Alkalinity as CaCO3 (SM 2320B)	340		5.0	2.5	mg/L			04/17/23 18:32	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.37				ft			04/12/23 13:35	1
Oxidation Reduction Potential	-69.0				millivolts			04/12/23 13:35	1
Oxygen, Dissolved, Client Supplied	0.11				mg/L			04/12/23 13:35	1
pH, Field	7.48				SU			04/12/23 13:35	1
Specific Conductance, Field	940				umhos/cm			04/12/23 13:35	1
Temperature, Field	12.6				Degrees C			04/12/23 13:35	1
Turbidity, Field	4.53				NTU			04/12/23 13:35	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-307
Lab Sample ID: 310-253690-8
Date Collected: 04/10/23 15:53
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	620		100	36	ug/L		04/19/23 08:45	05/01/23 19:57	1
Lithium	24		10	2.5	ug/L		04/19/23 08:45	05/01/23 19:57	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.97				ft			04/10/23 15:53	1
Oxidation Reduction Potential	136.4				millivolts			04/10/23 15:53	1
Oxygen, Dissolved, Client Supplied	-0.06				mg/L			04/10/23 15:53	1
pH, Field	6.56				SU			04/10/23 15:53	1
Specific Conductance, Field	1686				umhos/cm			04/10/23 15:53	1
Temperature, Field	10.7				Degrees C			04/10/23 15:53	1
Turbidity, Field	1.27				NTU			04/10/23 15:53	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-308
Lab Sample ID: 310-253690-9
Date Collected: 04/13/23 11:43
Matrix: Water
Date Received: 04/14/23 16:25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4700		100	36	ug/L		04/19/23 08:45	05/01/23 20:00	1
Lithium	12		10	2.5	ug/L		04/19/23 08:45	05/01/23 20:00	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	852.53				ft			04/13/23 11:43	1
Oxidation Reduction Potential	47.9				millivolts			04/13/23 11:43	1
Oxygen, Dissolved, Client Supplied	0.11				mg/L			04/13/23 11:43	1
pH, Field	6.73				SU			04/13/23 11:43	1
Specific Conductance, Field	1160				umhos/cm			04/13/23 11:43	1
Temperature, Field	9.3				Degrees C			04/13/23 11:43	1
Turbidity, Field	40.0				NTU			04/13/23 11:43	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-309
Lab Sample ID: 310-253690-10
Date Collected: 04/11/23 14:00
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		5.0	2.3	mg/L			04/19/23 21:29	5
Sulfate	400		5.0	2.1	mg/L			04/19/23 21:29	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140000		500	190	ug/L		04/19/23 08:45	05/01/23 20:02	1
Iron	360		100	36	ug/L		04/19/23 08:45	05/01/23 20:02	1
Lithium	21		10	2.5	ug/L		04/19/23 08:45	05/01/23 20:02	1
Magnesium	41000		500	150	ug/L		04/19/23 08:45	05/01/23 20:02	1
Manganese	98		10	3.6	ug/L		04/19/23 08:45	05/01/23 20:02	1
Potassium	4700		500	150	ug/L		04/19/23 08:45	05/01/23 20:02	1
Sodium	43000		1000	460	ug/L		04/19/23 08:45	05/01/23 20:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	220		5.0	2.5	mg/L			04/17/23 19:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 19:03	1
Total Alkalinity as CaCO3 (SM 2320B)	220		5.0	2.5	mg/L			04/17/23 19:03	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	851.58				ft			04/11/23 14:00	1
Oxidation Reduction Potential	96.7				millivolts			04/11/23 14:00	1
Oxygen, Dissolved, Client Supplied	0.44				mg/L			04/11/23 14:00	1
pH, Field	7.25				SU			04/11/23 14:00	1
Specific Conductance, Field	1017				umhos/cm			04/11/23 14:00	1
Temperature, Field	9.7				Degrees C			04/11/23 14:00	1
Turbidity, Field	1.69				NTU			04/11/23 14:00	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-310
Lab Sample ID: 310-253690-11
Date Collected: 04/11/23 12:58
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**43**		5.0	2.3	mg/L			04/19/23 21:44	5
Sulfate	**460**		5.0	2.1	mg/L			04/19/23 21:44	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**170000**		500	190	ug/L		04/19/23 08:45	05/01/23 20:05	1
Iron	<36		100	36	ug/L		04/19/23 08:45	05/01/23 20:05	1
Lithium	**4.0**	**J**	10	2.5	ug/L		04/19/23 08:45	05/01/23 20:05	1
Magnesium	**64000**		500	150	ug/L		04/19/23 08:45	05/01/23 20:05	1
Manganese	**6.6**	**J**	10	3.6	ug/L		04/19/23 08:45	05/01/23 20:05	1
Potassium	**220**	**J**	500	150	ug/L		04/19/23 08:45	05/01/23 20:05	1
Sodium	**36000**		1000	460	ug/L		04/19/23 08:45	05/01/23 20:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**260**		5.0	2.5	mg/L			04/17/23 19:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 19:13	1
Total Alkalinity as CaCO3 (SM 2320B)	**260**		5.0	2.5	mg/L			04/17/23 19:13	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**851.70**				ft			04/11/23 12:58	1
Oxidation Reduction Potential	**88.2**				millivolts			04/11/23 12:58	1
Oxygen, Dissolved, Client Supplied	**2.83**				mg/L			04/11/23 12:58	1
pH, Field	**6.96**				SU			04/11/23 12:58	1
Specific Conductance, Field	**1189**				umhos/cm			04/11/23 12:58	1
Temperature, Field	**7.7**				Degrees C			04/11/23 12:58	1
Turbidity, Field	**0.02**				NTU			04/11/23 12:58	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-311
Lab Sample ID: 310-253690-12
Date Collected: 04/11/23 12:05
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21**		5.0	2.3	mg/L			04/19/23 22:31	5
Sulfate	**260**		5.0	2.1	mg/L			04/19/23 22:31	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**120000**		500	190	ug/L		04/19/23 08:45	05/01/23 20:25	1
Iron	<36		100	36	ug/L		04/19/23 08:45	05/01/23 20:25	1
Lithium	**20**		10	2.5	ug/L		04/19/23 08:45	05/01/23 20:25	1
Magnesium	**31000**		500	150	ug/L		04/19/23 08:45	05/01/23 20:25	1
Manganese	**45**		10	3.6	ug/L		04/19/23 08:45	05/01/23 20:25	1
Potassium	**3600**		500	150	ug/L		04/19/23 08:45	05/01/23 20:25	1
Sodium	**39000**		1000	460	ug/L		04/19/23 08:45	05/01/23 20:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**240**		5.0	2.5	mg/L			04/17/23 19:23	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 19:23	1
Total Alkalinity as CaCO3 (SM 2320B)	**240**		5.0	2.5	mg/L			04/17/23 19:23	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	**851.72**				ft			04/11/23 12:05	1
Oxidation Reduction Potential	**112.9**				millivolts			04/11/23 12:05	1
Oxygen, Dissolved, Client Supplied	**1.88**				mg/L			04/11/23 12:05	1
pH, Field	**7.17**				SU			04/11/23 12:05	1
Specific Conductance, Field	**847**				umhos/cm			04/11/23 12:05	1
Temperature, Field	**6.9**				Degrees C			04/11/23 12:05	1
Turbidity, Field	**0.02**				NTU			04/11/23 12:05	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-312
Lab Sample ID: 310-253690-13
Date Collected: 04/11/23 15:30
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		5.0	2.3	mg/L			04/19/23 22:47	5
Sulfate	240		5.0	2.1	mg/L			04/19/23 22:47	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140000		500	190	ug/L		04/19/23 08:45	05/01/23 20:28	1
Iron	72	J	100	36	ug/L		04/19/23 08:45	05/01/23 20:28	1
Lithium	58		10	2.5	ug/L		04/19/23 08:45	05/01/23 20:28	1
Magnesium	22000		500	150	ug/L		04/19/23 08:45	05/01/23 20:28	1
Manganese	1400		10	3.6	ug/L		04/19/23 08:45	05/01/23 20:28	1
Potassium	7500		500	150	ug/L		04/19/23 08:45	05/01/23 20:28	1
Sodium	26000		1000	460	ug/L		04/19/23 08:45	05/01/23 20:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	260		5.0	2.5	mg/L			04/17/23 19:42	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 19:42	1
Total Alkalinity as CaCO3 (SM 2320B)	260		5.0	2.5	mg/L			04/17/23 19:42	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.47				ft			04/11/23 15:30	1
Oxidation Reduction Potential	19.4				millivolts			04/11/23 15:30	1
Oxygen, Dissolved, Client Supplied	0.1				mg/L			04/11/23 15:30	1
pH, Field	7.7				SU			04/11/23 15:30	1
Specific Conductance, Field	848				umhos/cm			04/11/23 15:30	1
Temperature, Field	10.5				Degrees C			04/11/23 15:30	1
Turbidity, Field	0.02				NTU			04/11/23 15:30	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-313
Lab Sample ID: 310-253690-14
Date Collected: 04/12/23 09:45
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		5.0	2.3	mg/L			04/19/23 23:02	5
Sulfate	290		5.0	2.1	mg/L			04/19/23 23:02	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	150000		500	190	ug/L		04/19/23 08:45	05/01/23 20:31	1
Iron	200		100	36	ug/L		04/19/23 08:45	05/01/23 20:31	1
Lithium	25		10	2.5	ug/L		04/19/23 08:45	05/01/23 20:31	1
Magnesium	37000		500	150	ug/L		04/19/23 08:45	05/01/23 20:31	1
Manganese	4100		10	3.6	ug/L		04/19/23 08:45	05/01/23 20:31	1
Potassium	4100		500	150	ug/L		04/19/23 08:45	05/01/23 20:31	1
Sodium	30000		1000	460	ug/L		04/19/23 08:45	05/01/23 20:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	340		5.0	2.5	mg/L			04/17/23 19:52	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 19:52	1
Total Alkalinity as CaCO3 (SM 2320B)	340		5.0	2.5	mg/L			04/17/23 19:52	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.15				ft			04/12/23 09:45	1
Oxidation Reduction Potential	61.1				millivolts			04/12/23 09:45	1
Oxygen, Dissolved, Client Supplied	0.07				mg/L			04/12/23 09:45	1
pH, Field	7.03				SU			04/12/23 09:45	1
Specific Conductance, Field	1013				umhos/cm			04/12/23 09:45	1
Temperature, Field	9.7				Degrees C			04/12/23 09:45	1
Turbidity, Field	4.45				NTU			04/12/23 09:45	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-314
Lab Sample ID: 310-253690-15
Date Collected: 04/13/23 08:15
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		5.0	2.3	mg/L			04/19/23 23:18	5
Sulfate	310		5.0	2.1	mg/L			04/19/23 23:18	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130000		500	190	ug/L		04/19/23 08:45	05/01/23 20:34	1
Iron	790		100	36	ug/L		04/19/23 08:45	05/01/23 20:34	1
Lithium	32		10	2.5	ug/L		04/19/23 08:45	05/01/23 20:34	1
Magnesium	37000		500	150	ug/L		04/19/23 08:45	05/01/23 20:34	1
Manganese	640		10	3.6	ug/L		04/19/23 08:45	05/01/23 20:34	1
Potassium	4900		500	150	ug/L		04/19/23 08:45	05/01/23 20:34	1
Sodium	38000		1000	460	ug/L		04/19/23 08:45	05/01/23 20:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	250		5.0	2.5	mg/L			04/17/23 20:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 20:03	1
Total Alkalinity as CaCO3 (SM 2320B)	250		5.0	2.5	mg/L			04/17/23 20:03	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	852.77				ft			04/13/23 08:15	1
Oxidation Reduction Potential	55.4				millivolts			04/13/23 08:15	1
Oxygen, Dissolved, Client Supplied	0.22				mg/L			04/13/23 08:15	1
pH, Field	7.26				SU			04/13/23 08:15	1
Specific Conductance, Field	967				umhos/cm			04/13/23 08:15	1
Temperature, Field	7.4				Degrees C			04/13/23 08:15	1
Turbidity, Field	30.0				NTU			04/13/23 08:15	1

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: FIELD BLANK
Lab Sample ID: 310-253690-16
Date Collected: 04/13/23 00:00
Matrix: Water
Date Received: 04/14/23 16:25

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.3		5.0	2.3	mg/L			04/21/23 23:13	5
Fluoride	<0.38		1.0	0.38	mg/L			04/21/23 23:13	5
Sulfate	<2.1		5.0	2.1	mg/L			04/21/23 23:13	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 20:36	1
Arsenic	<0.53		2.0	0.53	ug/L		04/19/23 08:45	05/01/23 20:36	1
Barium	<0.64		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 20:36	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 20:36	1
Boron	<76		100	76	ug/L		04/19/23 08:45	05/01/23 20:36	1
Cadmium	<0.10		0.20	0.10	ug/L		04/19/23 08:45	05/01/23 20:36	1
Calcium	<0.19		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 20:36	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 20:36	1
Cobalt	<0.17		0.50	0.17	ug/L		04/19/23 08:45	05/01/23 20:36	1
Iron	<36		100	36	ug/L		04/19/23 08:45	05/01/23 20:36	1
Lead	<0.24		0.50	0.24	ug/L		04/19/23 08:45	05/01/23 20:36	1
Lithium	<2.5		10	2.5	ug/L		04/19/23 08:45	05/01/23 20:36	1
Molybdenum	<0.91		2.0	0.91	ug/L		04/19/23 08:45	05/01/23 20:36	1
Selenium	<1.4		5.0	1.4	ug/L		04/19/23 08:45	05/01/23 20:36	1
Thallium	<0.26		1.0	0.26	ug/L		04/19/23 08:45	05/01/23 20:36	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 20:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 20:13	1
Total Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			04/17/23 20:13	1
Total Dissolved Solids (SM 2540C)	<34		50	34	mg/L			04/17/23 15:06	1
pH (SM 4500 H+ B)	**6.5**	**HF**	0.1	0.1	SU			04/14/23 17:35	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0211	U	0.0870	0.0870	1.00	0.172	pCi/L	04/25/23 13:40	05/17/23 07:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*95.3*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:28*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.0506	U	0.275	0.275	1.00	0.503	pCi/L	04/25/23 14:34	05/15/23 12:16	1

Client Sample ID: FIELD BLANK
Lab Sample ID: 310-253690-16

Date Collected: 04/13/23 00:00
Matrix: Water

Date Received: 04/14/23 16:25

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*95.3*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:16*	*1*
Y Carrier	*81.5*		*30 - 110*	*04/25/23 14:34*	*05/15/23 12:16*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0717	U	0.288	0.288	5.00	0.503	pCi/L		05/17/23 15:21	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.
E	Result exceeded calibration range.
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.

General Chemistry

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

Rad

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

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-384946/3
Matrix: Water
Analysis Batch: 384946

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			04/19/23 19:29	1
Sulfate	<0.42		1.0	0.42	mg/L			04/19/23 19:29	1

Lab Sample ID: LCS 310-384946/4
Matrix: Water
Analysis Batch: 384946

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	10.4		mg/L		104	90 - 110
Sulfate	10.0	10.6		mg/L		106	90 - 110

Lab Sample ID: 310-253690-7 MS
Matrix: Water
Analysis Batch: 384946

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	21		25.0	46.0		mg/L		100	80 - 120
Sulfate	210		25.0	238	4	mg/L		98	80 - 120

Lab Sample ID: 310-253690-7 MSD
Matrix: Water
Analysis Batch: 384946

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	21		25.0	46.2		mg/L		101	80 - 120	1	15
Sulfate	210		25.0	238	4	mg/L		94	80 - 120	0	15

Lab Sample ID: MB 310-385324/3
Matrix: Water
Analysis Batch: 385324

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			04/21/23 15:41	1
Fluoride	<0.075		0.20	0.075	mg/L			04/21/23 15:41	1
Sulfate	<0.42		1.0	0.42	mg/L			04/21/23 15:41	1

Lab Sample ID: LCS 310-385324/6
Matrix: Water
Analysis Batch: 385324

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	10.1		mg/L		101	90 - 110
Fluoride	2.00	2.08		mg/L		104	90 - 110
Sulfate	10.0	10.8		mg/L		108	90 - 110

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-384690/1-A
Matrix: Water
Analysis Batch: 386093

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		04/19/23 08:45	05/01/23 19:06	1
Arsenic	<0.53		2.0	0.53	ug/L		04/19/23 08:45	05/01/23 19:06	1
Barium	<0.64		2.0	0.64	ug/L		04/19/23 08:45	05/01/23 19:06	1
Beryllium	<0.33		1.0	0.33	ug/L		04/19/23 08:45	05/01/23 19:06	1
Magnesium	<150		500	150	ug/L		04/19/23 08:45	05/01/23 19:06	1
Boron	<76		100	76	ug/L		04/19/23 08:45	05/01/23 19:06	1
Manganese	<3.6		10	3.6	ug/L		04/19/23 08:45	05/01/23 19:06	1
Cadmium	<0.10		0.20	0.10	ug/L		04/19/23 08:45	05/01/23 19:06	1
Potassium	<150		500	150	ug/L		04/19/23 08:45	05/01/23 19:06	1
Calcium	<0.19		0.50	0.19	mg/L		04/19/23 08:45	05/01/23 19:06	1
Sodium	<460		1000	460	ug/L		04/19/23 08:45	05/01/23 19:06	1
Chromium	<1.1		5.0	1.1	ug/L		04/19/23 08:45	05/01/23 19:06	1
Cobalt	<0.17		0.50	0.17	ug/L		04/19/23 08:45	05/01/23 19:06	1
Iron	<36		100	36	ug/L		04/19/23 08:45	05/01/23 19:06	1
Lead	<0.24		0.50	0.24	ug/L		04/19/23 08:45	05/01/23 19:06	1
Lithium	<2.5		10	2.5	ug/L		04/19/23 08:45	05/01/23 19:06	1
Molybdenum	<0.91		2.0	0.91	ug/L		04/19/23 08:45	05/01/23 19:06	1
Selenium	<1.4		5.0	1.4	ug/L		04/19/23 08:45	05/01/23 19:06	1
Thallium	<0.26		1.0	0.26	ug/L		04/19/23 08:45	05/01/23 19:06	1

Lab Sample ID: LCS 310-384690/2-A
Matrix: Water
Analysis Batch: 386093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	200	223		ug/L		112	80 - 120
Arsenic	200	196		ug/L		98	80 - 120
Barium	100	103		ug/L		103	80 - 120
Beryllium	100	96.6		ug/L		97	80 - 120
Magnesium	2000	2020		ug/L		101	80 - 120
Boron	200	177		ug/L		88	80 - 120
Manganese	100	97.2		ug/L		97	80 - 120
Cadmium	100	101		ug/L		101	80 - 120
Potassium	2000	2150		ug/L		107	80 - 120
Calcium	2.00	2.04		mg/L		102	80 - 120
Sodium	2000	2100		ug/L		105	80 - 120
Chromium	100	96.4		ug/L		96	80 - 120
Cobalt	100	105		ug/L		105	80 - 120
Iron	200	233		ug/L		116	80 - 120
Lead	200	205		ug/L		102	80 - 120
Lithium	200	201		ug/L		100	80 - 120
Molybdenum	200	194		ug/L		97	80 - 120
Selenium	400	394		ug/L		98	80 - 120
Thallium	200	163		ug/L		81	80 - 120

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

Lab Sample ID: 310-253690-1 MS
Matrix: Water
Analysis Batch: 386093

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 384690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.0		200	244		ug/L		122	75 - 125
Arsenic	0.77	J	200	222		ug/L		111	75 - 125
Barium	56		100	175		ug/L		118	75 - 125
Beryllium	<0.33		100	111		ug/L		111	75 - 125
Magnesium	18000		2000	20900	4	ug/L		157	75 - 125
Boron	77	J	200	296		ug/L		109	75 - 125
Manganese	1300		100	1440	4	ug/L		185	75 - 125
Cadmium	0.18	J	100	113		ug/L		113	75 - 125
Potassium	1500		2000	3860		ug/L		117	75 - 125
Calcium	69		2.00	71.9	4	mg/L		127	75 - 125
Sodium	15000		2000	16800	4	ug/L		109	75 - 125
Chromium	<1.1		100	105		ug/L		105	75 - 125
Cobalt	0.47	J	100	114		ug/L		114	75 - 125
Iron	340	F1	200	609	F1	ug/L		135	75 - 125
Lead	0.38	J	200	223		ug/L		111	75 - 125
Lithium	2.8	J	200	225		ug/L		111	75 - 125
Molybdenum	1.9	J	200	225		ug/L		111	75 - 125
Selenium	6.8		400	458	E	ug/L		113	75 - 125
Thallium	0.97	J	200	175		ug/L		87	75 - 125

Lab Sample ID: 310-253690-1 MSD
Matrix: Water
Analysis Batch: 386093

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 384690

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.0		200	234		ug/L		117	75 - 125	4	20
Arsenic	0.77	J	200	212		ug/L		106	75 - 125	5	20
Barium	56		100	169		ug/L		113	75 - 125	3	20
Beryllium	<0.33		100	106		ug/L		106	75 - 125	5	20
Magnesium	18000		2000	20300	4	ug/L		128	75 - 125	3	20
Boron	77	J	200	282		ug/L		102	75 - 125	5	20
Manganese	1300		100	1400	4	ug/L		149	75 - 125	3	20
Cadmium	0.18	J	100	109		ug/L		108	75 - 125	4	20
Potassium	1500		2000	3750		ug/L		112	75 - 125	3	20
Calcium	69		2.00	72.0	4	mg/L		133	75 - 125	0	20
Sodium	15000		2000	16500	4	ug/L		93	75 - 125	2	20
Chromium	<1.1		100	99.8		ug/L		100	75 - 125	5	20
Cobalt	0.47	J	100	108		ug/L		108	75 - 125	5	20
Iron	340	F1	200	611	F1	ug/L		136	75 - 125	0	20
Lead	0.38	J	200	213		ug/L		106	75 - 125	4	20
Lithium	2.8	J	200	215		ug/L		106	75 - 125	5	20
Molybdenum	1.9	J	200	212		ug/L		105	75 - 125	6	20
Selenium	6.8		400	437		ug/L		107	75 - 125	5	20
Thallium	0.97	J	200	167		ug/L		83	75 - 125	5	20

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

Lab Sample ID: 310-253690-11 DU
Matrix: Water
Analysis Batch: 386093

Client Sample ID: MW-310
Prep Type: Total/NA
Prep Batch: 384690

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.0		<1.0		ug/L		NC	20
Arsenic	<0.53		<0.53		ug/L		NC	20
Barium	24		23.7		ug/L		2	20
Beryllium	<0.33		<0.33		ug/L		NC	20
Magnesium	64000		62800		ug/L		2	20
Boron	510		492		ug/L		3	20
Manganese	6.6	J	5.62	J	ug/L		15	20
Cadmium	<0.10		<0.10		ug/L		NC	20
Potassium	220	J	206	J	ug/L		8	20
Calcium	170000		164000		ug/L		4	20
Sodium	36000		35400		ug/L		3	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	<0.17		<0.17		ug/L		NC	20
Iron	<36		<36		ug/L		NC	20
Lead	<0.24		<0.24		ug/L		NC	20
Lithium	4.0	J	3.98	J	ug/L		2	20
Molybdenum	<0.91		<0.91		ug/L		NC	20
Selenium	4.6	J	4.28	J	ug/L		8	20
Thallium	<0.26		<0.26		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-385421/1-A
Matrix: Water
Analysis Batch: 385618

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 385421

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		04/25/23 12:25	04/26/23 13:33	1

Lab Sample ID: LCS 310-385421/2-A
Matrix: Water
Analysis Batch: 385618

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 385421

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.85		ug/L		111	80 - 120

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-384617/2
Matrix: Water
Analysis Batch: 384617

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	<2.5		5.0	2.5	mg/L			04/17/23 16:07	1
Carbonate Alkalinity as CaCO3	<2.5		5.0	2.5	mg/L			04/17/23 16:07	1
Total Alkalinity as CaCO3	<2.5		5.0	2.5	mg/L			04/17/23 16:07	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 310-384617/26
Matrix: Water
Analysis Batch: 384617

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	<2.5		5.0	2.5	mg/L			04/17/23 20:19	1
Carbonate Alkalinity as CaCO3	<2.5		5.0	2.5	mg/L			04/17/23 20:19	1
Total Alkalinity as CaCO3	<2.5		5.0	2.5	mg/L			04/17/23 20:19	1

Lab Sample ID: LCS 310-384617/50
Matrix: Water
Analysis Batch: 384617

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

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

Lab Sample ID: MB 310-384551/1
Matrix: Water
Analysis Batch: 384551

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	<34		50	34	mg/L			04/17/23 15:04	1

Lab Sample ID: LCS 310-384551/2
Matrix: Water
Analysis Batch: 384551

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	974		mg/L		97	90 - 110

Lab Sample ID: MB 310-384552/1
Matrix: Water
Analysis Batch: 384552

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	<34		50	34	mg/L			04/17/23 15:06	1

Lab Sample ID: LCS 310-384552/2
Matrix: Water
Analysis Batch: 384552

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	994		mg/L		99	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-384401/1
Matrix: Water
Analysis Batch: 384401

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

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 310-253690-1 DU
Matrix: Water
Analysis Batch: 384401

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	HF	6.9		SU		1	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-608721/1-A
Matrix: Water
Analysis Batch: 611880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 608721

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.01046	U	0.0729	0.0729	1.00	0.165	pCi/L	04/25/23 13:40	05/17/23 07:20	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*97.1*		*30 - 110*	*04/25/23 13:40*	*05/17/23 07:20*	*1*

Lab Sample ID: LCS 160-608721/2-A
Matrix: Water
Analysis Batch: 611880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 608721

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium 226	11.3	10.20		1.18	1.00	0.177	pCi/L	90	75 - 113

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*97.1*		*30 - 110*

Lab Sample ID: LCSD 160-608721/3-A
Matrix: Water
Analysis Batch: 611880

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 608721

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium 226	11.3	9.583		1.13	1.00	0.253	pCi/L	85	75 - 113	0.27	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Barium	*94.1*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-608727/1-A
Matrix: Water
Analysis Batch: 611525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 608727

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.1545	U	0.281	0.281	1.00	0.485	pCi/L	04/25/23 14:34	05/15/23 12:14	1

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

Lab Sample ID: MB 160-608727/1-A
Matrix: Water
Analysis Batch: 611525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 608727

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Barium	97.1		30 - 110	04/25/23 14:34	05/15/23 12:14	1
Y Carrier	80.4		30 - 110	04/25/23 14:34	05/15/23 12:14	1

Lab Sample ID: LCS 160-608727/2-A
Matrix: Water
Analysis Batch: 611525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 608727

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium 228			7.95	8.819		1.19	1.00	0.451	pCi/L	111	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Barium	97.1		30 - 110
Y Carrier	84.5		30 - 110

Lab Sample ID: LCSD 160-608727/3-A
Matrix: Water
Analysis Batch: 611525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 608727

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium 228			7.95	8.165		1.16	1.00	0.501	pCi/L	103	75 - 125	0.28	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Barium	94.1		30 - 110
Y Carrier	79.3		30 - 110

QC Association Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

HPLC/IC

Analysis Batch: 384946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-7	MW-306A	Total/NA	Water	9056A	
310-253690-10	MW-309	Total/NA	Water	9056A	
310-253690-11	MW-310	Total/NA	Water	9056A	
310-253690-12	MW-311	Total/NA	Water	9056A	
310-253690-13	MW-312	Total/NA	Water	9056A	
310-253690-14	MW-313	Total/NA	Water	9056A	
310-253690-15	MW-314	Total/NA	Water	9056A	
MB 310-384946/3	Method Blank	Total/NA	Water	9056A	
LCS 310-384946/4	Lab Control Sample	Total/NA	Water	9056A	
310-253690-7 MS	MW-306A	Total/NA	Water	9056A	
310-253690-7 MSD	MW-306A	Total/NA	Water	9056A	

Analysis Batch: 385324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	9056A	
310-253690-2	MW-302	Total/NA	Water	9056A	
310-253690-3	MW-303	Total/NA	Water	9056A	
310-253690-4	MW-304	Total/NA	Water	9056A	
310-253690-5	MW-305	Total/NA	Water	9056A	
310-253690-6	MW-306	Total/NA	Water	9056A	
310-253690-16	FIELD BLANK	Total/NA	Water	9056A	
MB 310-385324/3	Method Blank	Total/NA	Water	9056A	
LCS 310-385324/6	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 384690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	3005A	
310-253690-2	MW-302	Total/NA	Water	3005A	
310-253690-3	MW-303	Total/NA	Water	3005A	
310-253690-4	MW-304	Total/NA	Water	3005A	
310-253690-5	MW-305	Total/NA	Water	3005A	
310-253690-6	MW-306	Total/NA	Water	3005A	
310-253690-7	MW-306A	Total/NA	Water	3005A	
310-253690-8	MW-307	Total/NA	Water	3005A	
310-253690-9	MW-308	Total/NA	Water	3005A	
310-253690-10	MW-309	Total/NA	Water	3005A	
310-253690-11	MW-310	Total/NA	Water	3005A	
310-253690-12	MW-311	Total/NA	Water	3005A	
310-253690-13	MW-312	Total/NA	Water	3005A	
310-253690-14	MW-313	Total/NA	Water	3005A	
310-253690-15	MW-314	Total/NA	Water	3005A	
310-253690-16	FIELD BLANK	Total/NA	Water	3005A	
MB 310-384690/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-384690/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-253690-1 MS	MW-301	Total/NA	Water	3005A	
310-253690-1 MSD	MW-301	Total/NA	Water	3005A	
310-253690-11 DU	MW-310	Total/NA	Water	3005A	

QC Association Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Metals

Prep Batch: 385421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	7470A	
310-253690-2	MW-302	Total/NA	Water	7470A	
310-253690-3	MW-303	Total/NA	Water	7470A	
310-253690-4	MW-304	Total/NA	Water	7470A	
310-253690-5	MW-305	Total/NA	Water	7470A	
310-253690-6	MW-306	Total/NA	Water	7470A	
310-253690-16	FIELD BLANK	Total/NA	Water	7470A	
MB 310-385421/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-385421/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 385618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	7470A	385421
310-253690-2	MW-302	Total/NA	Water	7470A	385421
310-253690-3	MW-303	Total/NA	Water	7470A	385421
310-253690-4	MW-304	Total/NA	Water	7470A	385421
310-253690-5	MW-305	Total/NA	Water	7470A	385421
310-253690-6	MW-306	Total/NA	Water	7470A	385421
310-253690-16	FIELD BLANK	Total/NA	Water	7470A	385421
MB 310-385421/1-A	Method Blank	Total/NA	Water	7470A	385421
LCS 310-385421/2-A	Lab Control Sample	Total/NA	Water	7470A	385421

Analysis Batch: 386093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	6020B	384690
310-253690-2	MW-302	Total/NA	Water	6020B	384690
310-253690-3	MW-303	Total/NA	Water	6020B	384690
310-253690-4	MW-304	Total/NA	Water	6020B	384690
310-253690-5	MW-305	Total/NA	Water	6020B	384690
310-253690-6	MW-306	Total/NA	Water	6020B	384690
310-253690-7	MW-306A	Total/NA	Water	6020B	384690
310-253690-8	MW-307	Total/NA	Water	6020B	384690
310-253690-9	MW-308	Total/NA	Water	6020B	384690
310-253690-10	MW-309	Total/NA	Water	6020B	384690
310-253690-11	MW-310	Total/NA	Water	6020B	384690
310-253690-12	MW-311	Total/NA	Water	6020B	384690
310-253690-13	MW-312	Total/NA	Water	6020B	384690
310-253690-14	MW-313	Total/NA	Water	6020B	384690
310-253690-15	MW-314	Total/NA	Water	6020B	384690
310-253690-16	FIELD BLANK	Total/NA	Water	6020B	384690
MB 310-384690/1-A	Method Blank	Total/NA	Water	6020B	384690
LCS 310-384690/2-A	Lab Control Sample	Total/NA	Water	6020B	384690
310-253690-1 MS	MW-301	Total/NA	Water	6020B	384690
310-253690-1 MSD	MW-301	Total/NA	Water	6020B	384690
310-253690-11 DU	MW-310	Total/NA	Water	6020B	384690

General Chemistry

Analysis Batch: 384401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 384401 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-253690-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-253690-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-253690-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-253690-6	MW-306	Total/NA	Water	SM 4500 H+ B	
310-253690-16	FIELD BLANK	Total/NA	Water	SM 4500 H+ B	
LCS 310-384401/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-253690-1 DU	MW-301	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 384551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	SM 2540C	
310-253690-2	MW-302	Total/NA	Water	SM 2540C	
310-253690-3	MW-303	Total/NA	Water	SM 2540C	
310-253690-4	MW-304	Total/NA	Water	SM 2540C	
310-253690-5	MW-305	Total/NA	Water	SM 2540C	
310-253690-6	MW-306	Total/NA	Water	SM 2540C	
MB 310-384551/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-384551/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 384552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-16	FIELD BLANK	Total/NA	Water	SM 2540C	
MB 310-384552/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-384552/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 384617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-7	MW-306A	Total/NA	Water	SM 2320B	
310-253690-10	MW-309	Total/NA	Water	SM 2320B	
310-253690-11	MW-310	Total/NA	Water	SM 2320B	
310-253690-12	MW-311	Total/NA	Water	SM 2320B	
310-253690-13	MW-312	Total/NA	Water	SM 2320B	
310-253690-14	MW-313	Total/NA	Water	SM 2320B	
310-253690-15	MW-314	Total/NA	Water	SM 2320B	
310-253690-16	FIELD BLANK	Total/NA	Water	SM 2320B	
MB 310-384617/2	Method Blank	Total/NA	Water	SM 2320B	
MB 310-384617/26	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-384617/50	Lab Control Sample	Total/NA	Water	SM 2320B	

Rad

Prep Batch: 608721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	PrecSep-21	
310-253690-2	MW-302	Total/NA	Water	PrecSep-21	
310-253690-3	MW-303	Total/NA	Water	PrecSep-21	
310-253690-4	MW-304	Total/NA	Water	PrecSep-21	
310-253690-5	MW-305	Total/NA	Water	PrecSep-21	
310-253690-6	MW-306	Total/NA	Water	PrecSep-21	
310-253690-16	FIELD BLANK	Total/NA	Water	PrecSep-21	

QC Association Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Rad (Continued)

Prep Batch: 608721 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 160-608721/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-608721/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-608721/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 608727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	PrecSep_0	
310-253690-2	MW-302	Total/NA	Water	PrecSep_0	
310-253690-3	MW-303	Total/NA	Water	PrecSep_0	
310-253690-4	MW-304	Total/NA	Water	PrecSep_0	
310-253690-5	MW-305	Total/NA	Water	PrecSep_0	
310-253690-6	MW-306	Total/NA	Water	PrecSep_0	
310-253690-16	FIELD BLANK	Total/NA	Water	PrecSep_0	
MB 160-608727/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-608727/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-608727/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 384929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-253690-1	MW-301	Total/NA	Water	Field Sampling	
310-253690-2	MW-302	Total/NA	Water	Field Sampling	
310-253690-3	MW-303	Total/NA	Water	Field Sampling	
310-253690-4	MW-304	Total/NA	Water	Field Sampling	
310-253690-5	MW-305	Total/NA	Water	Field Sampling	
310-253690-6	MW-306	Total/NA	Water	Field Sampling	
310-253690-7	MW-306A	Total/NA	Water	Field Sampling	
310-253690-8	MW-307	Total/NA	Water	Field Sampling	
310-253690-9	MW-308	Total/NA	Water	Field Sampling	
310-253690-10	MW-309	Total/NA	Water	Field Sampling	
310-253690-11	MW-310	Total/NA	Water	Field Sampling	
310-253690-12	MW-311	Total/NA	Water	Field Sampling	
310-253690-13	MW-312	Total/NA	Water	Field Sampling	
310-253690-14	MW-313	Total/NA	Water	Field Sampling	
310-253690-15	MW-314	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-301
Lab Sample ID: 310-253690-1
Date Collected: 04/11/23 09:04
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385324	DHM5	EET CF	04/21/23 21:08
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:12
Total/NA	Prep	7470A			385421	XXW3	EET CF	04/25/23 12:25
Total/NA	Analysis	7470A		1	385618	XXW3	EET CF	04/26/23 14:11
Total/NA	Analysis	SM 2540C		1	384551	ENB7	EET CF	04/17/23 15:04
Total/NA	Analysis	SM 4500 H+ B		1	384401	A3GU	EET CF	04/14/23 17:31
Total/NA	Prep	PrecSep-21			608721	KAC	EET SL	04/25/23 13:40
Total/NA	Analysis	903.0		1	611880	FLC	EET SL	05/17/23 07:20
Total/NA	Prep	PrecSep_0			608727	KAC	EET SL	04/25/23 14:34
Total/NA	Analysis	904.0		1	611502	FLC	EET SL	05/15/23 12:15
Total/NA	Analysis	Ra226_Ra228 Pos		1	611947	EMH	EET SL	05/17/23 15:21
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/11/23 09:04

Client Sample ID: MW-302
Lab Sample ID: 310-253690-2
Date Collected: 04/10/23 14:30
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385324	DHM5	EET CF	04/21/23 21:24
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:25
Total/NA	Prep	7470A			385421	XXW3	EET CF	04/25/23 12:25
Total/NA	Analysis	7470A		1	385618	XXW3	EET CF	04/26/23 14:13
Total/NA	Analysis	SM 2540C		1	384551	ENB7	EET CF	04/17/23 15:04
Total/NA	Analysis	SM 4500 H+ B		1	384401	A3GU	EET CF	04/14/23 17:37
Total/NA	Prep	PrecSep-21			608721	KAC	EET SL	04/25/23 13:40
Total/NA	Analysis	903.0		1	611880	FLC	EET SL	05/17/23 07:24
Total/NA	Prep	PrecSep_0			608727	KAC	EET SL	04/25/23 14:34
Total/NA	Analysis	904.0		1	611502	FLC	EET SL	05/15/23 12:15
Total/NA	Analysis	Ra226_Ra228 Pos		1	611947	EMH	EET SL	05/17/23 15:21
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/10/23 14:30

Client Sample ID: MW-303
Lab Sample ID: 310-253690-3
Date Collected: 04/10/23 14:18
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385324	DHM5	EET CF	04/21/23 21:39
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:42
Total/NA	Prep	7470A			385421	XXW3	EET CF	04/25/23 12:25
Total/NA	Analysis	7470A		1	385618	XXW3	EET CF	04/26/23 14:15
Total/NA	Analysis	SM 2540C		1	384551	ENB7	EET CF	04/17/23 15:04

Lab Chronicle

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-303
Lab Sample ID: 310-253690-3
Date Collected: 04/10/23 14:18
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	384401	A3GU	EET CF	04/14/23 17:39
Total/NA	Prep	PrecSep-21			608721	KAC	EET SL	04/25/23 13:40
Total/NA	Analysis	903.0		1	611880	FLC	EET SL	05/17/23 07:24
Total/NA	Prep	PrecSep_0			608727	KAC	EET SL	04/25/23 14:34
Total/NA	Analysis	904.0		1	611502	FLC	EET SL	05/15/23 12:15
Total/NA	Analysis	Ra226_Ra228 Pos		1	611947	EMH	EET SL	05/17/23 15:21
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/10/23 14:18

Client Sample ID: MW-304
Lab Sample ID: 310-253690-4
Date Collected: 04/11/23 09:57
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385324	DHM5	EET CF	04/21/23 21:55
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:45
Total/NA	Prep	7470A			385421	XXW3	EET CF	04/25/23 12:25
Total/NA	Analysis	7470A		1	385618	XXW3	EET CF	04/26/23 14:18
Total/NA	Analysis	SM 2540C		1	384551	ENB7	EET CF	04/17/23 15:04
Total/NA	Analysis	SM 4500 H+ B		1	384401	A3GU	EET CF	04/14/23 17:41
Total/NA	Prep	PrecSep-21			608721	KAC	EET SL	04/25/23 13:40
Total/NA	Analysis	903.0		1	611880	FLC	EET SL	05/17/23 07:25
Total/NA	Prep	PrecSep_0			608727	KAC	EET SL	04/25/23 14:34
Total/NA	Analysis	904.0		1	611502	FLC	EET SL	05/15/23 12:15
Total/NA	Analysis	Ra226_Ra228 Pos		1	611947	EMH	EET SL	05/17/23 15:21
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/11/23 09:57

Client Sample ID: MW-305
Lab Sample ID: 310-253690-5
Date Collected: 04/11/23 10:54
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385324	DHM5	EET CF	04/21/23 22:42
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:48
Total/NA	Prep	7470A			385421	XXW3	EET CF	04/25/23 12:25
Total/NA	Analysis	7470A		1	385618	XXW3	EET CF	04/26/23 14:24
Total/NA	Analysis	SM 2540C		1	384551	ENB7	EET CF	04/17/23 15:04
Total/NA	Analysis	SM 4500 H+ B		1	384401	A3GU	EET CF	04/14/23 17:43
Total/NA	Prep	PrecSep-21			608721	KAC	EET SL	04/25/23 13:40
Total/NA	Analysis	903.0		1	611880	FLC	EET SL	05/17/23 07:25
Total/NA	Prep	PrecSep_0			608727	KAC	EET SL	04/25/23 14:34
Total/NA	Analysis	904.0		1	611502	FLC	EET SL	05/15/23 12:16
Total/NA	Analysis	Ra226_Ra228 Pos		1	611947	EMH	EET SL	05/17/23 15:21

Lab Chronicle

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-305
Lab Sample ID: 310-253690-5
Date Collected: 04/11/23 10:54
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/11/23 10:54

Client Sample ID: MW-306
Lab Sample ID: 310-253690-6
Date Collected: 04/12/23 14:25
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385324	DHM5	EET CF	04/21/23 22:57
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:51
Total/NA	Prep	7470A			385421	XXW3	EET CF	04/25/23 12:25
Total/NA	Analysis	7470A		1	385618	XXW3	EET CF	04/26/23 14:26
Total/NA	Analysis	SM 2540C		1	384551	ENB7	EET CF	04/17/23 15:04
Total/NA	Analysis	SM 4500 H+ B		1	384401	A3GU	EET CF	04/14/23 17:45
Total/NA	Prep	PrecSep-21			608721	KAC	EET SL	04/25/23 13:40
Total/NA	Analysis	903.0		1	611880	FLC	EET SL	05/17/23 07:28
Total/NA	Prep	PrecSep_0			608727	KAC	EET SL	04/25/23 14:34
Total/NA	Analysis	904.0		1	611503	FLC	EET SL	05/15/23 12:28
Total/NA	Analysis	Ra226_Ra228 Pos		1	611947	EMH	EET SL	05/17/23 15:21
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/12/23 14:25

Client Sample ID: MW-306A
Lab Sample ID: 310-253690-7
Date Collected: 04/12/23 13:35
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	384946	QTZ5	EET CF	04/19/23 20:00
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:54
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 18:32
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/12/23 13:35

Client Sample ID: MW-307
Lab Sample ID: 310-253690-8
Date Collected: 04/10/23 15:53
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 19:57
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/10/23 15:53

Lab Chronicle

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-308
Lab Sample ID: 310-253690-9
Date Collected: 04/13/23 11:43
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:00
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/13/23 11:43

Client Sample ID: MW-309
Lab Sample ID: 310-253690-10
Date Collected: 04/11/23 14:00
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	384946	QTZ5	EET CF	04/19/23 21:29
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:02
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 19:03
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/11/23 14:00

Client Sample ID: MW-310
Lab Sample ID: 310-253690-11
Date Collected: 04/11/23 12:58
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	384946	QTZ5	EET CF	04/19/23 21:44
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:05
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 19:13
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/11/23 12:58

Client Sample ID: MW-311
Lab Sample ID: 310-253690-12
Date Collected: 04/11/23 12:05
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	384946	QTZ5	EET CF	04/19/23 22:31
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:25
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 19:23
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/11/23 12:05

Client Sample ID: MW-312
Lab Sample ID: 310-253690-13
Date Collected: 04/11/23 15:30
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	384946	QTZ5	EET CF	04/19/23 22:47
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:28

Lab Chronicle

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-312
Lab Sample ID: 310-253690-13
Date Collected: 04/11/23 15:30
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 19:42
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/11/23 15:30

Client Sample ID: MW-313
Lab Sample ID: 310-253690-14
Date Collected: 04/12/23 09:45
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	384946	QTZ5	EET CF	04/19/23 23:02
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:31
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 19:52
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/12/23 09:45

Client Sample ID: MW-314
Lab Sample ID: 310-253690-15
Date Collected: 04/13/23 08:15
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	384946	QTZ5	EET CF	04/19/23 23:18
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:34
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 20:03
Total/NA	Analysis	Field Sampling		1	384929	BJ0R	EET CF	04/13/23 08:15

Client Sample ID: FIELD BLANK
Lab Sample ID: 310-253690-16
Date Collected: 04/13/23 00:00
Matrix: Water
Date Received: 04/14/23 16:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	385324	DHM5	EET CF	04/21/23 23:13
Total/NA	Prep	3005A			384690	QTZ5	EET CF	04/19/23 08:45
Total/NA	Analysis	6020B		1	386093	ZRI4	EET CF	05/01/23 20:36
Total/NA	Prep	7470A			385421	XXW3	EET CF	04/25/23 12:25
Total/NA	Analysis	7470A		1	385618	XXW3	EET CF	04/26/23 14:28
Total/NA	Analysis	SM 2320B		1	384617	MAQ3	EET CF	04/17/23 20:13
Total/NA	Analysis	SM 2540C		1	384552	ENB7	EET CF	04/17/23 15:06
Total/NA	Analysis	SM 4500 H+ B		1	384401	A3GU	EET CF	04/14/23 17:35
Total/NA	Prep	PrecSep-21			608721	KAC	EET SL	04/25/23 13:40
Total/NA	Analysis	903.0		1	611880	FLC	EET SL	05/17/23 07:28
Total/NA	Prep	PrecSep_0			608727	KAC	EET SL	04/25/23 14:34
Total/NA	Analysis	904.0		1	611502	FLC	EET SL	05/15/23 12:16
Total/NA	Analysis	Ra226_Ra228 Pos		1	611947	EMH	EET SL	05/17/23 15:21

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25223076

Job ID: 310-253690-1

Laboratory References:

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

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

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-23

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

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

Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25223076

Job ID: 310-253690-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2320B	Alkalinity	SM	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
Pos			
Field Sampling	Field Sampling	EPA	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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310-253690 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY Madison STATE WI Project: SGS Radium

Receipt Information

Date/Time Received: DATE 4-14-23 TIME 1625 Received By: RL

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: R Correction Factor (°C): +0.2

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

Uncorrected Temp (°C): 1.6 Corrected Temp (°C): 1.8

Sample Container Temperature

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

MW-302

MW-303

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY Madison STATE WI Project: SGS - Radium

Receipt Information

Date/Time Received: DATE 4-14-23 TIME 1625 Received By: AL

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

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 2 of 4

Cooler Custody Seals Present? ☐ Yes ☑ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☑ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other: ☐ NONE

Thermometer ID: R Correction Factor (°C): +0.2

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

Uncorrected Temp (°C): 2.5 Corrected Temp (°C): 2.7

• **Sample Container Temperature**

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

MW-306

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY Madison STATE WI Project: SCS - Radium

Receipt Information

Date/Time Received: DATE 4-14-23 TIME 1625 Received By: AL

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

Condition of Cooler/Containers

Sample(s) received in Cooler? ☑ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☑ Yes ☐ No *If yes:* Cooler # 3 of 4

Cooler Custody Seals Present? ☐ Yes ☑ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☑ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☑ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: R Correction Factor (°C): +0.2

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

Uncorrected Temp (°C): 0.7 Corrected Temp (°C): 0.9

Sample Container Temperature

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

MW-301
MW-304
MW-305

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY Madison | STATE WI | Project: SGS - Radium

Receipt Information

Date/Time Received: DATE 4-14-23 | TIME 1625 | Received By: AL

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

Condition of Cooler/Containers

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

Temperature Record

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

Thermometer ID: R | Correction Factor (°C): +0.2

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

Uncorrected Temp (°C): 1.9 | Corrected Temp (°C): 2.1

Sample Container Temperature

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

Field Blank

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

Chain of Custody Record

eurofins

Client Information	Sampler: Tyler Stirling	Lab PM: Sandie Fredrick	Carrier Tracking No(s):	COC No:
Client Contact: Meghan Blodgett	Phone: 515 505-2716	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #: 25223076
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25223076			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Sutherland Generating Station 25223076	Project #: 25223076			
Site: Marshalltown IA	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 Metals total (Sb As Ba Be B Cd Cr Co Fe Pb L Mo Se Tl)	7470 Mercury total	6020 metals total (Fe and Li)	6020 metals total (Ca Mg Mn K Na)	TDS and pH	Chloride Fluoride Sulfate	EPA 903/904 Radium 226 + 228	Bicarbonate & carbonate alkalinity	Total Number of containers	Special Instructions/Note
			Preservation Code				D	D	D	I	I	I	D	I		
MW-301	4/11/23	9 04	G	W	N		X	X			X	X	X			
MW-302	4/10/23	2 30	G	W	N		X	X			X	X	X			
MW-303	4/10/23	2 18	G	W	N		X	X			X	X	X			
MW-304	4/11/23	957	G	W	N		X	X			X	X	X			
MW-305	4/11/23	10 54	G	W	N		X	X			X	X	X			
MW-306	4/12/23	2 25	G	W	N		X	X			X	X	X			
MW-306A	4/12/23	1 35	G	W	N				X	X				X		
MW-307	4/10/23	3 53	G	W	N				X							
MW-308	4/13/23	11 43	G	W	N				X							
MW-309	4 11/23	2 00	G	W	N				X	X				X		
MW-310	4/11/23	12 58	G	W	N				X	X				X		

Preservation Codes

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

Other:

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
		4/14/23				
					4/14/23 1625	

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

Ver: 01/16/2019

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

Chain of Custody Record

eurofins

Client Information	Sampler: Tyler Stirling	Lab PM: Sandie Fredrick	Carrier Tracking No(s):	COC No
Client Contact: Meghan Blodgett	Phone: 515-505-2716	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID			Job #: 25223076
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25223076			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Sutherland Generating Station 25223076	Project #: 25223076			
Site: Marshalltown IA	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 Metals total (Sb, As, Ba, Be, B, Ca, Cd, Cr, Co, Fe, Pb, Li, Mo, Se, Tl)	7470 Mercury total	6020 metals total (Fe and Li)	6020 metals total (Ca, Mg, Mn, K, Na)	TDS and pH	Chloride, Fluoride, Sulfate	EPA 903/904 Radium 226 + 228	Bicarbonate & carbonate alkalinity	Total Number of containers	Special Instructions/Note
			Preservation Code:				D	D	D	I	I	I	D	I		
MW-311	4/11/23	1205	G	W	N				X	X				X		
MW-312	4/12/23	1330	G	W	N				X	X				X		
MW-313	4/13/23	0945	G	W	N				X	X				X		
MW-314	4/13/23	0815	G	W	N				X	X				X		
Field Blank			G	W	N		X	X			X	X	X			

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Tyler Stirling	4/14/23				
2						
3					4/14/23 1625	

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

Ver: 01/16/2019

Table 1 Sampling Points and Parameters CCR Rule Sampling Program
Groundwater Monitoring Sutherland Generating Station/ SCS Engineers Project #25223076

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312	MW-313	MW-314	Field Blank	TOTAL
Appendix III & IV Parameters	Total (Unfiltered)	Boron	x	x	x	x	x	x										x	7
		Calcium	x	x	x	x	x	x	x			x	x	x	x	x	x	x	14
		Chloride	x	x	x	x	x	x										x	7
		Fluoride	x	x	x	x	x	x										x	7
		pH	x	x	x	x	x	x										x	7
		Sulfate	x	x	x	x	x	x										x	7
		TDS	x	x	x	x	x	x										x	7
		Antimony	x	x	x	x	x	x										x	7
		Arsenic	x	x	x	x	x	x										x	7
		Barium	x	x	x	x	x	x										x	7
		Beryllium	x	x	x	x	x	x										x	7
		Cadmium	x	x	x	x	x	x										x	7
		Chromium	x	x	x	x	x	x										x	7
		Cobalt	x	x	x	x	x	x										x	7
		Fluoride	x	x	x	x	x	x										x	7
		Lead	x	x	x	x	x	x										x	7
		Lithium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
		Mercury	x	x	x	x	x	x										x	7
		Molybdenum	x	x	x	x	x	x										x	7
		Selenium	x	x	x	x	x	x										x	7
		Thallium	x	x	x	x	x	x										x	7
		Radium	x	x	x	x	x	x										x	7
MNA Parameters	Total (Unfiltered)	Alkalinity Carbonate							X			X	X	X	X	X	X		7
		Alkalinity Bicarbonate							X			X	X	X	X	X	X		7
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		15
		Magnesium							X			X	X	X	X	X	X		7
		Manganese							X			X	X	X	X	X	X		7
		Potassium							X			X	X	X	X	X	X		7
		Sodium							X			X	X	X	X	X	X		7
Field Parameters		Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		pH (field)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Specific Conductance	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		ORP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Temperature	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Turbidity (NTU)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Color	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Odor	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Notes																	

I:\25223076.00\Data and Calculations\Field Work Requests\[IPL_Sutherland Generating Station_CCR_Rule_Sampling_2304.xls]Sheet1

Sample Login Analytes / Limits

Job 310-253690-1

Client Job Description: Sutherland Generating Station 25223076
Purchase Order #: 25223076
Work Order #:
Project Manager: Sandie Fredrick
Job Due Date: 5/17/2023
Job TAT: 23 Days
Max Deliverable Level: II
Earliest Deliverable Due: 5/17/2023

Report To: SCS Engineers
Meghan Blodgett
2830 Dairy Drive
Madison, WI 53718

Bill To: SCS Engineers
Ashley Radunzel
2830 Dairy Drive
Madison, WI 53718

Login 310-253690

Sample Receipt: 4/14/2023 4:25:00 PM
Method of Delivery: Client Drop off
Number of Coolers: 4
Cooler Temperature(s) (C°): 0.9; 1.8; 2.1; 2.7;

Method / Method Description		Rpt Basis			Units	Sample #s Applicable
2320B		Total	MDL	RL		1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
Alkalinity						
	Bicarbonate Alkalinity as CaCO3		2.5	5	mg/L	
	Carbonate Alkalinity as CaCO3		2.5	5	mg/L	
	Total Alkalinity as CaCO3		2.5	5	mg/L	
2540C_Calcd		Total	MDL	RL		1,2,3,4,5,6,16
Total Dissolved Solids						
	Total Dissolved Solids		34	50	mg/L	
6020B		Total	MDL	RL		1,2,3,4,5,6,16
Metals (15)						
	Antimony		1	2	ug/L	
	Arsenic		0.53	2	ug/L	
	Barium		0.64	2	ug/L	
	Beryllium		0.33	1	ug/L	
	Boron		76	100	ug/L	
	Cadmium		0.1	0.2	ug/L	
	Calcium		0.19	0.5	mg/L	
	Chromium		1.1	5	ug/L	
	Cobalt		0.17	0.5	ug/L	
	Iron		36	100	ug/L	
	Lead		0.24	0.5	ug/L	
	Lithium		2.5	10	ug/L	
	Molybdenum		0.91	2	ug/L	
	Selenium		1.4	5	ug/L	
	Thallium		0.26	1	ug/L	
6020B		Total	MDL	RL		8,9
Metals (2)						
	Iron		36	100	ug/L	
	Lithium		2.5	10	ug/L	
6020B		Total	MDL	RL		7,10,11,12,13,14,15
Metals (7)						
	Calcium		190	500	ug/L	
	Iron		36	100	ug/L	
	Lithium		2.5	10	ug/L	
	Magnesium		150	500	ug/L	
	Manganese		3.6	10	ug/L	
	Potassium		150	500	ug/L	
	Sodium		460	1000	ug/L	
7470A		Total	MDL	RL		1,2,3,4,5,6,16
Mercury						
	Mercury		0.14	0.2	ug/L	

Sample Login Analytes / Limits

Method Method Description		Rpt Basis			Units	Sample #s Applicable
903.0 **Radium-226 (GFPC)**		Total		RL		
	Radium 226			1	pCi/L	
904.0 **Radium-228 (GFPC)**		Total		RL		
	Radium 228			1	pCi/L	
9056A_ORGFM_28D **Chloride, Fluoride & Sulfate**		Total	MDL	RL		1,2,3,4,5,6,16
	Chloride		0.45	1	mg/L	
	Fluoride		0.075	0.2	mg/L	
	Sulfate		0.42	1	mg/L	
FieldSampling **Field Parameters**		Total	RL	RL		1,2,3,4,5,6,7,8,9,10,11,12,13,14,15
	Ground Water Elevation				ft	
	Oxidation Reduction Potential				millivolts	
	Oxygen, Dissolved, Client Supplied				mg/L	
	pH, Field		0.1	0.1	SU	
	Specific Conductance, Field				umhos/cm	
	Temperature, Field		0.1	0.1	Degrees C	
	Turbidity, Field				NTU	
Ra226_228GFPC_P **Combined Radium-226 and Radium-228**		Total		RL		
	Radium 226 and 228			5	pCi/L	
SM4500_H+ **pH**		Total	RL	RL		1,2,3,4,5,6,16
	pH		0.1	0.1	SU	

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-60383.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Iowa		Job #: 310-253690-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/16/2023			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Sutherland Generating Station 25223076	Project #: 31011020			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226 (GFPC)	904.0/PrecSep_0 Radium-228 (GFPC)	Ra226_228GFPC_P/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-301 (310-253690-1)	4/11/23	09:04 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-302 (310-253690-2)	4/10/23	14:30 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-303 (310-253690-3)	4/10/23	14:18 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-304 (310-253690-4)	4/11/23	09:57 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-305 (310-253690-5)	4/11/23	10:54 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-306 (310-253690-6)	4/12/23	14:25 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
FIELD BLANK (310-253690-16)	4/13/23	Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	FED EX	4/12/23 1335		FED EX		
2	Relinquished by:	Date/Time:	Company	Received by: Corecastell	Date/Time: 0910 APR 18 2023	Company ETA STL
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-253690-1

Login Number: 253690
List Number: 1
Creator: Fredrick, Sandie

List Source: Eurofins Cedar Falls

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-253690-1

Login Number: 253690
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins St. Louis
List Creation: 04/18/23 01:40 PM

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

Tracer/Carrier Summary

Client: SCS Engineers
Job ID: 310-253690-1
Project/Site: Sutherland Generating Station 25223076

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
310-253690-1	MW-301	54.8
310-253690-2	MW-302	81.6
310-253690-3	MW-303	91.4
310-253690-4	MW-304	90.2
310-253690-5	MW-305	89.2
310-253690-6	MW-306	90.2
310-253690-16	FIELD BLANK	95.3
LCS 160-608721/2-A	Lab Control Sample	97.1
LCSD 160-608721/3-A	Lab Control Sample Dup	94.1
MB 160-608721/1-A	Method Blank	97.1

Tracer/Carrier Legend

Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-253690-1	MW-301	54.8	71.4
310-253690-2	MW-302	81.6	81.5
310-253690-3	MW-303	91.4	78.5
310-253690-4	MW-304	90.2	82.6
310-253690-5	MW-305	89.2	89.3
310-253690-6	MW-306	90.2	78.1
310-253690-16	FIELD BLANK	95.3	81.5
LCS 160-608727/2-A	Lab Control Sample	97.1	84.5
LCSD 160-608727/3-A	Lab Control Sample Dup	94.1	79.3
MB 160-608727/1-A	Method Blank	97.1	80.4

Tracer/Carrier Legend

Ba = Barium
Y = Y Carrier

Groundwater Monitoring Results - Field Parameters
Sutherland Generating Station / SCS Engineers Project #25223076.00
April 2023

Sample	Sample Date	GW Elevation (feet amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-301	4/11/2023	854.20	8.8	6.59	0.38	461.5	134.1	36.2
MW-302	4/10/2023	854.63	8.9	7.03	1.99	571.1	59.7	5.39
MW-303	4/10/2023	853.34	7.7	7.10	-0.08	560	193.1	0.02
MW-304	4/11/2023	853.27	6.7	6.72	2.62	816	195.7	0.02
MW-305	4/11/2023	853.13	9.4	6.93	0.13	1044	140.0	0.02
MW-306	4/12/2023	853.01	11.4	7.69	0.14	988	-8.9	0.02
MW-306A	4/12/2023	853.37	12.6	7.48	0.11	940	-69.0	4.53
MW-307	4/10/2023	853.97	10.7	6.56	-0.06	1686	136.4	1.27
MW-308	4/13/2023	852.53	9.3	6.73	0.11	1160	47.9	40.0
MW-309	4/11/2023	851.58	9.7	7.25	0.44	1017	96.7	1.69
MW-310	4/11/2023	851.70	7.7	6.96	2.83	1189	88.2	0.02
MW-311	4/11/2023	851.72	6.9	7.17	1.88	847	112.9	0.02
MW-312	4/12/2023	853.47	10.5	7.7	0.1	848	19.4	0.02
MW-313	4/13/2023	853.15	9.7	7.03	0.07	1013	61.1	4.45
MW-314	4/13/2023	852.77	7.4	7.26	0.22	967	55.4	30.0

Abbreviations:
mg/L = milligrams per liter mV = millivolts amsl = above mean sea level NM - Not Measured

Notes:
None

Created by: NDK Date: 10/13/2022
Last revision by: RM Date: 4/18/2023
Checked by: BAS Date: 4/18/2023

C:\Users\hld0\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\USG3GGGC\[2304_Sutherland_CCR_Field.xlsx]GW Field Parameters

C2 October 2023 Assessment Monitoring

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/21/2023 3:51:16 PM

JOB DESCRIPTION

Sutherland Generating Station 25223076

JOB NUMBER

310-267901-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Eurofins Cedar Falls

Job Notes

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

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

Authorization

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11/21/2023 3:51:16 PM

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

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25223076

Job ID: 310-267901-1

Job ID: 310-267901-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-267901-1

Receipt
The samples were received on 10/23/2023 4:00 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 3.1º C and 3.6º C.

HPLC/IC
Methods 300.0, 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-267901-1), MW-302 (310-267901-2), MW-303 (310-267901-3) and MW-312 (310-267901-13). Elevated reporting limits (RLs) are provided.

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

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

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

Sample Summary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-267901-1	MW-301	Water	10/18/23 13:20	10/23/23 16:00
310-267901-2	MW-302	Water	10/18/23 15:05	10/23/23 16:00
310-267901-3	MW-303	Water	10/20/23 13:40	10/23/23 16:00
310-267901-4	MW-304	Water	10/20/23 09:25	10/23/23 16:00
310-267901-5	MW-305	Water	10/20/23 10:40	10/23/23 16:00
310-267901-6	MW-306	Water	10/19/23 10:15	10/23/23 16:00
310-267901-7	MW-306A	Water	10/18/23 17:00	10/23/23 16:00
310-267901-8	MW-307	Water	10/18/23 12:15	10/23/23 16:00
310-267901-9	MW-308	Water	10/18/23 16:15	10/23/23 16:00
310-267901-10	MW-309	Water	10/20/23 12:50	10/23/23 16:00
310-267901-11	MW-310	Water	10/20/23 12:15	10/23/23 16:00
310-267901-12	MW-311	Water	10/20/23 11:40	10/23/23 16:00
310-267901-13	MW-312	Water	10/19/23 11:15	10/23/23 16:00
310-267901-14	MW-313	Water	10/19/23 12:10	10/23/23 16:00
310-267901-15	MW-314	Water	10/19/23 12:55	10/23/23 16:00
310-267901-16	Field Blank	Water	10/20/23 14:00	10/23/23 16:00

Detection Summary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-301 — Lab Sample ID: 310-267901-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	28		5.0	2.1	mg/L	5		9056A	Total/NA
Barium	43		2.0	0.64	ug/L	1		6020B	Total/NA
Calcium	63		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.24	J	0.50	0.17	ug/L	1		6020B	Total/NA
Iron	220		100	36	ug/L	1		6020B	Total/NA
Lithium	3.1	J	10	2.5	ug/L	1		6020B	Total/NA
Selenium	3.8	J	5.0	1.4	ug/L	1		6020B	Total/NA
Total Dissolved Solids	270		50	34	mg/L	1		SM 2540C	Total/NA
pH	6.7	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	851.34				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	128.6				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.52				mg/L	1		Field Sampling	Total/NA
Field pH	6.12				SU	1		Field Sampling	Total/NA
Field Conductivity	498.5				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	17.5				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	17.97				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302 — Lab Sample ID: 310-267901-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.1		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	18		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	3.8		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	96		2.0	0.64	ug/L	1		6020B	Total/NA
Calcium	71		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	1.8		0.50	0.17	ug/L	1		6020B	Total/NA
Iron	410		100	36	ug/L	1		6020B	Total/NA
Lithium	2.8	J	10	2.5	ug/L	1		6020B	Total/NA
Total Dissolved Solids	270		50	34	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	851.44				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	10.7				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.65				mg/L	1		Field Sampling	Total/NA
Field pH	7.03				SU	1		Field Sampling	Total/NA
Field Conductivity	525.0				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	14.4				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	8.67				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303 — Lab Sample ID: 310-267901-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	89		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	2.0		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	53		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	360		100	76	ug/L	1		6020B	Total/NA
Calcium	93		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.69		0.50	0.17	ug/L	1		6020B	Total/NA
Iron	150		100	36	ug/L	1		6020B	Total/NA
Lithium	21		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	16		2.0	0.91	ug/L	1		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-303 (Continued) — Lab Sample ID: 310-267901-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	410		50	34	mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	849.47				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	8.9				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.22				mg/L	1		Field Sampling	Total/NA
Field pH	7.28				SU	1		Field Sampling	Total/NA
Field Conductivity	741				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	15.0				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	5.33				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304 — Lab Sample ID: 310-267901-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.7		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.40	J	1.0	0.38	mg/L	5		9056A	Total/NA
Sulfate	150		5.0	2.1	mg/L	5		9056A	Total/NA
Barium	22		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	430		100	76	ug/L	1		6020B	Total/NA
Calcium	90		0.50	0.19	mg/L	1		6020B	Total/NA
Lithium	6.3	J	10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	3.8		2.0	0.91	ug/L	1		6020B	Total/NA
Total Dissolved Solids	460		50	34	mg/L	1		SM 2540C	Total/NA
pH	7.4	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	849.24				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	107.6				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.99				mg/L	1		Field Sampling	Total/NA
Field pH	7.19				SU	1		Field Sampling	Total/NA
Field Conductivity	775				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	12.2				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	5.09				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305 — Lab Sample ID: 310-267901-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.45	J	1.0	0.38	mg/L	5		9056A	Total/NA
Sulfate	200		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	10		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	41		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	1100		100	76	ug/L	1		6020B	Total/NA
Calcium	100		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.69		0.50	0.17	ug/L	1		6020B	Total/NA
Iron	310		100	36	ug/L	1		6020B	Total/NA
Lithium	36		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	48		2.0	0.91	ug/L	1		6020B	Total/NA
Total Dissolved Solids	530		50	34	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	849.27				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	29.3				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.64				mg/L	1		Field Sampling	Total/NA
Field pH	7.48				SU	1		Field Sampling	Total/NA
Field Conductivity	911				umhos/cm	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-305 (Continued) — Lab Sample ID: 310-267901-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field Temperature	14.2				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	6.19				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 310-267901-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.39	J	1.0	0.38	mg/L	5		9056A	Total/NA
Sulfate	320		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	4.5		2.0	0.53	ug/L	1		6020B	Total/NA
Barium	57		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	4000		100	76	ug/L	1		6020B	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.29	J	0.50	0.17	ug/L	1		6020B	Total/NA
Lithium	62		10	2.5	ug/L	1		6020B	Total/NA
Molybdenum	100		2.0	0.91	ug/L	1		6020B	Total/NA
Total Dissolved Solids	600		50	34	mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	849.22				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	27.1				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.60				mg/L	1		Field Sampling	Total/NA
Field pH	7.72				SU	1		Field Sampling	Total/NA
Field Conductivity	933				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	13.6				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	6.60				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306A — Lab Sample ID: 310-267901-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	160		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	1000		100	36	ug/L	1		6020B	Total/NA
Lithium	39		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	14000		500	150	ug/L	1		6020B	Total/NA
Manganese	770		10	3.6	ug/L	1		6020B	Total/NA
Potassium	9600		500	150	ug/L	1		6020B	Total/NA
Sodium	27000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	280		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	280		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Groundwater Elevation	849.60				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-59.2				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.69				mg/L	1		Field Sampling	Total/NA
Field pH	7.35				SU	1		Field Sampling	Total/NA
Field Conductivity	1016				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	14.1				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	15.20				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 310-267901-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	280		100	36	ug/L	1		6020B	Total/NA
Lithium	11		10	2.5	ug/L	1		6020B	Total/NA
Groundwater Elevation	850.32				ft	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-307 (Continued) — Lab Sample ID: 310-267901-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Oxidation Reduction Potential	29.8				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.71				mg/L	1		Field Sampling	Total/NA
Field pH	6.58				SU	1		Field Sampling	Total/NA
Field Conductivity	991				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	14.2				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	10.82				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-308 — Lab Sample ID: 310-267901-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	580		100	36	ug/L	1		6020B	Total/NA
Lithium	16		10	2.5	ug/L	1		6020B	Total/NA
Groundwater Elevation	850.64				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	28.5				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.61				mg/L	1		Field Sampling	Total/NA
Field pH	6.80				SU	1		Field Sampling	Total/NA
Field Conductivity	981				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	13.8				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	4.96				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309 — Lab Sample ID: 310-267901-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	95		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	950		100	36	ug/L	1		6020B	Total/NA
Lithium	17		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	30000		500	150	ug/L	1		6020B	Total/NA
Manganese	180		10	3.6	ug/L	1		6020B	Total/NA
Potassium	3500		500	150	ug/L	1		6020B	Total/NA
Sodium	33000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	190		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	190		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Groundwater Elevation	848.35				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	83.8				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.92				mg/L	1		Field Sampling	Total/NA
Field pH	7.41				SU	1		Field Sampling	Total/NA
Field Conductivity	1128				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	11.5				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	36.02				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310 — Lab Sample ID: 310-267901-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	130		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	97	J	100	36	ug/L	1		6020B	Total/NA
Lithium	20		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	41000		500	150	ug/L	1		6020B	Total/NA
Manganese	360		10	3.6	ug/L	1		6020B	Total/NA
Potassium	4100		500	150	ug/L	1		6020B	Total/NA
Sodium	41000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	200		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	200		5.0	2.5	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-310 (Continued) — Lab Sample ID: 310-267901-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Groundwater Elevation	848.13				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	82.1				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.81				mg/L	1		Field Sampling	Total/NA
Field pH	7.30				SU	1		Field Sampling	Total/NA
Field Conductivity	1123				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	12.3				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	8.17				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-311 — Lab Sample ID: 310-267901-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	130		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	47	J	100	36	ug/L	1		6020B	Total/NA
Lithium	33		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	34000		500	150	ug/L	1		6020B	Total/NA
Manganese	87		10	3.6	ug/L	1		6020B	Total/NA
Potassium	5100		500	150	ug/L	1		6020B	Total/NA
Sodium	43000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	220		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Groundwater Elevation	847.99				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	93.7				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.62				mg/L	1		Field Sampling	Total/NA
Field pH	7.16				SU	1		Field Sampling	Total/NA
Field Conductivity	1075				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	13.9				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	7.50				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-312 — Lab Sample ID: 310-267901-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	250		5.0	2.1	mg/L	5		9056A	Total/NA
Arsenic	1.2	J	2.0	0.53	ug/L	1		6020B	Total/NA
Barium	56		2.0	0.64	ug/L	1		6020B	Total/NA
Boron	1400		100	76	ug/L	1		6020B	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020B	Total/NA
Cobalt	0.96		0.50	0.17	ug/L	1		6020B	Total/NA
Iron	90	J	100	36	ug/L	1		6020B	Total/NA
Lithium	66		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	23000		500	150	ug/L	1		6020B	Total/NA
Manganese	1200		10	3.6	ug/L	1		6020B	Total/NA
Molybdenum	33		2.0	0.91	ug/L	1		6020B	Total/NA
Potassium	7700		500	150	ug/L	1		6020B	Total/NA
Sodium	26000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	170		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	560		50	34	mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA
Groundwater Elevation	849.64				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	7.5				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.30				mg/L	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-312 (Continued) — Lab Sample ID: 310-267901-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field pH	7.52				SU	1		Field Sampling	Total/NA
Field Conductivity	934				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	14.4				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	10.00				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-313 — Lab Sample ID: 310-267901-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	130		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	110		100	36	ug/L	1		6020B	Total/NA
Lithium	44		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	31000		500	150	ug/L	1		6020B	Total/NA
Manganese	3200		10	3.6	ug/L	1		6020B	Total/NA
Potassium	5500		500	150	ug/L	1		6020B	Total/NA
Sodium	34000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	180		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	180		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Groundwater Elevation	849.41				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	39.0				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.30				mg/L	1		Field Sampling	Total/NA
Field pH	7.21				SU	1		Field Sampling	Total/NA
Field Conductivity	1076				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	12.7				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	13.24				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-314 — Lab Sample ID: 310-267901-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140		0.50	0.19	mg/L	1		6020B	Total/NA
Iron	620		100	36	ug/L	1		6020B	Total/NA
Lithium	35		10	2.5	ug/L	1		6020B	Total/NA
Magnesium	40000		500	150	ug/L	1		6020B	Total/NA
Manganese	800		10	3.6	ug/L	1		6020B	Total/NA
Potassium	5900		500	150	ug/L	1		6020B	Total/NA
Sodium	47000		1000	460	ug/L	1		6020B	Total/NA
Bicarbonate Alkalinity as CaCO3	210		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	210		5.0	2.5	mg/L	1		SM 2320B	Total/NA
Groundwater Elevation	849.05				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	78.3				mV	1		Field Sampling	Total/NA
Oxygen, Dissolved	2.14				mg/L	1		Field Sampling	Total/NA
Field pH	7.15				SU	1		Field Sampling	Total/NA
Field Conductivity	1195				umhos/cm	1		Field Sampling	Total/NA
Field Temperature	13.4				Degrees C	1		Field Sampling	Total/NA
Field Turbidity	26.17				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 310-267901-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	100		100	76	ug/L	1		6020B	Total/NA
Calcium	0.31	J	0.50	0.19	mg/L	1		6020B	Total/NA
pH	6.6	HF	1.0	1.0	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25223076

Job ID: 310-267901-1

Client Sample ID: MW-301
Date Collected: 10/18/23 13:20
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-1
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11**		5.0	2.3	mg/L			11/02/23 13:31	5
Fluoride	<0.38		1.0	0.38	mg/L			11/02/23 13:31	5
Sulfate	**28**		5.0	2.1	mg/L			11/02/23 13:31	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 13:01	1
Arsenic	<0.53		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 13:01	1
Barium	**43**		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 13:01	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 13:01	1
Boron	<76		100	76	ug/L		10/27/23 10:30	10/30/23 13:01	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 13:01	1
Calcium	**63**		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 13:01	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 13:01	1
Cobalt	**0.24**	**J**	0.50	0.17	ug/L		10/27/23 10:30	10/30/23 13:01	1
Iron	**220**		100	36	ug/L		10/27/23 10:30	10/30/23 13:01	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 13:01	1
Lithium	**3.1**	**J**	10	2.5	ug/L		10/27/23 10:30	10/30/23 13:01	1
Molybdenum	<0.91		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 13:01	1
Selenium	**3.8**	**J**	5.0	1.4	ug/L		10/27/23 10:30	10/30/23 13:01	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 13:01	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:33	11/06/23 11:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**270**		50	34	mg/L			10/24/23 13:07	1
pH (SM 4500 H+ B)	**6.7**	**HF**	1.0	1.0	SU			10/23/23 18:11	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0440	U	0.109	0.109	1.00	0.203	pCi/L	10/26/23 07:15	11/21/23 09:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*77.6*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	**0.913**		0.584	0.590	1.00	0.860	pCi/L	10/26/23 07:15	11/17/23 11:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*77.6*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*
Y Carrier	*78.9*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-301
Lab Sample ID: 310-267901-1
Date Collected: 10/18/23 13:20
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.957		0.594	0.600	5.00	0.860	pCi/L		11/21/23 15:31	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	851.34				ft			10/18/23 13:20	1
Oxidation Reduction Potential	128.6				mV			10/18/23 13:20	1
Oxygen, Dissolved	1.52				mg/L			10/18/23 13:20	1
Field pH	6.12				SU			10/18/23 13:20	1
Field Conductivity	498.5				umhos/cm			10/18/23 13:20	1
Field Temperature	17.5				Degrees C			10/18/23 13:20	1
Field Turbidity	17.97				NTU			10/18/23 13:20	1

Client Sample ID: MW-302
Lab Sample ID: 310-267901-2
Date Collected: 10/18/23 15:05
Matrix: Water
Date Received: 10/23/23 16:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.1**		5.0	2.3	mg/L			11/02/23 14:08	5
Fluoride	<0.38		1.0	0.38	mg/L			11/02/23 14:08	5
Sulfate	**18**		5.0	2.1	mg/L			11/02/23 14:08	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 13:05	1
Arsenic	**3.8**		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 13:05	1
Barium	**96**		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 13:05	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 13:05	1
Boron	<76		100	76	ug/L		10/27/23 10:30	10/30/23 13:05	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 13:05	1
Calcium	**71**		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 13:05	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 13:05	1
Cobalt	**1.8**		0.50	0.17	ug/L		10/27/23 10:30	10/30/23 13:05	1
Iron	**410**		100	36	ug/L		10/27/23 10:30	10/30/23 13:05	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 13:05	1
Lithium	**2.8**	**J**	10	2.5	ug/L		10/27/23 10:30	10/30/23 13:05	1
Molybdenum	<0.91		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 13:05	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 13:05	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 13:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:33	11/06/23 11:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**270**		50	34	mg/L			10/24/23 13:07	1
pH (SM 4500 H+ B)	**7.1**	**HF**	1.0	1.0	SU			10/23/23 18:12	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0592	U	0.0829	0.0831	1.00	0.140	pCi/L	10/26/23 07:15	11/21/23 09:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*82.9*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	**0.729**		0.447	0.452	1.00	0.661	pCi/L	10/26/23 07:15	11/17/23 11:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*82.9*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*
Y Carrier	*81.5*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-302
Lab Sample ID: 310-267901-2
Date Collected: 10/18/23 15:05
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.788		0.455	0.460	5.00	0.661	pCi/L		11/21/23 15:31	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	851.44				ft			10/18/23 15:05	1
Oxidation Reduction Potential	10.7				mV			10/18/23 15:05	1
Oxygen, Dissolved	0.65				mg/L			10/18/23 15:05	1
Field pH	7.03				SU			10/18/23 15:05	1
Field Conductivity	525.0				umhos/cm			10/18/23 15:05	1
Field Temperature	14.4				Degrees C			10/18/23 15:05	1
Field Turbidity	8.67				NTU			10/18/23 15:05	1

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-303
Date Collected: 10/20/23 13:40
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-3
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11**		5.0	2.3	mg/L			11/02/23 14:21	5
Fluoride	<0.38		1.0	0.38	mg/L			11/02/23 14:21	5
Sulfate	**89**		5.0	2.1	mg/L			11/02/23 14:21	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 13:08	1
Arsenic	**2.0**		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 13:08	1
Barium	**53**		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 13:08	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 13:08	1
Boron	**360**		100	76	ug/L		10/27/23 10:30	10/30/23 13:08	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 13:08	1
Calcium	**93**		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 13:08	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 13:08	1
Cobalt	**0.69**		0.50	0.17	ug/L		10/27/23 10:30	10/30/23 13:08	1
Iron	**150**		100	36	ug/L		10/27/23 10:30	10/30/23 13:08	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 13:08	1
Lithium	**21**		10	2.5	ug/L		10/27/23 10:30	10/30/23 13:08	1
Molybdenum	**16**		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 13:08	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 13:08	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 13:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:33	11/06/23 11:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**410**		50	34	mg/L			10/24/23 13:07	1
pH (SM 4500 H+ B)	**7.6**	**HF**	1.0	1.0	SU			10/23/23 18:13	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0255	U	0.0839	0.0839	1.00	0.162	pCi/L	10/26/23 07:15	11/21/23 09:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*71.3*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.368	U	0.463	0.464	1.00	0.768	pCi/L	10/26/23 07:15	11/17/23 11:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*71.3*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*
Y Carrier	*84.5*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-303
Lab Sample ID: 310-267901-3
Date Collected: 10/20/23 13:40
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.393	U	0.471	0.472	5.00	0.768	pCi/L		11/21/23 15:31	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	**849.47**				ft			10/20/23 13:40	1
Oxidation Reduction Potential	**8.9**				mV			10/20/23 13:40	1
Oxygen, Dissolved	**1.22**				mg/L			10/20/23 13:40	1
Field pH	**7.28**				SU			10/20/23 13:40	1
Field Conductivity	**741**				umhos/cm			10/20/23 13:40	1
Field Temperature	**15.0**				Degrees C			10/20/23 13:40	1
Field Turbidity	**5.33**				NTU			10/20/23 13:40	1

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-304
Date Collected: 10/20/23 09:25
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-4
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.7**		5.0	2.3	mg/L			11/02/23 14:33	5
Fluoride	**0.40**	**J**	1.0	0.38	mg/L			11/02/23 14:33	5
Sulfate	**150**		5.0	2.1	mg/L			11/02/23 14:33	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 13:11	1
Arsenic	<0.53		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 13:11	1
Barium	**22**		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 13:11	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 13:11	1
Boron	**430**		100	76	ug/L		10/27/23 10:30	10/30/23 13:11	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 13:11	1
Calcium	**90**		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 13:11	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 13:11	1
Cobalt	<0.17		0.50	0.17	ug/L		10/27/23 10:30	10/30/23 13:11	1
Iron	<36		100	36	ug/L		10/27/23 10:30	10/30/23 13:11	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 13:11	1
Lithium	**6.3**	**J**	10	2.5	ug/L		10/27/23 10:30	10/30/23 13:11	1
Molybdenum	**3.8**		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 13:11	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 13:11	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 13:11	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:35	11/06/23 11:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**460**		50	34	mg/L			10/24/23 13:07	1
pH (SM 4500 H+ B)	**7.4**	**HF**	1.0	1.0	SU			10/23/23 18:14	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0592	U	0.118	0.119	1.00	0.209	pCi/L	10/26/23 07:15	11/21/23 09:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*81.4*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	**0.915**		0.436	0.444	1.00	0.593	pCi/L	10/26/23 07:15	11/17/23 11:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*81.4*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*
Y Carrier	*83.4*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-304
Lab Sample ID: 310-267901-4
Date Collected: 10/20/23 09:25
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.975		0.452	0.460	5.00	0.593	pCi/L		11/21/23 15:31	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	849.24				ft			10/20/23 09:25	1
Oxidation Reduction Potential	107.6				mV			10/20/23 09:25	1
Oxygen, Dissolved	0.99				mg/L			10/20/23 09:25	1
Field pH	7.19				SU			10/20/23 09:25	1
Field Conductivity	775				umhos/cm			10/20/23 09:25	1
Field Temperature	12.2				Degrees C			10/20/23 09:25	1
Field Turbidity	5.09				NTU			10/20/23 09:25	1

Client Sample ID: MW-305
Lab Sample ID: 310-267901-5

Date Collected: 10/20/23 10:40
Matrix: Water
Date Received: 10/23/23 16:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**36**		5.0	2.3	mg/L			11/02/23 14:46	5
Fluoride	**0.45**	**J**	1.0	0.38	mg/L			11/02/23 14:46	5
Sulfate	**200**		5.0	2.1	mg/L			11/02/23 14:46	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 13:14	1
Arsenic	**10**		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 13:14	1
Barium	**41**		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 13:14	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 13:14	1
Boron	**1100**		100	76	ug/L		10/27/23 10:30	10/30/23 13:14	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 13:14	1
Calcium	**100**		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 13:14	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 13:14	1
Cobalt	**0.69**		0.50	0.17	ug/L		10/27/23 10:30	10/30/23 13:14	1
Iron	**310**		100	36	ug/L		10/27/23 10:30	10/30/23 13:14	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 13:14	1
Lithium	**36**		10	2.5	ug/L		10/27/23 10:30	10/30/23 13:14	1
Molybdenum	**48**		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 13:14	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 13:14	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 13:14	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:35	11/06/23 11:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**530**		50	34	mg/L			10/24/23 13:07	1
pH (SM 4500 H+ B)	**7.7**	**HF**	1.0	1.0	SU			10/23/23 18:15	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0891	U	0.122	0.122	1.00	0.205	pCi/L	10/26/23 07:15	11/21/23 09:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*71.8*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:17*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	**0.764**		0.483	0.488	1.00	0.708	pCi/L	10/26/23 07:15	11/17/23 11:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*71.8*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*
Y Carrier	*77.0*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-305
Lab Sample ID: 310-267901-5
Date Collected: 10/20/23 10:40
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.853		0.498	0.503	5.00	0.708	pCi/L		11/21/23 15:31	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	849.27				ft			10/20/23 10:40	1
Oxidation Reduction Potential	29.3				mV			10/20/23 10:40	1
Oxygen, Dissolved	0.64				mg/L			10/20/23 10:40	1
Field pH	7.48				SU			10/20/23 10:40	1
Field Conductivity	911				umhos/cm			10/20/23 10:40	1
Field Temperature	14.2				Degrees C			10/20/23 10:40	1
Field Turbidity	6.19				NTU			10/20/23 10:40	1

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-306
Date Collected: 10/19/23 10:15
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-6
Matrix: Water

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		5.0	2.3	mg/L			11/02/23 14:59	5
Fluoride	0.39	J	1.0	0.38	mg/L			11/02/23 14:59	5
Sulfate	320		5.0	2.1	mg/L			11/02/23 14:59	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 13:17	1
Arsenic	4.5		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 13:17	1
Barium	57		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 13:17	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 13:17	1
Boron	4000		100	76	ug/L		10/27/23 10:30	10/30/23 13:17	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 13:17	1
Calcium	120		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 13:17	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 13:17	1
Cobalt	0.29	J	0.50	0.17	ug/L		10/27/23 10:30	10/30/23 13:17	1
Iron	<36		100	36	ug/L		10/27/23 10:30	10/30/23 13:17	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 13:17	1
Lithium	62		10	2.5	ug/L		10/27/23 10:30	10/30/23 13:17	1
Molybdenum	100		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 13:17	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 13:17	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 13:17	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:35	11/06/23 11:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	600		50	34	mg/L			10/24/23 13:07	1
pH (SM 4500 H+ B)	7.9	HF	1.0	1.0	SU			10/23/23 18:16	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.0346	U	0.0502	0.0503	1.00	0.149	pCi/L	10/26/23 07:15	11/21/23 09:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*79.8*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:18*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	1.26		0.448	0.463	1.00	0.526	pCi/L	10/26/23 07:15	11/17/23 11:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*79.8*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:43*	*1*
Y Carrier	*85.2*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:43*	*1*

Client Sample ID: MW-306
Lab Sample ID: 310-267901-6

Date Collected: 10/19/23 10:15
Matrix: Water

Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.26		0.451	0.466	5.00	0.526	pCi/L		11/21/23 15:31	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	849.22				ft			10/19/23 10:15	1
Oxidation Reduction Potential	27.1				mV			10/19/23 10:15	1
Oxygen, Dissolved	0.60				mg/L			10/19/23 10:15	1
Field pH	7.72				SU			10/19/23 10:15	1
Field Conductivity	933				umhos/cm			10/19/23 10:15	1
Field Temperature	13.6				Degrees C			10/19/23 10:15	1
Field Turbidity	6.60				NTU			10/19/23 10:15	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-306A
Lab Sample ID: 310-267901-7
Date Collected: 10/18/23 17:00
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	160		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 13:21	1
Iron	1000		100	36	ug/L		10/27/23 10:30	10/30/23 13:21	1
Lithium	39		10	2.5	ug/L		10/27/23 10:30	10/30/23 13:21	1
Magnesium	14000		500	150	ug/L		10/27/23 10:30	10/30/23 13:21	1
Manganese	770		10	3.6	ug/L		10/27/23 10:30	10/30/23 13:21	1
Potassium	9600		500	150	ug/L		10/27/23 10:30	10/30/23 13:21	1
Sodium	27000		1000	460	ug/L		10/27/23 10:30	10/30/23 13:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	280		5.0	2.5	mg/L			10/25/23 18:18	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			10/25/23 18:18	1
Total Alkalinity as CaCO3 (SM 2320B)	280		5.0	2.5	mg/L			10/25/23 18:18	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	849.60				ft			10/18/23 17:00	1
Oxidation Reduction Potential	-59.2				mV			10/18/23 17:00	1
Oxygen, Dissolved	0.69				mg/L			10/18/23 17:00	1
Field pH	7.35				SU			10/18/23 17:00	1
Field Conductivity	1016				umhos/cm			10/18/23 17:00	1
Field Temperature	14.1				Degrees C			10/18/23 17:00	1
Field Turbidity	15.20				NTU			10/18/23 17:00	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-307
Lab Sample ID: 310-267901-8
Date Collected: 10/18/23 12:15
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	280		100	36	ug/L		10/27/23 10:30	10/30/23 14:02	1
Lithium	11		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:02	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	850.32				ft			10/18/23 12:15	1
Oxidation Reduction Potential	29.8				mV			10/18/23 12:15	1
Oxygen, Dissolved	0.71				mg/L			10/18/23 12:15	1
Field pH	6.58				SU			10/18/23 12:15	1
Field Conductivity	991				umhos/cm			10/18/23 12:15	1
Field Temperature	14.2				Degrees C			10/18/23 12:15	1
Field Turbidity	10.82				NTU			10/18/23 12:15	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-308
Lab Sample ID: 310-267901-9
Date Collected: 10/18/23 16:15
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	580		100	36	ug/L		10/27/23 10:30	10/30/23 14:15	1
Lithium	16		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:15	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	850.64				ft			10/18/23 16:15	1
Oxidation Reduction Potential	28.5				mV			10/18/23 16:15	1
Oxygen, Dissolved	0.61				mg/L			10/18/23 16:15	1
Field pH	6.80				SU			10/18/23 16:15	1
Field Conductivity	981				umhos/cm			10/18/23 16:15	1
Field Temperature	13.8				Degrees C			10/18/23 16:15	1
Field Turbidity	4.96				NTU			10/18/23 16:15	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-309
Lab Sample ID: 310-267901-10
Date Collected: 10/20/23 12:50
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	95		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 14:30	1
Iron	950		100	36	ug/L		10/27/23 10:30	10/30/23 14:30	1
Lithium	17		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:30	1
Magnesium	30000		500	150	ug/L		10/27/23 10:30	10/30/23 14:30	1
Manganese	180		10	3.6	ug/L		10/27/23 10:30	10/30/23 14:30	1
Potassium	3500		500	150	ug/L		10/27/23 10:30	10/30/23 14:30	1
Sodium	33000		1000	460	ug/L		10/27/23 10:30	10/30/23 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	190		5.0	2.5	mg/L			10/25/23 18:37	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			10/25/23 18:37	1
Total Alkalinity as CaCO3 (SM 2320B)	190		5.0	2.5	mg/L			10/25/23 18:37	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	848.35				ft			10/20/23 12:50	1
Oxidation Reduction Potential	83.8				mV			10/20/23 12:50	1
Oxygen, Dissolved	0.92				mg/L			10/20/23 12:50	1
Field pH	7.41				SU			10/20/23 12:50	1
Field Conductivity	1128				umhos/cm			10/20/23 12:50	1
Field Temperature	11.5				Degrees C			10/20/23 12:50	1
Field Turbidity	36.02				NTU			10/20/23 12:50	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-310
Date Collected: 10/20/23 12:15
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 14:33	1
Iron	97	J	100	36	ug/L		10/27/23 10:30	10/30/23 14:33	1
Lithium	20		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:33	1
Magnesium	41000		500	150	ug/L		10/27/23 10:30	10/30/23 14:33	1
Manganese	360		10	3.6	ug/L		10/27/23 10:30	10/30/23 14:33	1
Potassium	4100		500	150	ug/L		10/27/23 10:30	10/30/23 14:33	1
Sodium	41000		1000	460	ug/L		10/27/23 10:30	10/30/23 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	200		5.0	2.5	mg/L			10/25/23 18:46	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			10/25/23 18:46	1
Total Alkalinity as CaCO3 (SM 2320B)	200		5.0	2.5	mg/L			10/25/23 18:46	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	848.13				ft			10/20/23 12:15	1
Oxidation Reduction Potential	82.1				mV			10/20/23 12:15	1
Oxygen, Dissolved	1.81				mg/L			10/20/23 12:15	1
Field pH	7.30				SU			10/20/23 12:15	1
Field Conductivity	1123				umhos/cm			10/20/23 12:15	1
Field Temperature	12.3				Degrees C			10/20/23 12:15	1
Field Turbidity	8.17				NTU			10/20/23 12:15	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-311
Date Collected: 10/20/23 11:40
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 14:36	1
Iron	47	J	100	36	ug/L		10/27/23 10:30	10/30/23 14:36	1
Lithium	33		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:36	1
Magnesium	34000		500	150	ug/L		10/27/23 10:30	10/30/23 14:36	1
Manganese	87		10	3.6	ug/L		10/27/23 10:30	10/30/23 14:36	1
Potassium	5100		500	150	ug/L		10/27/23 10:30	10/30/23 14:36	1
Sodium	43000		1000	460	ug/L		10/27/23 10:30	10/30/23 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	220		5.0	2.5	mg/L			10/25/23 18:54	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			10/25/23 18:54	1
Total Alkalinity as CaCO3 (SM 2320B)	220		5.0	2.5	mg/L			10/25/23 18:54	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	847.99				ft			10/20/23 11:40	1
Oxidation Reduction Potential	93.7				mV			10/20/23 11:40	1
Oxygen, Dissolved	1.62				mg/L			10/20/23 11:40	1
Field pH	7.16				SU			10/20/23 11:40	1
Field Conductivity	1075				umhos/cm			10/20/23 11:40	1
Field Temperature	13.9				Degrees C			10/20/23 11:40	1
Field Turbidity	7.50				NTU			10/20/23 11:40	1

Client Sample ID: MW-312
Lab Sample ID: 310-267901-13
Date Collected: 10/19/23 11:15
Matrix: Water
Date Received: 10/23/23 16:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17**		5.0	2.3	mg/L			11/02/23 15:36	5
Fluoride	<0.38		1.0	0.38	mg/L			11/02/23 15:36	5
Sulfate	**250**		5.0	2.1	mg/L			11/02/23 15:36	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 14:39	1
Arsenic	**1.2**	**J**	2.0	0.53	ug/L		10/27/23 10:30	10/30/23 14:39	1
Barium	**56**		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 14:39	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 14:39	1
Boron	**1400**		100	76	ug/L		10/27/23 10:30	10/30/23 14:39	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 14:39	1
Calcium	**120**		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 14:39	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 14:39	1
Cobalt	**0.96**		0.50	0.17	ug/L		10/27/23 10:30	10/30/23 14:39	1
Iron	**90**	**J**	100	36	ug/L		10/27/23 10:30	10/30/23 14:39	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 14:39	1
Lithium	**66**		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:39	1
Magnesium	**23000**		500	150	ug/L		10/27/23 10:30	10/30/23 14:39	1
Manganese	**1200**		10	3.6	ug/L		10/27/23 10:30	10/30/23 14:39	1
Molybdenum	**33**		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 14:39	1
Potassium	**7700**		500	150	ug/L		10/27/23 10:30	10/30/23 14:39	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 14:39	1
Sodium	**26000**		1000	460	ug/L		10/27/23 10:30	10/30/23 14:39	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 14:39	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:35	11/06/23 11:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**170**		5.0	2.5	mg/L			10/25/23 19:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			10/25/23 19:03	1
Total Alkalinity as CaCO3 (SM 2320B)	**170**		5.0	2.5	mg/L			10/25/23 19:03	1
Total Dissolved Solids (SM 2540C)	**560**		50	34	mg/L			10/25/23 12:25	1
pH (SM 4500 H+ B)	**7.8**	**HF**	1.0	1.0	SU			10/23/23 18:17	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.00562	U	0.0665	0.0666	1.00	0.140	pCi/L	10/26/23 07:15	11/21/23 09:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*77.6*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:18*	*1*

Client Sample ID: MW-312
Lab Sample ID: 310-267901-13

Date Collected: 10/19/23 11:15
Matrix: Water

Date Received: 10/23/23 16:00

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	1.02		0.469	0.479	1.00	0.637	pCi/L	10/26/23 07:15	11/17/23 11:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*77.6*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:43*	*1*
Y Carrier	*83.7*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:43*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	1.02		0.474	0.484	5.00	0.637	pCi/L		11/21/23 15:31	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	849.64				ft			10/19/23 11:15	1
Oxidation Reduction Potential	7.5				mV			10/19/23 11:15	1
Oxygen, Dissolved	1.30				mg/L			10/19/23 11:15	1
Field pH	7.52				SU			10/19/23 11:15	1
Field Conductivity	934				umhos/cm			10/19/23 11:15	1
Field Temperature	14.4				Degrees C			10/19/23 11:15	1
Field Turbidity	10.00				NTU			10/19/23 11:15	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-313
Date Collected: 10/19/23 12:10
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	130		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 14:43	1
Iron	110		100	36	ug/L		10/27/23 10:30	10/30/23 14:43	1
Lithium	44		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:43	1
Magnesium	31000		500	150	ug/L		10/27/23 10:30	10/30/23 14:43	1
Manganese	3200		10	3.6	ug/L		10/27/23 10:30	10/30/23 14:43	1
Potassium	5500		500	150	ug/L		10/27/23 10:30	10/30/23 14:43	1
Sodium	34000		1000	460	ug/L		10/27/23 10:30	10/30/23 14:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	180		5.0	2.5	mg/L			10/27/23 12:40	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			10/27/23 12:40	1
Total Alkalinity as CaCO3 (SM 2320B)	180		5.0	2.5	mg/L			10/27/23 12:40	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	849.41				ft			10/19/23 12:10	1
Oxidation Reduction Potential	39.0				mV			10/19/23 12:10	1
Oxygen, Dissolved	1.30				mg/L			10/19/23 12:10	1
Field pH	7.21				SU			10/19/23 12:10	1
Field Conductivity	1076				umhos/cm			10/19/23 12:10	1
Field Temperature	12.7				Degrees C			10/19/23 12:10	1
Field Turbidity	13.24				NTU			10/19/23 12:10	1

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-314
Date Collected: 10/19/23 12:55
Date Received: 10/23/23 16:00

Lab Sample ID: 310-267901-15
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	140		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 14:46	1
Iron	620		100	36	ug/L		10/27/23 10:30	10/30/23 14:46	1
Lithium	35		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:46	1
Magnesium	40000		500	150	ug/L		10/27/23 10:30	10/30/23 14:46	1
Manganese	800		10	3.6	ug/L		10/27/23 10:30	10/30/23 14:46	1
Potassium	5900		500	150	ug/L		10/27/23 10:30	10/30/23 14:46	1
Sodium	47000		1000	460	ug/L		10/27/23 10:30	10/30/23 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	210		5.0	2.5	mg/L			10/27/23 12:57	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.5		5.0	2.5	mg/L			10/27/23 12:57	1
Total Alkalinity as CaCO3 (SM 2320B)	210		5.0	2.5	mg/L			10/27/23 12:57	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Groundwater Elevation	849.05				ft			10/19/23 12:55	1
Oxidation Reduction Potential	78.3				mV			10/19/23 12:55	1
Oxygen, Dissolved	2.14				mg/L			10/19/23 12:55	1
Field pH	7.15				SU			10/19/23 12:55	1
Field Conductivity	1195				umhos/cm			10/19/23 12:55	1
Field Temperature	13.4				Degrees C			10/19/23 12:55	1
Field Turbidity	26.17				NTU			10/19/23 12:55	1

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: Field Blank
Lab Sample ID: 310-267901-16
Date Collected: 10/20/23 14:00
Matrix: Water
Date Received: 10/23/23 16:00

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			11/02/23 15:49	1
Fluoride	<0.075		0.20	0.075	mg/L			11/02/23 15:49	1
Sulfate	<0.42		1.0	0.42	mg/L			11/02/23 15:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 14:49	1
Arsenic	<0.53		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 14:49	1
Barium	<0.64		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 14:49	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 14:49	1
Boron	**100**		100	76	ug/L		10/27/23 10:30	10/30/23 14:49	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 14:49	1
Calcium	**0.31**	**J**	0.50	0.19	mg/L		10/27/23 10:30	10/30/23 14:49	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 14:49	1
Cobalt	<0.17		0.50	0.17	ug/L		10/27/23 10:30	10/30/23 14:49	1
Iron	<36		100	36	ug/L		10/27/23 10:30	10/30/23 14:49	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 14:49	1
Lithium	<2.5		10	2.5	ug/L		10/27/23 10:30	10/30/23 14:49	1
Molybdenum	<0.91		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 14:49	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 14:49	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 14:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:35	11/06/23 11:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<34		50	34	mg/L			10/24/23 13:07	1
pH (SM 4500 H+ B)	**6.6**	**HF**	1.0	1.0	SU			10/23/23 18:18	1

Method: EPA 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.00787	U	0.0549	0.0549	1.00	0.124	pCi/L	10/26/23 07:15	11/21/23 09:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*89.4*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:19*	*1*

Method: EPA 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.457	U	0.394	0.396	1.00	0.624	pCi/L	10/26/23 07:15	11/17/23 11:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*89.4*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:43*	*1*
Y Carrier	*84.5*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:43*	*1*

Client Sample Results

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: Field Blank
Lab Sample ID: 310-267901-16
Date Collected: 10/20/23 14:00
Matrix: Water
Date Received: 10/23/23 16:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.457	U	0.398	0.400	5.00	0.624	pCi/L		11/21/23 15:31	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

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

Rad

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

Glossary

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

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-404805/3
Matrix: Water
Analysis Batch: 404805

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			11/02/23 13:06	1
Fluoride	<0.075		0.20	0.075	mg/L			11/02/23 13:06	1
Sulfate	<0.42		1.0	0.42	mg/L			11/02/23 13:06	1

Lab Sample ID: LCS 310-404805/4
Matrix: Water
Analysis Batch: 404805

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	2.17		mg/L		109	90 - 110
Sulfate	10.0	10.9		mg/L		109	90 - 110

Lab Sample ID: 310-267901-1 MS
Matrix: Water
Analysis Batch: 404805

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	11		25.0	35.4		mg/L		97	80 - 120
Fluoride	<0.38		5.00	5.22		mg/L		104	80 - 120
Sulfate	28		25.0	53.2		mg/L		102	80 - 120

Lab Sample ID: 310-267901-1 MSD
Matrix: Water
Analysis Batch: 404805

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	11		25.0	35.3		mg/L		97	80 - 120	0	15
Fluoride	<0.38		5.00	5.25		mg/L		105	80 - 120	0	15
Sulfate	28		25.0	52.8		mg/L		100	80 - 120	1	15

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-403919/1-A
Matrix: Water
Analysis Batch: 404261

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		2.0	1.0	ug/L		10/27/23 10:30	10/30/23 12:09	1
Arsenic	<0.53		2.0	0.53	ug/L		10/27/23 10:30	10/30/23 12:09	1
Barium	<0.64		2.0	0.64	ug/L		10/27/23 10:30	10/30/23 12:09	1
Beryllium	<0.33		1.0	0.33	ug/L		10/27/23 10:30	10/30/23 12:09	1
Boron	<76		100	76	ug/L		10/27/23 10:30	10/30/23 12:09	1
Cadmium	<0.10		0.20	0.10	ug/L		10/27/23 10:30	10/30/23 12:09	1
Calcium	<0.19		0.50	0.19	mg/L		10/27/23 10:30	10/30/23 12:09	1
Chromium	<1.1		5.0	1.1	ug/L		10/27/23 10:30	10/30/23 12:09	1
Cobalt	<0.17		0.50	0.17	ug/L		10/27/23 10:30	10/30/23 12:09	1
Iron	<36		100	36	ug/L		10/27/23 10:30	10/30/23 12:09	1
Lead	<0.24		0.50	0.24	ug/L		10/27/23 10:30	10/30/23 12:09	1
Lithium	<2.5		10	2.5	ug/L		10/27/23 10:30	10/30/23 12:09	1

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

Lab Sample ID: MB 310-403919/1-A
Matrix: Water
Analysis Batch: 404261

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	<150		500	150	ug/L		10/27/23 10:30	10/30/23 12:09	1
Manganese	<3.6		10	3.6	ug/L		10/27/23 10:30	10/30/23 12:09	1
Molybdenum	<0.91		2.0	0.91	ug/L		10/27/23 10:30	10/30/23 12:09	1
Potassium	<150		500	150	ug/L		10/27/23 10:30	10/30/23 12:09	1
Selenium	<1.4		5.0	1.4	ug/L		10/27/23 10:30	10/30/23 12:09	1
Sodium	<460		1000	460	ug/L		10/27/23 10:30	10/30/23 12:09	1
Thallium	<0.26		1.0	0.26	ug/L		10/27/23 10:30	10/30/23 12:09	1

Lab Sample ID: LCS 310-403919/2-A
Matrix: Water
Analysis Batch: 404261

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403919

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	200	211		ug/L		106	80 - 120
Arsenic	200	203		ug/L		101	80 - 120
Barium	100	98.8		ug/L		99	80 - 120
Beryllium	100	98.2		ug/L		98	80 - 120
Boron	200	184		ug/L		92	80 - 120
Cadmium	100	94.7		ug/L		95	80 - 120
Calcium	2.00	1.93		mg/L		96	80 - 120
Chromium	100	100		ug/L		100	80 - 120
Cobalt	100	103		ug/L		103	80 - 120
Iron	200	217		ug/L		108	80 - 120
Lead	200	206		ug/L		103	80 - 120
Lithium	200	199		ug/L		99	80 - 120
Magnesium	2000	1860		ug/L		93	80 - 120
Manganese	100	99.5		ug/L		100	80 - 120
Molybdenum	200	192		ug/L		96	80 - 120
Potassium	2000	1910		ug/L		95	80 - 120
Selenium	400	374		ug/L		93	80 - 120
Sodium	2000	1890		ug/L		95	80 - 120
Thallium	200	183		ug/L		91	80 - 120

Lab Sample ID: 310-267901-7 DU
Matrix: Water
Analysis Batch: 404261

Client Sample ID: MW-306A
Prep Type: Total/NA
Prep Batch: 403919

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<1.0		<1.0		ug/L		NC	20
Arsenic	3.0		2.93		ug/L		2	20
Barium	44		43.5		ug/L		0.8	20
Beryllium	<0.33		<0.33		ug/L		NC	20
Boron	1100		1040		ug/L		6	20
Cadmium	<0.10		<0.10		ug/L		NC	20
Calcium	160		162		mg/L		0.07	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	0.32	J	0.325	J	ug/L		0.6	20
Iron	1000		1030		ug/L		0.9	20
Lead	<0.24		<0.24		ug/L		NC	20

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

Lab Sample ID: 310-267901-7 DU — **Client Sample ID: MW-306A**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 404261 — **Prep Batch: 403919**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	39		40.1		ug/L		2	20
Magnesium	14000		13900		ug/L		1	20
Manganese	770		761		ug/L		1	20
Molybdenum	54		53.9		ug/L		0.4	20
Potassium	9600		9580		ug/L		0	20
Selenium	<1.4		<1.4		ug/L		NC	20
Sodium	27000		26800		ug/L		0.6	20
Thallium	<0.26		<0.26		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-404813/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405028 — **Prep Batch: 404813**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:32	11/06/23 10:26	1

Lab Sample ID: LCS 310-404813/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405028 — **Prep Batch: 404813**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.73		ug/L		104	80 - 120

Lab Sample ID: MB 310-404814/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405028 — **Prep Batch: 404814**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.14		0.20	0.14	ug/L		11/03/23 11:35	11/06/23 11:25	1

Lab Sample ID: LCS 310-404814/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405028 — **Prep Batch: 404814**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.76		ug/L		106	80 - 120

Method: SM 2320B - Alkalinity

Lab Sample ID: LCS 310-403899/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403899

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity as CaCO3	1000	913		mg/L		91	90 - 110

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 310-267901-7 DU
Matrix: Water
Analysis Batch: 403899

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	280		290		mg/L		2	
Carbonate Alkalinity as CaCO3	<2.5		<2.5		mg/L		NC	
Total Alkalinity as CaCO3	280		290		mg/L		2	10

Lab Sample ID: LCS 310-404150/2
Matrix: Water
Analysis Batch: 404150

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	920		mg/L		92	90 - 110

Lab Sample ID: 310-267901-14 DU
Matrix: Water
Analysis Batch: 404150

Client Sample ID: MW-313
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	180		201		mg/L		9	
Carbonate Alkalinity as CaCO3	<2.5		<2.5		mg/L		NC	
Total Alkalinity as CaCO3	180		201		mg/L		9	10

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

Lab Sample ID: MB 310-403562/1
Matrix: Water
Analysis Batch: 403562

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	<34		50	34	mg/L			10/24/23 13:07	1

Lab Sample ID: LCS 310-403562/2
Matrix: Water
Analysis Batch: 403562

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	992		mg/L		99	90 - 110

Lab Sample ID: 310-267901-3 DU
Matrix: Water
Analysis Batch: 403562

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	410		400		mg/L		3	20

Lab Sample ID: MB 310-403713/1
Matrix: Water
Analysis Batch: 403713

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	<34		50	34	mg/L			10/25/23 11:38	1

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

Lab Sample ID: LCS 310-403713/2
Matrix: Water
Analysis Batch: 403713

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	990		mg/L		99	90 - 110

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-403353/1
Matrix: Water
Analysis Batch: 403353

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-633551/1-A
Matrix: Water
Analysis Batch: 637735

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 633551

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.02089	U	0.0713	0.0713	1.00	0.136	pCi/L	10/26/23 07:15	11/21/23 09:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*95.7*		*30 - 110*	*10/26/23 07:15*	*11/21/23 09:17*	*1*

Lab Sample ID: LCS 160-633551/2-A
Matrix: Water
Analysis Batch: 637735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 633551

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium 226	11.3	11.29		1.22	1.00	0.149	pCi/L	100	75 - 125

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*92.9*		*30 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-633553/1-A
Matrix: Water
Analysis Batch: 637274

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 633553

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.6345		0.363	0.368	1.00	0.521	pCi/L	10/26/23 07:15	11/17/23 11:41	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Barium	*95.7*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*
Y Carrier	*81.1*		*30 - 110*	*10/26/23 07:15*	*11/17/23 11:41*	*1*

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

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

Lab Sample ID: LCS 160-633553/2-A
Matrix: Water
Analysis Batch: 637274

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 633553

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium 228			7.71	8.975		1.23	1.00	0.457	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Barium	*92.9*		*30 - 110*
Y Carrier	*83.0*		*30 - 110*

QC Association Summary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

HPLC/IC

Analysis Batch: 404805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	9056A	
310-267901-2	MW-302	Total/NA	Water	9056A	
310-267901-3	MW-303	Total/NA	Water	9056A	
310-267901-4	MW-304	Total/NA	Water	9056A	
310-267901-5	MW-305	Total/NA	Water	9056A	
310-267901-6	MW-306	Total/NA	Water	9056A	
310-267901-13	MW-312	Total/NA	Water	9056A	
310-267901-16	Field Blank	Total/NA	Water	9056A	
MB 310-404805/3	Method Blank	Total/NA	Water	9056A	
LCS 310-404805/4	Lab Control Sample	Total/NA	Water	9056A	
310-267901-1 MS	MW-301	Total/NA	Water	9056A	
310-267901-1 MSD	MW-301	Total/NA	Water	9056A	

Metals

Prep Batch: 403919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	3005A	
310-267901-2	MW-302	Total/NA	Water	3005A	
310-267901-3	MW-303	Total/NA	Water	3005A	
310-267901-4	MW-304	Total/NA	Water	3005A	
310-267901-5	MW-305	Total/NA	Water	3005A	
310-267901-6	MW-306	Total/NA	Water	3005A	
310-267901-7	MW-306A	Total/NA	Water	3005A	
310-267901-8	MW-307	Total/NA	Water	3005A	
310-267901-9	MW-308	Total/NA	Water	3005A	
310-267901-10	MW-309	Total/NA	Water	3005A	
310-267901-11	MW-310	Total/NA	Water	3005A	
310-267901-12	MW-311	Total/NA	Water	3005A	
310-267901-13	MW-312	Total/NA	Water	3005A	
310-267901-14	MW-313	Total/NA	Water	3005A	
310-267901-15	MW-314	Total/NA	Water	3005A	
310-267901-16	Field Blank	Total/NA	Water	3005A	
MB 310-403919/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-403919/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-267901-7 DU	MW-306A	Total/NA	Water	3005A	

Analysis Batch: 404261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	6020B	403919
310-267901-2	MW-302	Total/NA	Water	6020B	403919
310-267901-3	MW-303	Total/NA	Water	6020B	403919
310-267901-4	MW-304	Total/NA	Water	6020B	403919
310-267901-5	MW-305	Total/NA	Water	6020B	403919
310-267901-6	MW-306	Total/NA	Water	6020B	403919
310-267901-7	MW-306A	Total/NA	Water	6020B	403919
310-267901-8	MW-307	Total/NA	Water	6020B	403919
310-267901-9	MW-308	Total/NA	Water	6020B	403919
310-267901-10	MW-309	Total/NA	Water	6020B	403919
310-267901-11	MW-310	Total/NA	Water	6020B	403919
310-267901-12	MW-311	Total/NA	Water	6020B	403919

Metals (Continued)

Analysis Batch: 404261 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-13	MW-312	Total/NA	Water	6020B	403919
310-267901-14	MW-313	Total/NA	Water	6020B	403919
310-267901-15	MW-314	Total/NA	Water	6020B	403919
310-267901-16	Field Blank	Total/NA	Water	6020B	403919
MB 310-403919/1-A	Method Blank	Total/NA	Water	6020B	403919
LCS 310-403919/2-A	Lab Control Sample	Total/NA	Water	6020B	403919
310-267901-7 DU	MW-306A	Total/NA	Water	6020B	403919

Prep Batch: 404813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	7470A	
310-267901-2	MW-302	Total/NA	Water	7470A	
310-267901-3	MW-303	Total/NA	Water	7470A	
MB 310-404813/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-404813/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 404814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-4	MW-304	Total/NA	Water	7470A	
310-267901-5	MW-305	Total/NA	Water	7470A	
310-267901-6	MW-306	Total/NA	Water	7470A	
310-267901-13	MW-312	Total/NA	Water	7470A	
310-267901-16	Field Blank	Total/NA	Water	7470A	
MB 310-404814/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-404814/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 405028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	7470A	404813
310-267901-2	MW-302	Total/NA	Water	7470A	404813
310-267901-3	MW-303	Total/NA	Water	7470A	404813
310-267901-4	MW-304	Total/NA	Water	7470A	404814
310-267901-5	MW-305	Total/NA	Water	7470A	404814
310-267901-6	MW-306	Total/NA	Water	7470A	404814
310-267901-13	MW-312	Total/NA	Water	7470A	404814
310-267901-16	Field Blank	Total/NA	Water	7470A	404814
MB 310-404813/1-A	Method Blank	Total/NA	Water	7470A	404813
MB 310-404814/1-A	Method Blank	Total/NA	Water	7470A	404814
LCS 310-404813/2-A	Lab Control Sample	Total/NA	Water	7470A	404813
LCS 310-404814/2-A	Lab Control Sample	Total/NA	Water	7470A	404814

General Chemistry

Analysis Batch: 403353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-267901-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-267901-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-267901-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-267901-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-267901-6	MW-306	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 403353 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-13	MW-312	Total/NA	Water	SM 4500 H+ B	
310-267901-16	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-403353/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 403562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	SM 2540C	
310-267901-2	MW-302	Total/NA	Water	SM 2540C	
310-267901-3	MW-303	Total/NA	Water	SM 2540C	
310-267901-4	MW-304	Total/NA	Water	SM 2540C	
310-267901-5	MW-305	Total/NA	Water	SM 2540C	
310-267901-6	MW-306	Total/NA	Water	SM 2540C	
310-267901-16	Field Blank	Total/NA	Water	SM 2540C	
MB 310-403562/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-403562/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-267901-3 DU	MW-303	Total/NA	Water	SM 2540C	

Analysis Batch: 403713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-13	MW-312	Total/NA	Water	SM 2540C	
MB 310-403713/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-403713/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 403899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-7	MW-306A	Total/NA	Water	SM 2320B	
310-267901-10	MW-309	Total/NA	Water	SM 2320B	
310-267901-11	MW-310	Total/NA	Water	SM 2320B	
310-267901-12	MW-311	Total/NA	Water	SM 2320B	
310-267901-13	MW-312	Total/NA	Water	SM 2320B	
LCS 310-403899/25	Lab Control Sample	Total/NA	Water	SM 2320B	
310-267901-7 DU	MW-306A	Total/NA	Water	SM 2320B	

Analysis Batch: 404150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-14	MW-313	Total/NA	Water	SM 2320B	
310-267901-15	MW-314	Total/NA	Water	SM 2320B	
LCS 310-404150/2	Lab Control Sample	Total/NA	Water	SM 2320B	
310-267901-14 DU	MW-313	Total/NA	Water	SM 2320B	

Rad

Prep Batch: 633551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	PrecSep-21	
310-267901-2	MW-302	Total/NA	Water	PrecSep-21	
310-267901-3	MW-303	Total/NA	Water	PrecSep-21	
310-267901-4	MW-304	Total/NA	Water	PrecSep-21	
310-267901-5	MW-305	Total/NA	Water	PrecSep-21	
310-267901-6	MW-306	Total/NA	Water	PrecSep-21	
310-267901-13	MW-312	Total/NA	Water	PrecSep-21	

Rad (Continued)

Prep Batch: 633551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-16	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-633551/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-633551/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 633553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	PrecSep_0	
310-267901-2	MW-302	Total/NA	Water	PrecSep_0	
310-267901-3	MW-303	Total/NA	Water	PrecSep_0	
310-267901-4	MW-304	Total/NA	Water	PrecSep_0	
310-267901-5	MW-305	Total/NA	Water	PrecSep_0	
310-267901-6	MW-306	Total/NA	Water	PrecSep_0	
310-267901-13	MW-312	Total/NA	Water	PrecSep_0	
310-267901-16	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-633553/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-633553/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 405259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-267901-1	MW-301	Total/NA	Water	Field Sampling	
310-267901-2	MW-302	Total/NA	Water	Field Sampling	
310-267901-3	MW-303	Total/NA	Water	Field Sampling	
310-267901-4	MW-304	Total/NA	Water	Field Sampling	
310-267901-5	MW-305	Total/NA	Water	Field Sampling	
310-267901-6	MW-306	Total/NA	Water	Field Sampling	
310-267901-7	MW-306A	Total/NA	Water	Field Sampling	
310-267901-8	MW-307	Total/NA	Water	Field Sampling	
310-267901-9	MW-308	Total/NA	Water	Field Sampling	
310-267901-10	MW-309	Total/NA	Water	Field Sampling	
310-267901-11	MW-310	Total/NA	Water	Field Sampling	
310-267901-12	MW-311	Total/NA	Water	Field Sampling	
310-267901-13	MW-312	Total/NA	Water	Field Sampling	
310-267901-14	MW-313	Total/NA	Water	Field Sampling	
310-267901-15	MW-314	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-301
Lab Sample ID: 310-267901-1
Date Collected: 10/18/23 13:20
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	404805	QTZ5	EET CF	11/02/23 13:31
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 13:01
Total/NA	Prep	7470A			404813	NFT2	EET CF	11/03/23 11:33
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:19
Total/NA	Analysis	SM 2540C		1	403562	DGU1	EET CF	10/24/23 13:07
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:11
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:17
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/18/23 13:20

Client Sample ID: MW-302
Lab Sample ID: 310-267901-2
Date Collected: 10/18/23 15:05
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	404805	QTZ5	EET CF	11/02/23 14:08
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 13:05
Total/NA	Prep	7470A			404813	NFT2	EET CF	11/03/23 11:33
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:21
Total/NA	Analysis	SM 2540C		1	403562	DGU1	EET CF	10/24/23 13:07
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:12
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:17
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/18/23 15:05

Client Sample ID: MW-303
Lab Sample ID: 310-267901-3
Date Collected: 10/20/23 13:40
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	404805	QTZ5	EET CF	11/02/23 14:21
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 13:08
Total/NA	Prep	7470A			404813	NFT2	EET CF	11/03/23 11:33
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:23
Total/NA	Analysis	SM 2540C		1	403562	DGU1	EET CF	10/24/23 13:07

Lab Chronicle

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-303
Lab Sample ID: 310-267901-3
Date Collected: 10/20/23 13:40
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:13
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:17
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/20/23 13:40

Client Sample ID: MW-304
Lab Sample ID: 310-267901-4
Date Collected: 10/20/23 09:25
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	404805	QTZ5	EET CF	11/02/23 14:33
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 13:11
Total/NA	Prep	7470A			404814	NFT2	EET CF	11/03/23 11:35
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:30
Total/NA	Analysis	SM 2540C		1	403562	DGU1	EET CF	10/24/23 13:07
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:14
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:17
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/20/23 09:25

Client Sample ID: MW-305
Lab Sample ID: 310-267901-5
Date Collected: 10/20/23 10:40
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	404805	QTZ5	EET CF	11/02/23 14:46
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 13:14
Total/NA	Prep	7470A			404814	NFT2	EET CF	11/03/23 11:35
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:32
Total/NA	Analysis	SM 2540C		1	403562	DGU1	EET CF	10/24/23 13:07
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:15
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:17
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31

Lab Chronicle

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-305
Lab Sample ID: 310-267901-5
Date Collected: 10/20/23 10:40
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/20/23 10:40

Client Sample ID: MW-306
Lab Sample ID: 310-267901-6
Date Collected: 10/19/23 10:15
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	404805	QTZ5	EET CF	11/02/23 14:59
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 13:17
Total/NA	Prep	7470A			404814	NFT2	EET CF	11/03/23 11:35
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:38
Total/NA	Analysis	SM 2540C		1	403562	DGU1	EET CF	10/24/23 13:07
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:16
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:18
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:43
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/19/23 10:15

Client Sample ID: MW-306A
Lab Sample ID: 310-267901-7
Date Collected: 10/18/23 17:00
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 13:21
Total/NA	Analysis	SM 2320B		1	403899	MAQ3	EET CF	10/25/23 18:18
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/18/23 17:00

Client Sample ID: MW-307
Lab Sample ID: 310-267901-8
Date Collected: 10/18/23 12:15
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:02
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/18/23 12:15

Lab Chronicle

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-308
Lab Sample ID: 310-267901-9
Date Collected: 10/18/23 16:15
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:15
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/18/23 16:15

Client Sample ID: MW-309
Lab Sample ID: 310-267901-10
Date Collected: 10/20/23 12:50
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:30
Total/NA	Analysis	SM 2320B		1	403899	MAQ3	EET CF	10/25/23 18:37
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/20/23 12:50

Client Sample ID: MW-310
Lab Sample ID: 310-267901-11
Date Collected: 10/20/23 12:15
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:33
Total/NA	Analysis	SM 2320B		1	403899	MAQ3	EET CF	10/25/23 18:46
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/20/23 12:15

Client Sample ID: MW-311
Lab Sample ID: 310-267901-12
Date Collected: 10/20/23 11:40
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:36
Total/NA	Analysis	SM 2320B		1	403899	MAQ3	EET CF	10/25/23 18:54
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/20/23 11:40

Client Sample ID: MW-312
Lab Sample ID: 310-267901-13
Date Collected: 10/19/23 11:15
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	404805	QTZ5	EET CF	11/02/23 15:36
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:39
Total/NA	Prep	7470A			404814	NFT2	EET CF	11/03/23 11:35
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:40
Total/NA	Analysis	SM 2320B		1	403899	MAQ3	EET CF	10/25/23 19:03

Lab Chronicle

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: MW-312
Lab Sample ID: 310-267901-13
Date Collected: 10/19/23 11:15
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	403713	DGU1	EET CF	10/25/23 12:25
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:17
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:18
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:43
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/19/23 11:15

Client Sample ID: MW-313
Lab Sample ID: 310-267901-14
Date Collected: 10/19/23 12:10
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:43
Total/NA	Analysis	SM 2320B		1	404150	MAQ3	EET CF	10/27/23 12:40
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/19/23 12:10

Client Sample ID: MW-314
Lab Sample ID: 310-267901-15
Date Collected: 10/19/23 12:55
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:46
Total/NA	Analysis	SM 2320B		1	404150	MAQ3	EET CF	10/27/23 12:57
Total/NA	Analysis	Field Sampling		1	405259	BJ0R	EET CF	10/19/23 12:55

Client Sample ID: Field Blank
Lab Sample ID: 310-267901-16
Date Collected: 10/20/23 14:00
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	404805	QTZ5	EET CF	11/02/23 15:49
Total/NA	Prep	3005A			403919	KCK5	EET CF	10/27/23 10:30
Total/NA	Analysis	6020B		1	404261	A6US	EET CF	10/30/23 14:49
Total/NA	Prep	7470A			404814	NFT2	EET CF	11/03/23 11:35
Total/NA	Analysis	7470A		1	405028	NFT2	EET CF	11/06/23 11:42
Total/NA	Analysis	SM 2540C		1	403562	DGU1	EET CF	10/24/23 13:07
Total/NA	Analysis	SM 4500 H+ B		1	403353	W9YR	EET CF	10/23/23 18:18
Total/NA	Prep	PrecSep-21			633551	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	903.0		1	637608	FLC	EET SL	11/21/23 09:19

Lab Chronicle

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Client Sample ID: Field Blank
Lab Sample ID: 310-267901-16
Date Collected: 10/20/23 14:00
Matrix: Water
Date Received: 10/23/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep_0			633553	ASG	EET SL	10/26/23 07:15
Total/NA	Analysis	904.0		1	637274	FLC	EET SL	11/17/23 11:43
Total/NA	Analysis	Ra226_Ra228 Pos		1	637779	SCB	EET SL	11/21/23 15:31

Laboratory References:

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

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

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	11-15-23

Laboratory: Eurofins St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-24
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-24
HI - RadChem Recognition	State	n/a	06-30-24
Illinois	NELAP	200023	11-30-24
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-24
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-24
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-24
Massachusetts	State	M-MO054	06-30-24
MI - RadChem Recognition	State	9005	06-30-24
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-24
New Jersey	NELAP	MO002	06-30-24
New Mexico	State	MO00054	06-30-24
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-24
North Dakota	State	R-207	06-30-24
Oklahoma	NELAP	9997	08-31-24
Oregon	NELAP	4157	09-01-24
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-24
Texas	NELAP	T104704193	07-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-24
Virginia	NELAP	10310	06-15-25
Washington	State	C592	08-30-24
West Virginia DEP	State	381	12-31-23

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

Method Summary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7470A	Mercury (CVAA)	SW846	EET CF
SM 2320B	Alkalinity	SM	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
Ra226_Ra228 Pos	Combined Radium-226 and Radium-228	TAL-STL	EET SL
Field Sampling	Field Sampling	EPA	EET CF
3005A	Preparation, Total Metals	SW846	EET CF
7470A	Preparation, Mercury	SW846	EET CF
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

eurofins | Environment Testing America

310-267901 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10/23/23 | TIME 1600 | Received By: EM

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

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☒ No	*If yes:* Cooler # 1 of 2
Cooler Custody Seals Present? No	☐ Yes	☒ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present? No	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

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

Thermometer ID: 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): 3.1 | Corrected Temp (°C): 3.1

• **Sample Container Temperature**

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

eurofins | Environment Testing America

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: SCS

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 10/23/23 | TIME 1600 | Received By: EM

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

Condition of Cooler/Containers

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

Temperature Record

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

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

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

Uncorrected Temp (°C): 3.6 | Corrected Temp (°C): 3.6

• **Sample Container Temperature**

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

Exceptions Noted

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

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

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

Chain of Custody Record

eurofins

Client Information	Sampler: SEAN MARCZEWSKI	Lab PM: Sandie Fredrick	Carrier Tracking No(s):	COC No
Client Contact: Meghan Blodgett	Phone: 712-661-9632	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25223076			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Sutherland Generating Station 25223076	Project #: 25223076			
Site: Marshalltown IA	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 Metals total (Sb As Ba Be B Ca Cd Cr Co Fe Pb Li Mo Se Tl)	7470 Mercury total	6020 metals total (Fe and Li)	6020 metals total (Ca Mg Mn K Na)	TDS and pH	Chloride Fluoride Sulfate	EPA 903/904 Radium 226 + 228	Bicarbonate & carbonate alkalinity	Total Number of containers	Special Instructions/Note
			Preservation Code.				D	D	D	I	I	I	D	I		
MW-301	10-18-23	13:20	G	W	N		X	X			X	X	X			
MW-302	10-18-23	15:05	G	W	N		X	X			X	X	X			
MW-303	10-20-23	13:40	G	W	N		X	X			X	X	X			
MW-304	10-20-23	9'25	G	W	N		X	X			X	X	X			
MW-305	10-20-23	10 40	G	W	N		X	X			X	X	X			
MW-306	10-19-23	10:15	G	W	N		X	X			X	X	X			
MW-306A	10-18-23	17 00	G	W	N				X	X				X		
MW-307	10-18-23	12:15	G	W	N				X							
MW-308	10-18-23	16:15	G	W	N				X							
MW-309	10-20-23	12:50	G	W	N				X	X				X		
MW-310	10-20-23	12:15	G	W	N				X	X				X		

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		10-23-23 13 00	SCS			
	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
	Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
					10/23/23 1600	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks

Ver: 01/16/2019

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

Chain of Custody Record

eurofins Environment Testing Am

Client Information	Sampler: SEAN MARCZEWSKI	Lab PM: Sandie Fredrick	Carrier Tracking No(s)	COC No
Client Contact: Meghan Blodgett	Phone: 712-661-9632	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin	Page: Page 1 of 1
Company: SCS Engineers	PWSID:			Job #:
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-224-2830	PO #: 25223076			
Email: mblodgett@scsengineers.com	WO #:			
Project Name: Sutherland Generating Station 25223076	Project #: 25223076			
Site: Marshalltown IA	SSOW#:			

Analysis Requested

Preservation Codes

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 Metals total (Sb As Ba Be B Ca Cd Cr Co Fe Pb Li Mo Se Tl)	7470 Mercury total	6020 metals total (Fe and Li)	6020 metals total (Ca Mg Mn K Na)	TDS and pH	Chloride Fluoride Sulfate	EPA 903/904 Radium 226 + 228	Bicarbonate & carbonate alkalinity	Total Number of containers	Special Instructions/Note
			Preservation Code				D	D	D	I	I	I	D	I		
MW-311	10-20-23	11 40	G	W	N				X	X				X		
MW-312	10-19-23	11:15	G	W	N		X	X		X	X	X	X	X		
MW-313	10-19-23	12:10	G	W	N				X	X				X		
MW-314	10-19-23	12:55	G	W	N				X	X				X		
Field Blank	10 20-23	14.00	G	W	N		X	X			X	X	X			

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

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

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Sean Marczewski	10 23-23 13.00	SCS			
Relinquished by:	Date/Time:	Company	Received by	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by FM	Date/Time: 10/23/23 1600	Company

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

Ver: 01/16/2019

Table 1. Sampling Points and Parameters CCR Rule Sampling Program
Groundwater Monitoring Sutherland Generating Station/ SCS Engineers Project #25223076

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-306A	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312	MW-313	MW-314	Field Blank	TOTAL
Appendix III & IV Parameters	Total (Unfiltered)	Boron	x	x	x	x	x	x							x			x	8
		Calcium	x	x	x	x	x	x	x			x	x	x	x	x	x	x	14
		Chloride	x	x	x	x	x	x							x			x	8
		Fluoride	x	x	x	x	x	x							x			x	8
		pH	x	x	x	x	x	x							x			x	8
		Sulfate	x	x	x	x	x	x							x			x	8
		TDS	x	x	x	x	x	x							x			x	8
		Antimony	x	x	x	x	x	x							x			x	8
		Arsenic	x	x	x	x	x	x							x			x	8
		Barium	x	x	x	x	x	x							x			x	8
		Beryllium	x	x	x	x	x	x							x			x	8
		Cadmium	x	x	x	x	x	x							x			x	8
		Chromium	x	x	x	x	x	x							x			x	8
		Cobalt	x	x	x	x	x	x							x			x	8
		Fluoride	x	x	x	x	x	x							x			x	8
		Lead	x	x	x	x	x	x							x			x	8
		Lithium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
		Mercury	x	x	x	x	x	x							x			x	8
		Molybdenum	x	x	x	x	x	x							x			x	8
		Selenium	x	x	x	x	x	x							x			x	8
		Thallium	x	x	x	x	x	x							x			x	8
		Radium	x	x	x	x	x	x							x			x	8
MNA Parameters	Total (Unfiltered)	Alkalinity - Carbonate							x			x	x	x	x	x	x		7
		Alkalinity - Bicarbonate							x			x	x	x	x	x	x		7
		Iron	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Magnesium							x			x	x	x	x	x	x		7
		Manganese							x			x	x	x	x	x	x		7
		Potassium							x			x	x	x	x	x	x		7
		Sodium							x			x	x	x	x	x	x		7
Field Parameters		Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		pH (field)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Specific Conductance	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		ORP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Temperature	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Turbidity (NTU)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Color	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15
		Odor	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		15

Notes.

I \25223076.00\Data and Calculations\Field Work Requests\October 2023\[IPL_Sutherland Generating Station_CCR_Rule_Sampling_2310.xls]Sheet1

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

Chain of Custody Record

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 310-66643.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sandra.Fredrick@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Iowa		Job #: 310-267901-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/6/2023			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 31011020			
Project Name: Sutherland Generating Station 25223076	SSOW#:			
Site:				

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Radium-226 (GFPC)	904.0/PrecSep_0 Radium-228 (GFPC)	Ra226_228GFPC_P/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-301 (310-267901-1)	10/18/23	13:20 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-302 (310-267901-2)	10/18/23	15:05 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-303 (310-267901-3)	10/20/23	13:40 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-304 (310-267901-4)	10/20/23	09:25 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-305 (310-267901-5)	10/20/23	10:40 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-306 (310-267901-6)	10/19/23	10:15 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-312 (310-267901-13)	10/19/23	11:15 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS
Field Blank (310-267901-16)	10/20/23	14:00 Central		Water			X	X	X	2	DO NOT SHIP ON ICE TO ST. LOUIS

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification: 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
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time: 10/23/23 1110	Company	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: M. Pinette	Date/Time: OCT 25 2023 1050	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-267901-1
SDG Number:

Login Number: 267901
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-267901-1
SDG Number:

Login Number: 267901
List Number: 2
Creator: Pinette, Meadow L

List Source: Eurofins St. Louis
List Creation: 10/25/23 02:53 PM

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

Tracer/Carrier Summary

Client: SCS Engineers
Job ID: 310-267901-1
Project/Site: Sutherland Generating Station 25223076

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (30-110)
310-267901-1	MW-301	77.6
310-267901-2	MW-302	82.9
310-267901-3	MW-303	71.3
310-267901-4	MW-304	81.4
310-267901-5	MW-305	71.8
310-267901-6	MW-306	79.8
310-267901-13	MW-312	77.6
310-267901-16	Field Blank	89.4
LCS 160-633551/2-A	Lab Control Sample	92.9
MB 160-633551/1-A	Method Blank	95.7

Tracer/Carrier Legend

Ba = Barium

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
310-267901-1	MW-301	77.6	78.9
310-267901-2	MW-302	82.9	81.5
310-267901-3	MW-303	71.3	84.5
310-267901-4	MW-304	81.4	83.4
310-267901-5	MW-305	71.8	77.0
310-267901-6	MW-306	79.8	85.2
310-267901-13	MW-312	77.6	83.7
310-267901-16	Field Blank	89.4	84.5
LCS 160-633553/2-A	Lab Control Sample	92.9	83.0
MB 160-633553/1-A	Method Blank	95.7	81.1

Tracer/Carrier Legend

Ba = Barium
Y = Y Carrier

Groundwater Monitoring Results - Field Parameters
Sutherland Generating Station / SCS Engineers Project #25223076.00
October 2023

Sample	Sample Date	GW Elevation (feet amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-301	10/18/2023	851.34	17.5	6.12	1.52	498.5	128.6	17.97
MW-302	10/18/2023	851.44	14.4	7.03	0.65	525.0	10.7	8.67
MW-303	10/20/2023	849.47	15.0	7.28	1.22	741	8.9	5.33
MW-304	10/20/2023	849.24	12.2	7.19	0.99	775	107.6	5.09
MW-305	10/20/2023	849.27	14.2	7.48	0.64	911	29.3	6.19
MW-306	10/19/2023	849.22	13.6	7.72	0.60	933	27.1	6.60
MW-306A	10/18/2023	849.60	14.1	7.35	0.69	1016	-59.2	15.20
MW-307	10/18/2023	850.32	14.2	6.58	0.71	991	29.8	10.82
MW-308	10/18/2023	850.64	13.8	6.80	0.61	981	28.5	4.96
MW-309	10/20/2023	848.35	11.5	7.41	0.92	1128	83.8	36.02
MW-310	10/20/2023	848.13	12.3	7.30	1.81	1123	82.1	8.17
MW-311	10/20/2023	847.99	13.9	7.16	1.62	1075	93.7	7.50
MW-312	10/19/2023	849.64	14.4	7.52	1.30	934	7.5	10.00
MW-313	10/19/2023	849.41	12.7	7.21	1.30	1076	39.0	13.24
MW-314	10/19/2023	849.05	13.4	7.15	2.14	1195	78.3	26.17

Abbreviations:
mg/L = milligrams per liter mV = millivolts amsl = above mean sea level NM - Not Measured

Notes:
None

Created by:	NDK	Date:	10/13/2022
Last revision by:	BAS	Date:	11/6/2023
Checked by:	RM	Date:	11/6/2023

C:\Users\hld0\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\USG3GGGC\[2310_Sutherland_CCR_Field.xlsx]GW Field Parameters

Appendix D

Historical Monitoring Results

MW-301

Name: IPL - Sutherland Generating Station

Location ID: MW-301
Number of Sampling Date20

Parameter Name	Units	3/27/2018	5/23/2018	6/26/2018	7/26/2018	9/11/2018	11/28/2018	1/9/2019	2/12/2019	4/2/2019	10/16/2019	12/11/2019	2/3/2020	4/7/2020	10/13/2020	4/6/2021	10/26/2021	4/22/2022	10/12/2022	4/11/2023	10/18/2023
Boron	ug/L	246	189	274	212	234	188	82.7	97.3	<110	170	<110	120	<100	370	76	62	<58	71	77	<76
Calcium	mg/L	71.2	85.9	59.5	83.1	89.8	78.8	88.7	84.2	82	82	75	82	78	100	70	81	50	55	69	63
Chloride	mg/L	15.5	46.2	6	58.6	38.2	37.5	51.4	42.1	39	37	16	28	21	71	85	9	2.4	8.9	18	11
Field pH	Std. Units	6.84	7.62	7.5	6.46	6.82	6.6	6.83	6.85	7.16	6.97	6.69	6.79	6.87	6.66	6.69	6.21	6.23	6.5	6.59	6.12
Fluoride	mg/L	0.15	0.22	0.26	0.27	0.2	0.2	<0.19	<0.19	0.5	0.27	<0.23	--	0.41	<0.23	2.5	<0.28	<0.22	<0.22	<0.38	<0.38
Sulfate	mg/L	79	78.1	46.9	73.4	71.9	61.9	60.9	63	46	28	29	32	17	98	160	83	33	22	46	28
Total Dissolved Solids	mg/L	399	489	326	433	439	426	418	420	400	340	360	380	330	540	260	200	150	260	290	270
Antimony	ug/L	0.13	0.18	0.27	<0.15	0.78	<0.078	0.33	0.2	--	--	<0.53	--	<0.58	--	<1.1	<1.1	<0.69	<0.69	<1	<1
Arsenic	ug/L	0.45	2.4	1.6	1.4	16.2	0.84	0.95	1.6	--	--	<0.75	<0.88	<0.88	<0.88	<0.75	<0.75	<0.75	<0.75	0.77	<0.53
Barium	ug/L	98	254	137	324	1110	140	135	132	--	--	130	120	240	110	59	130	86	45	56	43
Beryllium	ug/L	0.014	0.3	<0.12	0.48	1.3	<0.089	0.17	0.16	--	--	<0.27	--	0.33	<0.27	<0.27	<0.27	<0.27	<0.27	<0.33	<0.33
Cadmium	ug/L	0.037	0.11	<0.07	0.28	0.6	0.053	0.11	0.11	--	--	0.086	0.047	0.17	0.077	<0.051	0.08	<0.055	0.081	0.18	<0.1
Chromium	ug/L	2.2	3.5	2.6	1.7	20.8	0.5	0.9	2	--	--	<0.98	--	1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	0.43	3.8	1.6	3.5	21.7	1.1	0.93	2.6	--	--	0.99	0.75	1.6	0.28	0.18	0.24	0.63	0.25	0.47	0.24
Lead	ug/L	0.33	2.5	1.5	1.6	19.1	0.58	0.73	2	--	--	0.46	0.34	0.5	<0.11	<0.21	0.52	0.26	<0.24	0.38	<0.24
Lithium	ug/L	6.5	<4.6	6.2	11.4	12.6	<4.6	<4.6	7.7	--	--	3.5	2.7	3.4	3.2	2.5	2.8	3	3.3	2.8	3.1
Mercury	ug/L	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.037	--	--	<0.1	--	<0.1	--	<0.15	<0.15	<0.11	--	<0.14	<0.14
Molybdenum	ug/L	4.4	1.4	8.5	0.44	13.6	<0.57	0.99	3.6	--	--	<1.1	<1.1	<1.1	2.5	<1.3	<1.3	<1.2	<1.2	1.9	<0.91
Selenium	ug/L	2.7	3.3	2.3	5.8	8.3	1.8	1.2	0.81	--	--	<1	--	<1	--	<0.96	2.8	1.3	11	6.8	3.8
Thallium	ug/L	<0.036	<0.14	<0.14	<0.14	0.43	<0.099	<0.099	0.11	--	--	<0.27	--	<0.26	--	<0.26	<0.26	<0.26	<0.26	0.97	<0.26
Total Radium	pCi/L	0.18	0.429	0.637	3.32	2.53	0.875	1.79	1.1	--	--	1.06	0.388	0.291	0.463	0.256	1.07	0.244	0.739	0.00562	0.957
Radium-226	pCi/L	-0.171	0	0.342	0.713	1.58	0.51	0.915	0.462	--	--	0.083	0.0951	0.291	0.0851	0.168	0.427	0.136	-0.00272	0.00562	0.044
Radium-228	pCi/L	0.18	0.429	0.295	2.61	0.949	0.365	0.876	0.638	--	--	0.973	0.293	-0.02	0.378	0.0882	0.642	0.107	0.739	-0.123	0.913
pH at 25 Degrees C	Std. Units	7	6.8	7.4	6.8	6.7	7	6.9	7.2	7.1	7.2	7	7.3	6.8	6.8	7	6.2	6.4	7.1	7	6.7
Field Specific Conductance	umhos/cm	645.7	738	518	673	688	459	417	601	618	642	550	651	583.7	906	502	485	282.4	388.3	461.5	498.5
Field Temperature	deg C	7.1	10.8	14.6	14.9	19.2	13.61	8.88	5.8	4.89	17.84	12.4	9.54	11	17.8	9.9	14.3	8.9	15.6	8.8	17.5
Oxygen, Dissolved	mg/L	0.32	0.57	3.07	0.29	0.24	0.37	0.48	0.37	1.48	0.16	0.34	3.24	0.13	0.11	0.16	1.44	0.98	-0.04	0.38	1.52
Field Oxidation Potential	millivolts	62.7	185	227	159	117.4	-76.2	74.1	75.8	58.7	34.7	84.1	61.7	143.1	30	180.2	148.3	139.7	172.5	134.1	128.6
Groundwater Elevation	ft	855.23	855.45	856.24	855.96	857.41	856.99	856.85	856.59	857.33	856.15	857.05	856.24	856.16	854.44	854.38	852.42	853.87	851.98	854.2	851.34
Turbidity	NTU	11.6	73.98	35.03	240.2	410.3	112	172	56.09	65	11.4	51.94	19.1	68.5	19.1	25.1	110	40.7	0	36.2	17.97
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	250	220	--	190	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4.6	<4.6	--	<4.6	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120	170	--	150	340	220
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21000	16000	--	15000	--	--
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1700	1600	--	1800	--	--
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7900	13000	--	12000	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	250	220	--	190	--	--
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2000	1000	--	2400	--	--
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<36	--	--
Magnesium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16000	--	--
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2200	--	--

MW-302

Name: IPL - Sutherland Generating Station

Location ID: MW-302
Number of Sampling Date20

Parameter Name	Units	3/27/2018	5/23/2018	6/26/2018	7/26/2018	9/11/2018	11/28/2018	1/9/2019	2/12/2019	4/2/2019	10/16/2019	12/12/2019	2/3/2020	4/7/2020	10/13/2020	4/6/2021	10/26/2021	4/22/2022	10/10/2022	4/10/2023	10/18/2023
Boron	ug/L	58.4	53.7	65.3	53.8	22.4	36.6	36.7	31.5	<110	<110	<110	<100	<100	<80	67	<58	71	<58	<76	<76
Calcium	mg/L	67.4	67.3	69.9	80.3	77.9	65	65.4	61.7	63	57	58	56	71	71	80	95	77	68	87	71
Chloride	mg/L	14	9.4	12.4	10.7	10.1	5.5	4.5	5.3	5.6	5.5	4.7	3.8	5.2	5.6	85	7.2	17	5.8	22	6.1
Field pH	Std. Units	7.2	7.31	7.3	6.99	7.3	7.2	7.34	7.21	7.5	7.22	6.98	7.31	7.36	7.43	6.96	7.3	7.11	7.17	7.03	7.03
Fluoride	mg/L	0.24	0.24	0.21	0.24	0.24	0.22	0.2	0.21	0.6	0.28	<0.23	--	0.55	0.3	2.5	<0.28	<0.22	<0.22	<0.38	<0.38
Sulfate	mg/L	68.5	41.3	56	58.7	52.5	25.5	21.9	21.2	20	19	14	17	14	12	180	43	91	16	110	18
Total Dissolved Solids	mg/L	309	322	352	360	356	272	255	256	270	200	240	250	250	260	300	270	320	270	380	270
Antimony	ug/L	0.41	2.8	0.68	0.29	0.31	0.26	0.59	0.22	--	--	<0.53	--	<0.58	--	<1.1	<1.1	0.69	<0.69	<1	<1
Arsenic	ug/L	1.4	5.8	8.5	10.2	8.5	5.9	10.8	2.8	--	--	6.1	19	5.3	4.6	3	7.4	21	4.5	3.9	3.8
Barium	ug/L	93.6	105	124	132	117	112	108	83.7	--	--	81	100	97	100	130	140	170	88	110	96
Beryllium	ug/L	<0.012	<0.12	0.19	<0.12	<0.12	<0.089	<0.089	<0.089	--	--	<0.27	--	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.33	<0.33
Cadmium	ug/L	0.028	<0.07	<0.07	<0.07	<0.07	<0.033	0.054	<0.033	--	--	<0.039	<0.039	<0.039	<0.049	<0.051	<0.051	<0.055	<0.055	0.11	<0.1
Chromium	ug/L	0.35	<0.19	0.26	0.25	0.26	0.22	0.45	0.14	--	--	<0.98	--	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	1.8	3.5	5.7	3.4	4.2	8.4	5	6.2	--	--	1.3	3.7	1.7	0.77	4.7	1.6	6.3	1.8	1.5	1.8
Lead	ug/L	0.19	<0.12	<0.12	0.15	<0.12	0.34	0.17	<0.13	--	--	<0.27	<0.27	<0.27	<0.11	<0.21	0.31	<0.24	<0.24	<0.24	<0.24
Lithium	ug/L	5.2	<4.6	<4.6	7.8	<4.6	<4.6	<4.6	7.5	--	--	2.8	<2.3	<2.3	2.8	2.8	2.9	2.5	2.8	2.8	2.8
Mercury	ug/L	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.037	--	--	<0.1	--	<0.1	--	<0.15	<0.15	<0.11	--	<0.14	<0.14
Molybdenum	ug/L	1.2	1.2	0.68	1	1.2	<0.57	1.3	0.76	--	--	<1.1	<1.1	<1.1	<1.1	<1.3	<1.3	<1.2	<1.2	0.91	<0.91
Selenium	ug/L	8	1	3.9	0.56	0.58	0.73	0.88	0.67	--	--	<1	--	<1	--	2.5	1.3	22	<0.96	12	<1.4
Thallium	ug/L	<0.036	<0.14	<0.14	<0.14	<0.14	<0.099	<0.099	<0.099	--	--	<0.27	--	<0.26	--	<0.26	<0.26	<0.26	<0.26	1.3	<0.26
Total Radium	pCi/L	0.304	0.926	0.68	0.856	1.59	1.47	1.96	0.943	--	--	0.828	0.808	0.547	0.58	0.6	0.614	0.663	1.14	0.548	0.788
Radium-226	pCi/L	0	0.392	-0.084	0.341	0.758	1.03	0.926	0.196	--	--	0.294	0.299	0.171	0.214	0.294	0.331	0.124	0.194	0.0634	0.0592
Radium-228	pCi/L	0.304	0.534	0.68	0.515	0.829	0.436	1.03	0.747	--	--	0.534	0.509	0.376	0.365	0.306	0.283	0.539	0.945	0.485	0.729
pH at 25 Degrees C	Std. Units	7.4	7.5	7.5	7.1	6.9	7.6	7.3	7.4	7.5	7.6	7.5	7.5	7.3	7.4	7.2	7.2	7.1	7.6	7.3	7.1
Field Specific Conductance	umhos/cm	546.5	527	603	623	593	319	302	393.6	437	431	394	464	456.2	463.6	581	624	538.8	472.6	571.1	525
Field Temperature	deg C	7.4	9.9	11.8	12.4	13.9	11.96	10.73	9.7	9.53	12.8	11	9.42	11.3	13.2	9.3	13.2	8.2	13.2	8.9	14.4
Oxygen, Dissolved	mg/L	2.39	0.1	0.3	0.16	0.26	0.21	0.17	0.13	0.79	0.24	0.46	0.95	0.14	0.11	0.49	1.34	3.76	-0.1	1.99	0.65
Field Oxidation Potential	millivolts	79.3	-89	-51	-102	-58.3	-98	5.8	-42.7	10	-32.9	-45.9	5.6	-80.4	-103.6	161.9	146.4	123.3	2.6	59.7	10.7
Groundwater Elevation	ft	855.97	855.32	856.55	855.75	857.06	856.74	856.82	856.43	857.12	855.3	856.11	856.59	856.23	854.38	854.85	852.68	855.04	851.94	854.63	851.44
Turbidity	NTU	5.9	17.12	2.85	10.83	3.03	31.7	22.5	4.7	12.9	4.9	5.12	2.87	6.32	3.7	2.69	23.2	16.3	83.99	5.39	8.67
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280	400	--	380	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4.6	<4.6	--	<4.6	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	210	1000	--	650	370	410
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25000	26000	--	20000	--	--
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320	440	--	330	--	--
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12000	9200	--	4300	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280	400	--	380	--	--
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	590	1000	--	970	--	--
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	270	--	--
Magnesium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23000	--	--
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	910	--	--

MW-303

Name: IPL - Sutherland Generating Station

Location ID: MW-303
Number of Sampling Date20

Parameter Name	Units	3/27/2018	5/23/2018	6/26/2018	7/26/2018	9/11/2018	11/28/2018	1/9/2019	2/12/2019	4/2/2019	10/16/2019	12/12/2019	2/3/2020	4/7/2020	10/13/2020	4/6/2021	10/26/2021	4/22/2022	10/10/2022	4/10/2023	10/20/2023
Boron	ug/L	619	799	989	852	597	696	609	737	730	740	570	440	530	710	360	400	130	410	240	360
Calcium	mg/L	265	116	106	113	109	134	206	160	140	120	130	160	110	120	80	87	28	79	79	93
Chloride	mg/L	22.8	25.5	24	29.6	32.9	29.2	25.8	28	28	12	15	12	11	14	81	3.8	<2.3	12	4.6	11
Field pH	Std. Units	7.19	8.92	7.89	7.33	7.82	7.2	6.96	7.02	7.29	6.97	6.82	6.84	7.17	7.12	7.04	6.84	7.3	7.44	7.1	7.28
Fluoride	mg/L	0.49	0.54	0.46	0.56	0.51	0.56	0.41	0.5	0.85	0.55	<0.23	--	0.68	0.44	2.7	<0.28	<0.22	<0.22	0.39	<0.38
Sulfate	mg/L	745	208	185	474	195	348	482	377	330	310	270	350	210	190	250	160	33	55	150	89
Total Dissolved Solids	mg/L	1360	658	658	597	628	797	1080	852	800	660	740	830	570	610	340	300	100	350	430	410
Antimony	ug/L	0.072	<0.15	<0.15	<0.15	0.18	<0.078	0.16	0.1	--	--	<0.53	--	<0.58	--	<1.1	<1.1	<0.69	<0.69	<1	<1
Arsenic	ug/L	0.11	1.3	2.5	2	2.2	1.3	0.91	1.1	--	--	0.82	<0.88	<0.88	1.6	0.96	4.8	1.9	2.5	0.58	2
Barium	ug/L	66.9	31.7	32.6	37.4	33.9	48.4	63.4	57.7	--	--	47	55	41	65	39	91	36	48	46	53
Beryllium	ug/L	<0.012	<0.12	0.83	<0.12	<0.12	<0.089	<0.089	<0.089	--	--	<0.27	--	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.33	<0.33
Cadmium	ug/L	0.14	<0.07	0.073	<0.07	0.093	<0.033	0.084	0.037	--	--	<0.039	<0.039	0.2	<0.049	0.086	0.16	0.29	0.062	<0.1	<0.1
Chromium	ug/L	0.086	<0.19	0.23	<0.19	0.29	<0.078	0.36	0.62	--	--	<0.98	--	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	0.54	0.42	0.48	0.65	0.58	0.89	1.2	1.4	--	--	0.95	1.3	0.53	1	0.31	0.66	1.4	1.1	0.21	0.69
Lead	ug/L	0.1	<0.12	0.13	<0.12	0.22	<0.13	0.32	0.35	--	--	<0.27	<0.27	0.31	<0.11	<0.21	0.5	0.73	0.34	<0.24	<0.24
Lithium	ug/L	38.4	35.9	37.9	37.3	35.3	30.7	28.2	36.5	--	--	27	22	23	26	17	20	7.8	19	16	21
Mercury	ug/L	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.037	--	--	<0.1	--	<0.1	--	<0.15	<0.15	<0.11	--	<0.14	<0.14
Molybdenum	ug/L	12.9	32.7	22.6	30.8	26.3	32.6	18.4	20.9	--	--	19	11	23	22	11	5.9	2.4	5.3	4.7	16
Selenium	ug/L	1.6	<0.16	0.61	<0.16	0.18	<0.085	0.18	0.097	--	--	<1	--	<1	--	<0.96	26	1.4	<0.96	9	<1.4
Thallium	ug/L	<0.036	<0.14	<0.14	<0.14	<0.14	<0.099	<0.099	<0.099	--	--	<0.27	--	<0.26	--	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Total Radium	pCi/L	0.618	0.699	0.941	0.744	0.317	0.921	1.25	1.19	--	--	0.931	0.159	1.18	0.531	0.268	0.666	2.04	0.623	0	0.393
Radium-226	pCi/L	0.0803	0.115	0.381	0.316	0.0751	0.389	0.459	0.12	--	--	0.078	0.0473	0.0691	0.19	0.094	0.194	0.574	0.0805	-0.0324	0.0255
Radium-228	pCi/L	0.538	0.584	0.56	0.428	0.242	0.532	0.788	1.07	--	--	0.852	0.111	1.11	0.342	0.174	0.472	1.47	0.543	-0.0206	0.368
pH at 25 Degrees C	Std. Units	7.1	7.7	8.1	7.7	7.7	6.8	7	7.2	7.3	7.2	7.2	7.2	7.1	7.3	7.3	7.2	7.3	7.8	7.4	7.6
Field Specific Conductance	umhos/cm	1806	923	921	914	921	710	835	1087	1077	1037	1004	1173	814	888	601	576.6	240.8	546	560	741
Field Temperature	deg C	7.2	11.9	13.1	13.8	16	11.38	8.11	8.9	10.57	15.23	10.4	7.99	11.3	14.4	8	13.5	7	15.7	7.7	15
Oxygen, Dissolved	mg/L	0.39	0.05	0.24	0.21	0.24	0.28	0.61	0.11	0.78	0.24	1.02	1.89	0.13	0.2	0.15	2.57	3.23	0.01	-0.08	1.22
Field Oxidation Potential	millivolts	81.4	24	74	15	106.5	12.9	66.1	39.2	61	35	52.8	60.1	124.3	-74.2	68.5	167.1	83.7	-8.5	193.1	8.9
Groundwater Elevation	ft	854.35	854.07	854.97	854.14	855.96	855.01	855.11	854.58	855.6	854.9	854.47	854.57	854.63	851.7	853.21	850.54	852.35	849.96	853.34	849.47
Turbidity	NTU	3.27	3.19	3.04	0.51	1.77	1.16	14.6	5.96	2.44	3.16	15.07	5.25	3.58	2.38	3.55	110	34.7	0	0.02	5.33
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240	230	--	280	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4.6	<4.6	--	<4.6	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	420	2900	--	410	84	150
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23000	21000	--	20000	--	--
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3300	3900	--	4700	--	--
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19000	18000	--	19000	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	240	230	--	280	--	--
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	930	700	--	1500	--	--
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62	--	--
Magnesium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20000	--	--
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1200	--	--

MW-304

Name: IPL - Sutherland Generating Station

Location ID: MW-304
Number of Sampling Date20

Parameter Name	Units	3/26/2018	5/23/2018	6/26/2018	7/26/2018	9/11/2018	11/28/2018	1/9/2019	2/12/2019	4/2/2019	10/16/2019	12/12/2019	2/3/2020	4/7/2020	10/13/2020	4/6/2021	10/26/2021	4/21/2022	10/11/2022	4/11/2023	10/20/2023
Boron	ug/L	575	604	736	795	715	751	665	649	590	840	660	560	580	830	570	480	630	470	440	430
Calcium	mg/L	155	145	121	138	151	149	164	174	180	170	150	150	150	150	130	110	130	110	120	90
Chloride	mg/L	30.8	35.1	32.1	31.2	29.7	27.4	24.6	28.3	29	23	17	21	15	11	80	15	3.7	12	7	8.7
Field pH	Std. Units	7.08	7.64	7.24	7.6	7.04	6.6	6.71	6.27	6.85	6.72	6.47	6.71	6.68	6.64	6.61	7.04	6.77	6.64	6.72	7.19
Fluoride	mg/L	0.33	0.46	0.62	0.56	0.55	0.31	0.22	0.26	0.67	0.6	<0.23	--	0.49	<0.23	2.5	<0.28	<0.22	0.26	<0.38	0.4
Sulfate	mg/L	371	366	339	363	405	375	372	442	450	400	360	360	350	330	430	170	310	160	310	150
Total Dissolved Solids	mg/L	820	785	782	791	860	853	841	902	910	840	840	800	750	800	600	450	580	530	620	460
Antimony	ug/L	0.041	<0.15	<0.15	<0.15	0.28	<0.078	0.13	0.11	--	--	<0.53	--	<0.58	--	<1.1	<1.1	<0.69	<0.69	<1	<1
Arsenic	ug/L	<0.052	0.23	0.37	0.39	0.64	0.46	0.45	0.26	--	--	<0.75	<0.88	<0.88	<0.88	<0.75	<0.75	<0.75	<0.75	<0.53	<0.53
Barium	ug/L	21.3	18.7	24.3	24.5	24.1	29	24.6	23	--	--	28	24	22	21	16	23	21	26	25	22
Beryllium	ug/L	<0.012	<0.12	0.69	<0.12	0.19	<0.089	<0.089	<0.089	--	--	<0.27	--	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.33	<0.33
Cadmium	ug/L	0.08	0.14	0.19	0.1	0.3	0.085	0.12	0.078	--	--	<0.039	0.36	0.079	0.075	0.15	0.24	0.073	0.068	<0.1	<0.1
Chromium	ug/L	0.28	<0.19	0.6	<0.19	0.36	0.11	0.44	0.24	--	--	<0.98	--	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Cobalt	ug/L	0.093	<0.15	0.22	<0.15	0.35	0.45	0.27	0.23	--	--	0.41	0.19	0.28	0.11	<0.091	0.3	<0.19	<0.19	<0.17	<0.17
Lead	ug/L	0.094	<0.12	0.35	<0.12	0.32	0.17	0.2	<0.13	--	--	<0.27	<0.27	<0.27	<0.11	<0.21	0.75	<0.24	<0.24	<0.24	<0.24
Lithium	ug/L	10.1	6.9	15.6	11	10.9	<4.6	<4.6	5.7	--	--	2.9	<2.3	<2.3	2.8	<2.5	6.8	<2.5	6.8	<2.5	6.3
Mercury	ug/L	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.037	--	--	<0.1	--	<0.1	--	<0.15	<0.15	<0.11	--	<0.14	<0.14
Molybdenum	ug/L	1.6	2	17.2	7.8	6.6	1.2	1	0.82	--	--	1.3	1.5	<1.1	1.4	<1.3	<1.3	<1.2	2.5	<0.91	3.8
Selenium	ug/L	0.18	<0.16	0.5	<0.16	0.32	<0.085	0.21	0.12	--	--	<1	--	<1	--	1.1	<0.96	<0.96	<0.96	3.3	<1.4
Thallium	ug/L	<0.036	<0.14	<0.14	<0.14	0.26	<0.099	<0.099	<0.099	--	--	<0.27	--	<0.26	--	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Total Radium	pCi/L	0.48	0.523	0.466	0.556	0.201	1.56	1.17	0.404	--	--	0.373	0.0516	0.494	0.606	0.0369	0.721	0.35	0.772	0.462	0.975
Radium-226	pCi/L	0	0.174	0.0806	0.165	0.125	0.57	0.461	0.225	--	--	0.0285	0.043	0.0606	0.0947	0.0369	0.281	0.0884	0.0641	0.0319	0.0592
Radium-228	pCi/L	0.48	0.349	0.385	0.391	0.0761	0.993	0.706	0.179	--	--	0.344	0.00857	0.433	0.511	-0.0801	0.44	0.261	0.708	0.43	0.915
pH at 25 Degrees C	Std. Units	7.1	7.2	7.5	7.1	6.9	7.7	6.7	6.8	6.8	7.1	6.7	7	6.7	6.8	6.8	7.1	7	7.3	7.1	7.4
Field Specific Conductance	umhos/cm	1166	1084	1076	1131	1175	731	690	1057	1170	1158	1083	1149	1016	1033	957	831	874	732	816	775
Field Temperature	deg C	8.5	10.5	11.2	14	16.3	11.28	8.65	8.2	7.59	14.12	10.5	8.09	10.4	14.5	8.4	13.8	7.2	13	6.7	12.2
Oxygen, Dissolved	mg/L	0.47	0.1	0.17	0.15	0.08	0.37	0.43	0.14	1.35	0.87	0.37	1.87	0.28	6.2	5.83	1.58	0.77	0	2.62	0.99
Field Oxidation Potential	millivolts	114.3	107	121	98	53.4	-39.3	76	59.5	57.1	39.1	75.1	62.5	95.1	39.1	182.1	152.1	98.9	218.8	195.7	107.6
Groundwater Elevation	ft	853.79	853.92	854.64	853.86	855.66	854.79	854.93	854.41	855.47	854.78	854.29	854.35	854.54	851.3	853.15	850.13	851.97	849.7	853.27	849.24
Turbidity	NTU	6.71	0.6	3.68	3.62	1.35	22.7	15.5	6.27	1.18	1.58	0.19	1.59	2.12	1.68	0.79	19.8	4.72	0	0.02	5.09
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	230	350	--	290	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4.6	<4.6	--	<4.6	--	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<36	71	--	61	<36	<36
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	34000	29000	--	29000	--	--
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<150	600	--	620	--	--
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	38000	33000	--	33000	--	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	230	350	--	290	--	--
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180	270	--	66	--	--
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<36	--	--
Magnesium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29000	--	--
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	--	--

MW-305

Name: IPL - Sutherland Generating Station

Location ID: MW-305
Number of Sampling Date21

Parameter Name	Units	3/26/2018	5/23/2018	6/26/2018	7/26/2018	9/11/2018	11/28/2018	1/9/2019	2/12/2019	4/2/2019	10/16/2019	12/12/2019	2/3/2020	4/7/2020	5/11/2020	10/13/2020	4/6/2021	10/26/2021	4/21/2022	10/11/2022	4/11/2023
Boron	ug/L	815	741	1110	1200	992	920	847	809	660	1100	760	930	850	--	1400	1400	1800	1100	1100	910
Calcium	mg/L	173	124	96.4	108	124	152	166	139	160	140	160	140	170	--	140	150	110	140	110	150
Chloride	mg/L	21.9	31.5	29.5	26.9	25.3	17.4	17.5	19.9	15	23	15	17	12	--	17	91	24	20	27	21
Field pH	Std. Units	6.99	7.93	7.61	7.22	7.1	6.63	6.71	6.82	6.9	6.94	6.52	6.61	6.7	5.97	7.33	6.68	7.58	6.99	7.58	6.93
Fluoride	mg/L	0.54	0.63	0.64	0.74	0.72	0.53	0.44	0.6	1.4	0.77	<0.23	--	0.69	--	0.46	2.7	<0.28	<0.22	0.36	<0.38
Sulfate	mg/L	495	365	317	315	407	445	482	387	490	410	450	440	450	--	410	470	240	280	200	390
Total Dissolved Solids	mg/L	893	742	667	647	734	935	965	777	990	790	960	850	900	--	790	800	500	590	540	840
Antimony	ug/L	0.075	<0.15	<0.15	<0.15	<0.15	0.27	0.13	0.092	--	--	<0.53	--	<0.58	--	--	<1.1	<1.1	<0.69	<0.69	<1
Arsenic	ug/L	5.9	8.6	6.9	8.6	9.1	65.9	12.9	6.9	--	--	7.6	6.3	8.8	--	11	6.4	7.4	7.1	8.4	5.8
Barium	ug/L	34.8	32.2	36.1	35.7	42.2	167	49	27.9	--	--	45	32	41	--	52	32	47	35	41	39
Beryllium	ug/L	0.012	<0.12	0.78	<0.12	<0.12	0.1	<0.089	<0.089	--	--	<0.27	--	<0.27	--	<0.27	<0.27	<0.27	<0.27	<0.27	<0.33
Cadmium	ug/L	0.071	<0.07	<0.07	<0.07	<0.07	0.1	0.07	0.043	--	--	<0.039	<0.039	<0.039	--	<0.049	0.052	<0.051	0.061	<0.055	0.1
Chromium	ug/L	0.69	0.62	0.45	<0.19	1.3	0.25	0.32	0.52	--	--	<0.98	--	<1.1	--	<1.1	<1.1	<1.1	2.8	<1.1	<1.1
Cobalt	ug/L	2.7	1.4	0.74	0.83	1.6	2.8	2.2	2	--	--	1.5	1.6	2.1	--	0.6	1.7	0.63	1.4	0.62	1.1
Lead	ug/L	0.39	0.43	0.19	0.16	0.76	0.58	0.17	0.35	--	--	0.38	<0.27	0.48	--	<0.11	<0.21	<0.21	<0.24	<0.24	<0.24
Lithium	ug/L	21.3	14.2	21.8	17.8	16.2	16.9	8.3	18.6	--	--	16	10	12	--	22	29	35	32	37	22
Mercury	ug/L	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.037	--	--	<0.1	--	<0.1	--	--	<0.15	<0.15	<0.11	--	<0.14
Molybdenum	ug/L	25.8	32.5	29.3	38	35.3	21.5	23.8	27.3	--	--	24	18	20	--	36	41	55	42	48	27
Selenium	ug/L	0.34	0.3	0.59	<0.16	1.1	0.44	0.24	0.31	--	--	<1	--	<1	--	--	<0.96	<0.96	<0.96	<0.96	<1.4
Thallium	ug/L	<0.036	<0.14	<0.14	<0.14	<0.14	<0.099	<0.099	<0.099	--	--	<0.27	--	<0.26	--	--	<0.26	<0.26	<0.26	<0.26	<0.26
Total Radium	pCi/L	0.0087	1.05	0	1.27	1.15	2.23	1.33	0.852	--	--	1.54	0.51	3.1	0.557	0.986	0.34	1.02	0.349	0.703	0.545
Radium-226	pCi/L	-0.344	0.59	0	0.942	0.638	1.08	0.564	0.459	--	--	0.167	0.119	0.84	0.226	0.42	0.102	0.268	0.21	0.24	0.187
Radium-228	pCi/L	0.0087	0.458	-0.116	0.33	0.516	1.15	0.764	0.393	--	--	1.37	0.39	2.26	0.332	0.567	0.238	0.752	0.139	0.464	0.358
pH at 25 Degrees C	Std. Units	7	7.4	7.7	7.3	6.9	7	6.9	7	6.9	7.2	6.9	6.9	6.7	--	7.4	7	7.8	7.2	7.8	7.3
Field Specific Conductance	umhos/cm	1262	1012	939	935	1029	773	817	939	1168	1061	1178	1200	1198	1215	1029	1171	807	938	786	1044
Field Temperature	deg C	9.7	11	12.1	13.3	17.9	12.24	10.3	9.4	8.49	13.81	11.4	9.9	10.2	9.1	14.8	10.9	14.8	10	14.7	9.4
Oxygen, Dissolved	mg/L	0.1	0.08	0.21	0.12	0.08	0.23	0.17	0.08	0.96	0.4	0.27	1.09	0.2	0.12	0.12	0.15	1.15	0.14	-0.1	0.13
Field Oxidation Potential	millivolts	11.9	-134	-102	-116	-77.2	-117.7	60.9	23.6	47	24.7	50.5	57.8	-6.6	20.2	-79.3	69.8	134.7	120.5	17.5	140
Groundwater Elevation	ft	853.64	853.99	854.55	854	855.94	854.87	854.94	854.56	855.67	854.99	854.33	854.28	854.64	853.78	851.32	853.02	850.12	851.91	849.73	853.13
Turbidity	NTU	11.12	14.96	4.69	8.39	15.83	119	3.64	12.33	6.46	2.17	78.41	4.9	8.14	2.98	3.75	3.44	19.9	11.1	0	0.02
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	230	--	230	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4.6	<4.6	--	<4.6	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	250	230	--	240	350
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40000	25000	--	26000	--
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3900	5900	--	5700	--
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48000	38000	--	38000	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	230	--	230	--
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1400	520	--	620	--
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<36	--
Magnesium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<150	--
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<3.6	--

Location ID: MW-305
Number of Sampling Date21

Parameter Name	Units	10/20/2023
Boron	ug/L	1100
Calcium	mg/L	100
Chloride	mg/L	36
Field pH	Std. Units	7.48
Fluoride	mg/L	0.45
Sulfate	mg/L	200
Total Dissolved Solids	mg/L	530
Antimony	ug/L	<1
Arsenic	ug/L	10
Barium	ug/L	41
Beryllium	ug/L	<0.33
Cadmium	ug/L	<0.1
Chromium	ug/L	<1.1
Cobalt	ug/L	0.69
Lead	ug/L	<0.24
Lithium	ug/L	36
Mercury	ug/L	<0.14
Molybdenum	ug/L	48
Selenium	ug/L	<1.4
Thallium	ug/L	<0.26
Total Radium	pCi/L	0.853
Radium-226	pCi/L	0.0891
Radium-228	pCi/L	0.764
pH at 25 Degrees C	Std. Units	7.7
Field Specific Conductance	umhos/cm	911
Field Temperature	deg C	14.2
Oxygen, Dissolved	mg/L	0.64
Field Oxidation Potential	millivolts	29.3
Groundwater Elevation	ft	849.27
Turbidity	NTU	6.19
Bicarbonate Alkalinity as CaCO3	mg/L	--
Carbonate Alkalinity as CaCO3	mg/L	--
Iron, total	ug/L	310
Magnesium, total	ug/L	--
Potassium, total	ug/L	--
Sodium, total	ug/L	--
Total Alkalinity as CaCO3	mg/L	--
Manganese, total	ug/L	--
Iron, dissolved	ug/L	--
Magnesium, dissolved	ug/L	--
Manganese, dissolved	ug/L	--

MW-306

Name: IPL - Sutherland Generating Station

Location ID: MW-306
Number of Sampling Date23

Parameter Name	Units	3/27/2018	5/23/2018	6/26/2018	7/26/2018	9/11/2018	11/28/2018	1/9/2019	2/12/2019	4/2/2019	10/16/2019	12/12/2019	2/3/2020	4/7/2020	5/11/2020	10/13/2020	2/24/2021	4/6/2021	7/14/2021	10/26/2021	4/21/2022
Boron	ug/L	1100	1790	2090	2120	2160	2990	3260	3350	3200	2500	2400	2500	2500	--	3800	--	3400	--	4400	4400
Calcium	mg/L	213	201	172	199	201	166	194	183	130	200	210	220	220	--	230	--	210	--	150	170
Chloride	mg/L	30.8	35.1	30.2	32	29.7	14.1	18.9	18	16	13	11	12	14	--	21	--	95	--	20	19
Field pH	Std. Units	7.94	9.46	7.74	7.38	7.68	7.41	7.44	7.61	7.81	7.38	7.5	7.61	7.72	7.08	7.62	7.61	7.64	8.11	7.44	7.71
Fluoride	mg/L	0.46	0.5	0.5	0.56	0.63	0.53	0.44	0.48	0.93	0.38	<0.23	--	0.75	--	0.65	--	2.5	--	<0.28	<0.22
Sulfate	mg/L	622	709	639	824	736	87.4	533	597	220	460	480	550	560	--	400	--	710	--	440	470
Total Dissolved Solids	mg/L	1160	1160	1110	1160	1170	955	1090	1020	750	1000	1100	1100	1100	--	1200	--	1200	--	690	780
Antimony	ug/L	0.056	<0.15	<0.15	<0.15	<0.15	<0.078	0.11	0.09	--	--	<0.53	--	<0.58	--	--	--	<1.1	--	<1.1	<0.69
Arsenic	ug/L	3.6	3.1	3.3	3.4	3.8	5.2	4.7	3.9	--	--	4.3	4.6	3.6	--	4.4	--	4	--	4.1	4
Barium	ug/L	91.7	93.4	88.6	95.9	87.4	78.3	88	75	--	--	98	100	99	--	110	--	110	--	74	80
Beryllium	ug/L	<0.012	<0.12	0.49	<0.12	<0.12	<0.089	<0.089	<0.089	--	--	<0.27	--	<0.27	--	<0.27	--	<0.27	--	<0.27	<0.27
Cadmium	ug/L	0.027	<0.07	<0.07	<0.07	<0.07	0.041	0.056	0.036	--	--	<0.039	<0.039	0.045	--	<0.049	--	<0.051	--	<0.051	<0.055
Chromium	ug/L	0.1	<0.19	<0.19	<0.19	<0.19	<0.078	0.26	0.23	--	--	<0.98	--	<1.1	--	<1.1	--	<1.1	--	<1.1	<1.1
Cobalt	ug/L	0.66	0.81	0.6	0.64	0.57	0.57	0.68	0.72	--	--	0.75	0.85	0.66	--	0.68	--	0.71	--	0.59	0.54
Lead	ug/L	0.063	<0.12	<0.12	<0.12	<0.12	<0.13	<0.13	<0.13	--	--	<0.27	<0.27	<0.27	--	<0.11	--	<0.21	--	0.58	<0.24
Lithium	ug/L	37.1	28.6	29.9	32.2	31.5	36.8	35.6	43.7	--	--	40	39	40	42	52	55	48	59	55	52
Mercury	ug/L	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.037	--	--	<0.1	--	<0.1	--	--	--	<0.15	--	<0.15	<0.11
Molybdenum	ug/L	35.8	36.4	36.1	44.5	38.2	45.6	39.6	40.6	--	--	40	38	36	--	42	--	59	--	66	83
Selenium	ug/L	<0.086	<0.16	0.38	<0.16	<0.16	<0.085	0.13	<0.085	--	--	<1	--	<1	--	--	--	<0.96	--	<0.96	<0.96
Thallium	ug/L	<0.036	<0.14	<0.14	<0.14	<0.14	<0.099	<0.099	<0.099	--	--	<0.27	--	<0.26	--	--	--	<0.26	--	<0.26	<0.26
Total Radium	pCi/L	0.996	0.0586	0.86	0	0.982	1.12	1.4	0.966	--	--	1.58	0.214	0.36	--	0.51	--	0.261	--	0.307	0.194
Radium-226	pCi/L	-0.074	0.0586	0.351	0	0.361	0.515	0.324	0.376	--	--	0.0272	0.0568	-0.0459	--	0.224	--	0.0888	--	0.145	0.0542
Radium-228	pCi/L	0.996	-0.195	0.509	-0.435	0.621	0.605	1.08	0.59	--	--	1.56	0.157	0.36	--	0.286	--	0.172	--	0.162	0.139
pH at 25 Degrees C	Std. Units	7.7	7.8	7.8	7.6	7.4	6.7	7.7	7.7	7.9	7.9	7.8	7.8	7.6	--	7.8	--	7.8	--	7.8	7.7
Field Specific Conductance	umhos/cm	1509	1432	1395	1468	1469	814	871	1140	907	1294	1329	1446	1428	1557	1445	1479	1464	1178	1038	1100
Field Temperature	deg C	10.3	11.9	12.9	14	15.7	12.53	10.73	10.7	10.79	13.09	11.6	10.86	11.1	10.7	15	11.5	12	14.1	15.7	11.2
Oxygen, Dissolved	mg/L	0.1	0.06	0.08	0.05	0.03	0.32	0.29	0.08	1.37	0.28	0.32	1.46	0.12	0.1	0.09	0.09	0.11	0.13	1.22	0.25
Field Oxidation Potential	millivolts	0.3	-17	5	12	-172.7	2.1	39.8	-113.1	25.7	43.4	30.8	72.7	209.2	123.2	-97.4	-38.8	-29.2	57.7	161	110.2
Groundwater Elevation	ft	853.49	854.11	854.57	853.94	856.48	854.91	854.94	854.75	855.96	852.16	854.39	854.14	854.7	853.71	851.13	850.56	852.79	850.67	850	851.82
Turbidity	NTU	1.09	1.82	0.72	3.29	1	1.75	0.64	4.78	0.78	1.81	0.78	0.74	0.58	1.43	0.02	0.02	0.02	0.78	19.8	4.6
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170	--	100	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4.2	--	<4.6	--
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	61	--	220	--
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55000	--	26000	--
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7000	--	7400	--
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46000	--	41000	--
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170	--	100	--
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3400	--	1900	--
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Location ID: MW-306
Number of Sampling Date23

Parameter Name	Units	10/12/2022	4/12/2023	10/19/2023
Boron	ug/L	3400	3400	4000
Calcium	mg/L	140	150	120
Chloride	mg/L	16	18	18
Field pH	Std. Units	7.68	7.69	7.72
Fluoride	mg/L	0.25	<0.38	0.39
Sulfate	mg/L	340	400	320
Total Dissolved Solids	mg/L	720	720	600
Antimony	ug/L	<0.69	<1	<1
Arsenic	ug/L	4.1	3.5	4.5
Barium	ug/L	66	63	57
Beryllium	ug/L	<0.27	<0.33	<0.33
Cadmium	ug/L	<0.055	<0.1	<0.1
Chromium	ug/L	<1.1	<1.1	<1.1
Cobalt	ug/L	0.42	0.38	0.29
Lead	ug/L	<0.24	<0.24	<0.24
Lithium	ug/L	63	59	62
Mercury	ug/L	--	<0.14	<0.14
Molybdenum	ug/L	81	76	100
Selenium	ug/L	<0.96	<1.4	<1.4
Thallium	ug/L	<0.26	<0.26	<0.26
Total Radium	pCi/L	0.75	0.474	1.26
Radium-226	pCi/L	-0.0579	0.0722	-0.0346
Radium-228	pCi/L	0.75	0.402	1.26
pH at 25 Degrees C	Std. Units	7.9	7.9	7.9
Field Specific Conductance	umhos/cm	915	988	933
Field Temperature	deg C	14.2	11.4	13.6
Oxygen, Dissolved	mg/L	-0.08	0.14	0.6
Field Oxidation Potential	millivolts	118.8	-8.9	27.1
Groundwater Elevation	ft	849.62	853.01	849.22
Turbidity	NTU	0	0.02	6.6
Bicarbonate Alkalinity as CaCO3	mg/L	150	--	--
Carbonate Alkalinity as CaCO3	mg/L	<4.6	--	--
Iron, total	ug/L	85	49	<36
Magnesium, total	ug/L	25000	--	--
Potassium, total	ug/L	7500	--	--
Sodium, total	ug/L	34000	--	--
Total Alkalinity as CaCO3	mg/L	150	--	--
Manganese, total	ug/L	1800	--	--
Iron, dissolved	ug/L	<36	--	--
Lithium, dissolved	ug/L	62	--	--
Magnesium, dissolved	ug/L	25000	--	--
Manganese, dissolved	ug/L	1900	--	--

MW-306A

Name: IPL - Sutherland Generating Station

Location ID:	MW-306A		
Number of Sampling Date2:			
Parameter Name	**Units**	**4/12/2023**	**10/18/2023**
Calcium	mg/L	170	160
Chloride	mg/L	21	--
Field pH	Std. Units	7.48	7.35
Sulfate	mg/L	210	--
Lithium	ug/L	38	39
Field Specific Conductance	umhos/cm	940	1016
Field Temperature	deg C	12.6	14.1
Oxygen, Dissolved	mg/L	0.11	0.69
Field Oxidation Potential	millivolts	-69	-59.2
Groundwater Elevation	ft	853.37	849.6
Turbidity	NTU	4.53	15.2
Bicarbonate Alkalinity as CaCO3	mg/L	340	280
Carbonate Alkalinity as CaCO3	mg/L	<2.5	<2.5
Iron, total	ug/L	510	1000
Magnesium, total	ug/L	14000	14000
Potassium, total	ug/L	9900	9600
Sodium, total	ug/L	29000	27000
Total Alkalinity as CaCO3	mg/L	340	280
Manganese, total	ug/L	740	770

MW-307

Name: IPL - Sutherland Generating Station

Location ID: MW-307
Number of Sampling Date5:

Parameter Name	Units	12/9/2021	4/21/2022	10/10/2022	4/10/2023	10/18/2023
Boron	ug/L	460	500	420	--	--
Calcium	mg/L	150	180	170	--	--
Chloride	mg/L	19	21	17	--	--
Field pH	Std. Units	6.53	6.62	6.64	6.56	6.58
Fluoride	mg/L	<0.28	<0.22	<0.22	--	--
Sulfate	mg/L	320	350	270	--	--
Total Dissolved Solids	mg/L	700	750	760	--	--
Antimony	ug/L	<1.1	<0.69	<0.69	--	--
Arsenic	ug/L	2.6	4.4	5.9	--	--
Barium	ug/L	47	46	44	--	--
Beryllium	ug/L	<0.27	<0.27	<0.27	--	--
Cadmium	ug/L	0.18	0.35	0.24	--	--
Chromium	ug/L	<1.1	1.3	<1.1	--	--
Cobalt	ug/L	6.8	6.8	4.6	--	--
Lead	ug/L	<0.21	0.92	0.8	--	--
Lithium	ug/L	22	26	22	24	11
Mercury	ug/L	<0.15	<0.11	--	--	--
Molybdenum	ug/L	6.5	4.1	5.8	--	--
Selenium	ug/L	<0.96	<0.96	<0.96	--	--
Thallium	ug/L	<0.26	<0.26	<0.26	--	--
Total Radium	pCi/L	1.83	0.568	0.873	--	--
Radium-226	pCi/L	0.138	0.0677	0.109	--	--
Radium-228	pCi/L	1.69	0.5	0.764	--	--
pH at 25 Degrees C	Std. Units	6.8	6.9	7	--	--
Field Specific Conductance	umhos/cm	1137	1104	1025	1686	991
Field Temperature	deg C	14.3	10.6	17.3	10.7	14.2
Oxygen, Dissolved	mg/L	2.37	0.12	0	-0.06	0.71
Field Oxidation Potential	millivolts	52.5	81.3	22.9	136.4	29.8
Groundwater Elevation	ft	--	852.76	850.79	853.97	850.32
Turbidity	NTU	13	26.3	44.77	1.27	10.82
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	350	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6	--	--
Iron, total	ug/L	--	--	2300	620	280
Magnesium, total	ug/L	--	--	40000	--	--
Potassium, total	ug/L	--	--	5200	--	--
Sodium, total	ug/L	--	--	29000	--	--
Total Alkalinity as CaCO3	mg/L	--	--	350	--	--
Manganese, total	ug/L	--	--	5500	--	--
Iron, dissolved	ug/L	--	--	560	--	--
Lithium, dissolved	ug/L	--	--	21	--	--
Magnesium, dissolved	ug/L	--	--	39000	--	--
Manganese, dissolved	ug/L	--	--	5200	--	--

MW-308

Name: IPL - Sutherland Generating Station

Location ID:	MW-308					
Number of Sampling Date5:						
Parameter Name	**Units**	**12/9/2021**	**4/21/2022**	**10/10/2022**	**4/13/2023**	**10/18/2023**
Boron	ug/L	330	370	400	--	--
Calcium	mg/L	96	120	130	--	--
Chloride	mg/L	17	14	14	--	--
Field pH	Std. Units	6.96	7.12	6.91	6.73	6.8
Fluoride	mg/L	<0.28	<0.22	0.26	--	--
Sulfate	mg/L	89	120	130	--	--
Total Dissolved Solids	mg/L	390	390	540	--	--
Antimony	ug/L	<1.1	<0.69	<0.69	--	--
Arsenic	ug/L	<0.75	0.9	<0.75	--	--
Barium	ug/L	69	81	64	--	--
Beryllium	ug/L	<0.27	<0.27	<0.27	--	--
Cadmium	ug/L	<0.051	<0.055	<0.055	--	--
Chromium	ug/L	<1.1	<1.1	<1.1	--	--
Cobalt	ug/L	2	2.8	2.5	--	--
Lead	ug/L	0.21	0.34	<0.24	--	--
Lithium	ug/L	11	15	14	12	16
Mercury	ug/L	<0.15	<0.11	--	--	--
Molybdenum	ug/L	<1.3	<1.2	<1.2	--	--
Selenium	ug/L	<0.96	<0.96	<0.96	--	--
Thallium	ug/L	<0.26	<0.26	<0.26	--	--
Total Radium	pCi/L	1.67	0.517	0.763	--	--
Radium-226	pCi/L	0.0914	-0.031	0.172	--	--
Radium-228	pCi/L	1.58	0.517	0.591	--	--
pH at 25 Degrees C	Std. Units	7.2	7.3	7.2	--	--
Field Specific Conductance	umhos/cm	739	726	780	1160	981
Field Temperature	deg C	13.3	8.9	15	9.3	13.8
Oxygen, Dissolved	mg/L	6.33	0.15	-0.1	0.11	0.61
Field Oxidation Potential	millivolts	-37.3	105.7	-23.9	47.9	28.5
Groundwater Elevation	ft	--	853.08	851.18	852.53	850.64
Turbidity	NTU	14	26.9	77.91	40	4.96
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	310	--	--
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6	--	--
Iron, total	ug/L	--	--	710	4700	580
Magnesium, total	ug/L	--	--	29000	--	--
Potassium, total	ug/L	--	--	4800	--	--
Sodium, total	ug/L	--	--	21000	--	--
Total Alkalinity as CaCO3	mg/L	--	--	310	--	--
Manganese, total	ug/L	--	--	1700	--	--
Iron, dissolved	ug/L	--	--	660	--	--
Magnesium, dissolved	ug/L	--	--	30000	--	--
Manganese, dissolved	ug/L	--	--	1700	--	--

MW-309

Name: IPL - Sutherland Generating Station

Location ID: MW-309
Number of Sampling Date5:

Parameter Name	Units	5/12/2022	8/11/2022	10/11/2022	4/11/2023	10/20/2023
Boron	ug/L	--	--	1400	--	--
Calcium	mg/L	--	--	170	140	95
Chloride	mg/L	--	--	17	19	--
Field pH	Std. Units	7.42	7.4	7.17	7.25	7.41
Fluoride	mg/L	--	--	0.22	--	--
Sulfate	mg/L	--	--	350	400	--
Total Dissolved Solids	mg/L	--	--	800	--	--
Antimony	ug/L	--	--	<0.69	--	--
Arsenic	ug/L	--	--	2.2	--	--
Barium	ug/L	--	--	170	--	--
Beryllium	ug/L	--	--	<0.27	--	--
Cadmium	ug/L	--	--	0.25	--	--
Chromium	ug/L	--	--	2.5	--	--
Cobalt	ug/L	--	--	5.8	--	--
Lead	ug/L	--	--	2	--	--
Lithium	ug/L	17	26	24	21	17
Molybdenum	ug/L	--	--	<1.2	--	--
Selenium	ug/L	--	--	<0.96	--	--
Thallium	ug/L	--	--	<0.26	--	--
Total Radium	pCi/L	--	--	2.39	--	--
Radium-226	pCi/L	--	--	0.107	--	--
Radium-228	pCi/L	--	--	2.28	--	--
pH at 25 Degrees C	Std. Units	--	--	7.6	--	--
Field Specific Conductance	umhos/cm	937	1065	1017	1017	1128
Field Temperature	deg C	9.5	13.3	11.7	9.7	11.5
Oxygen, Dissolved	mg/L	7.66	0.25	0.09	0.44	0.92
Field Oxidation Potential	millivolts	191.4	22.3	193.6	96.7	83.8
Groundwater Elevation	ft	853.95	849.47	848.44	851.58	848.35
Turbidity	NTU	0.08	36.6	653.34	1.69	36.02
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	240	220	190
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6	<2.5	<2.5
Iron, total	ug/L	--	--	4800	360	950
Magnesium, total	ug/L	--	--	51000	41000	30000
Potassium, total	ug/L	--	--	4900	4700	3500
Sodium, total	ug/L	--	--	42000	43000	33000
Total Alkalinity as CaCO3	mg/L	--	--	240	220	190
Manganese, total	ug/L	--	--	990	98	180
Iron, dissolved	ug/L	--	--	83	--	--
Magnesium, dissolved	ug/L	--	--	44000	--	--
Manganese, dissolved	ug/L	--	--	35	--	--

MW-310

Name: IPL - Sutherland Generating Station

Location ID: MW-310
Number of Sampling Date5:

Parameter Name	Units	5/12/2022	8/11/2022	10/11/2022	4/11/2023	10/20/2023
Boron	ug/L	--	--	920	--	--
Calcium	mg/L	--	--	140	170	130
Chloride	mg/L	--	--	20	43	--
Field pH	Std. Units	7.44	7.37	7.1	6.96	7.3
Fluoride	mg/L	--	--	<0.22	--	--
Sulfate	mg/L	--	--	290	460	--
Total Dissolved Solids	mg/L	--	--	710	--	--
Antimony	ug/L	--	--	<0.69	--	--
Arsenic	ug/L	--	--	1.2	--	--
Barium	ug/L	--	--	55	--	--
Beryllium	ug/L	--	--	<0.27	--	--
Cadmium	ug/L	--	--	0.11	--	--
Chromium	ug/L	--	--	<1.1	--	--
Cobalt	ug/L	--	--	2.7	--	--
Lead	ug/L	--	--	2.6	--	--
Lithium	ug/L	20	19	18	4	20
Molybdenum	ug/L	--	--	<1.2	--	--
Selenium	ug/L	--	--	<0.96	--	--
Thallium	ug/L	--	--	<0.26	--	--
Total Radium	pCi/L	--	--	1.99	--	--
Radium-226	pCi/L	--	--	0.499	--	--
Radium-228	pCi/L	--	--	1.49	--	--
pH at 25 Degrees C	Std. Units	--	--	7.5	--	--
Field Specific Conductance	umhos/cm	1044	1001	937	1189	1123
Field Temperature	deg C	9.6	13.3	13.7	7.7	12.3
Oxygen, Dissolved	mg/L	4.81	0.14	1.07	2.83	1.81
Field Oxidation Potential	millivolts	190.7	29	178.5	88.2	82.1
Groundwater Elevation	ft	853.71	849.49	848.31	851.7	848.13
Turbidity	NTU	2.91	36.4	217.88	0.02	8.17
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	260	260	200
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6	<2.5	<2.5
Iron, total	ug/L	--	--	1900	<36	97
Magnesium, total	ug/L	--	--	43000	64000	41000
Potassium, total	ug/L	--	--	4100	220	4100
Sodium, total	ug/L	--	--	39000	36000	41000
Total Alkalinity as CaCO3	mg/L	--	--	260	260	200
Manganese, total	ug/L	--	--	600	6.6	360
Iron, dissolved	ug/L	--	--	250	--	--
Magnesium, dissolved	ug/L	--	--	40000	--	--
Manganese, dissolved	ug/L	--	--	240	--	--

MW-311

Name: IPL - Sutherland Generating Station

Location ID: MW-311
Number of Sampling Date5:

Parameter Name	Units	5/12/2022	8/11/2022	10/11/2022	4/11/2023	10/20/2023
Boron	ug/L	--	--	1400	--	--
Calcium	mg/L	--	--	150	120	130
Chloride	mg/L	--	--	19	21	--
Field pH	Std. Units	7.17	7.27	7.05	7.17	7.16
Fluoride	mg/L	--	--	0.33	--	--
Sulfate	mg/L	--	--	310	260	--
Total Dissolved Solids	mg/L	--	--	760	--	--
Antimony	ug/L	--	--	<0.69	--	--
Arsenic	ug/L	--	--	1.2	--	--
Barium	ug/L	--	--	120	--	--
Beryllium	ug/L	--	--	<0.27	--	--
Cadmium	ug/L	--	--	0.092	--	--
Chromium	ug/L	--	--	<1.1	--	--
Cobalt	ug/L	--	--	1.1	--	--
Lead	ug/L	--	--	0.27	--	--
Lithium	ug/L	25	31	29	20	33
Molybdenum	ug/L	--	--	<1.2	--	--
Selenium	ug/L	--	--	<0.96	--	--
Thallium	ug/L	--	--	<0.26	--	--
Total Radium	pCi/L	--	--	0.541	--	--
Radium-226	pCi/L	--	--	-0.0307	--	--
Radium-228	pCi/L	--	--	0.541	--	--
pH at 25 Degrees C	Std. Units	--	--	7.5	--	--
Field Specific Conductance	umhos/cm	1017	952	977	847	1075
Field Temperature	deg C	7.9	15	14.9	6.9	13.9
Oxygen, Dissolved	mg/L	5.15	0.71	0.16	1.88	1.62
Field Oxidation Potential	millivolts	199.6	39.7	160.3	112.9	93.7
Groundwater Elevation	ft	853.56	849.46	848.21	851.72	847.99
Turbidity	NTU	0.67	32	4.89	0.02	7.5
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	250	240	220
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6	<2.5	<2.5
Iron, total	ug/L	--	--	1400	<36	47
Magnesium, total	ug/L	--	--	37000	31000	34000
Potassium, total	ug/L	--	--	5200	3600	5100
Sodium, total	ug/L	--	--	45000	39000	43000
Total Alkalinity as CaCO3	mg/L	--	--	250	240	220
Manganese, total	ug/L	--	--	510	45	87
Iron, dissolved	ug/L	--	--	<36	--	--
Magnesium, dissolved	ug/L	--	--	36000	--	--
Manganese, dissolved	ug/L	--	--	100	--	--

MW-312

Name: IPL - Sutherland Generating Station

Location ID:	MW-312		
Number of Sampling Date2:			
Parameter Name	**Units**	**4/11/2023**	**10/19/2023**
Boron	ug/L	--	1400
Calcium	mg/L	140	120
Chloride	mg/L	17	17
Field pH	Std. Units	7.7	7.52
Fluoride	mg/L	--	<0.38
Sulfate	mg/L	240	250
Total Dissolved Solids	mg/L	--	560
Antimony	ug/L	--	<1
Arsenic	ug/L	--	1.2
Barium	ug/L	--	56
Beryllium	ug/L	--	<0.33
Cadmium	ug/L	--	<0.1
Chromium	ug/L	--	<1.1
Cobalt	ug/L	--	0.96
Lead	ug/L	--	<0.24
Lithium	ug/L	58	66
Mercury	ug/L	--	<0.14
Molybdenum	ug/L	--	33
Selenium	ug/L	--	<1.4
Thallium	ug/L	--	<0.26
Total Radium	pCi/L	--	1.02
Radium-226	pCi/L	--	0.00562
Radium-228	pCi/L	--	1.02
pH at 25 Degrees C	Std. Units	--	7.8
Field Specific Conductance	umhos/cm	848	934
Field Temperature	deg C	10.5	14.4
Oxygen, Dissolved	mg/L	0.1	1.3
Field Oxidation Potential	millivolts	19.4	7.5
Groundwater Elevation	ft	853.47	849.64
Turbidity	NTU	0.02	10
Bicarbonate Alkalinity as CaCO3	mg/L	260	170
Carbonate Alkalinity as CaCO3	mg/L	<2.5	<2.5
Iron, total	ug/L	72	90
Magnesium, total	ug/L	22000	23000
Potassium, total	ug/L	7500	7700
Sodium, total	ug/L	26000	26000
Total Alkalinity as CaCO3	mg/L	260	170
Manganese, total	ug/L	1400	1200

MW-313

Name: IPL - Sutherland Generating Station

Location ID:	MW-313		
Number of Sampling Date2:			
Parameter Name	**Units**	**4/12/2023**	**10/19/2023**
Calcium	mg/L	150	130
Chloride	mg/L	15	--
Field pH	Std. Units	7.03	7.21
Sulfate	mg/L	290	--
Lithium	ug/L	25	44
Field Specific Conductance	umhos/cm	1013	1076
Field Temperature	deg C	9.7	12.7
Oxygen, Dissolved	mg/L	0.07	1.3
Field Oxidation Potential	millivolts	61.1	39
Groundwater Elevation	ft	853.15	849.41
Turbidity	NTU	4.45	13.24
Bicarbonate Alkalinity as CaCO3	mg/L	340	180
Carbonate Alkalinity as CaCO3	mg/L	<2.5	<2.5
Iron, total	ug/L	200	110
Magnesium, total	ug/L	37000	31000
Potassium, total	ug/L	4100	5500
Sodium, total	ug/L	30000	34000
Total Alkalinity as CaCO3	mg/L	340	180
Manganese, total	ug/L	4100	3200

MW-314

Name: IPL - Sutherland Generating Station

Location ID:	MW-314		
Number of Sampling Date2:			
Parameter Name	**Units**	**4/13/2023**	**10/19/2023**
Calcium	mg/L	130	140
Chloride	mg/L	18	--
Field pH	Std. Units	7.26	7.15
Sulfate	mg/L	310	--
Lithium	ug/L	32	35
Field Specific Conductance	umhos/cm	967	1195
Field Temperature	deg C	7.4	13.4
Oxygen, Dissolved	mg/L	0.22	2.14
Field Oxidation Potential	millivolts	55.4	78.3
Groundwater Elevation	ft	852.77	849.05
Turbidity	NTU	30	26.17
Bicarbonate Alkalinity as CaCO3	mg/L	250	210
Carbonate Alkalinity as CaCO3	mg/L	<2.5	<2.5
Iron, total	ug/L	790	620
Magnesium, total	ug/L	37000	40000
Potassium, total	ug/L	4900	5900
Sodium, total	ug/L	38000	47000
Total Alkalinity as CaCO3	mg/L	250	210
Manganese, total	ug/L	640	800

Appendix E

Statistical Evaluation

E1 LCL Evaluation – April 2023 Event

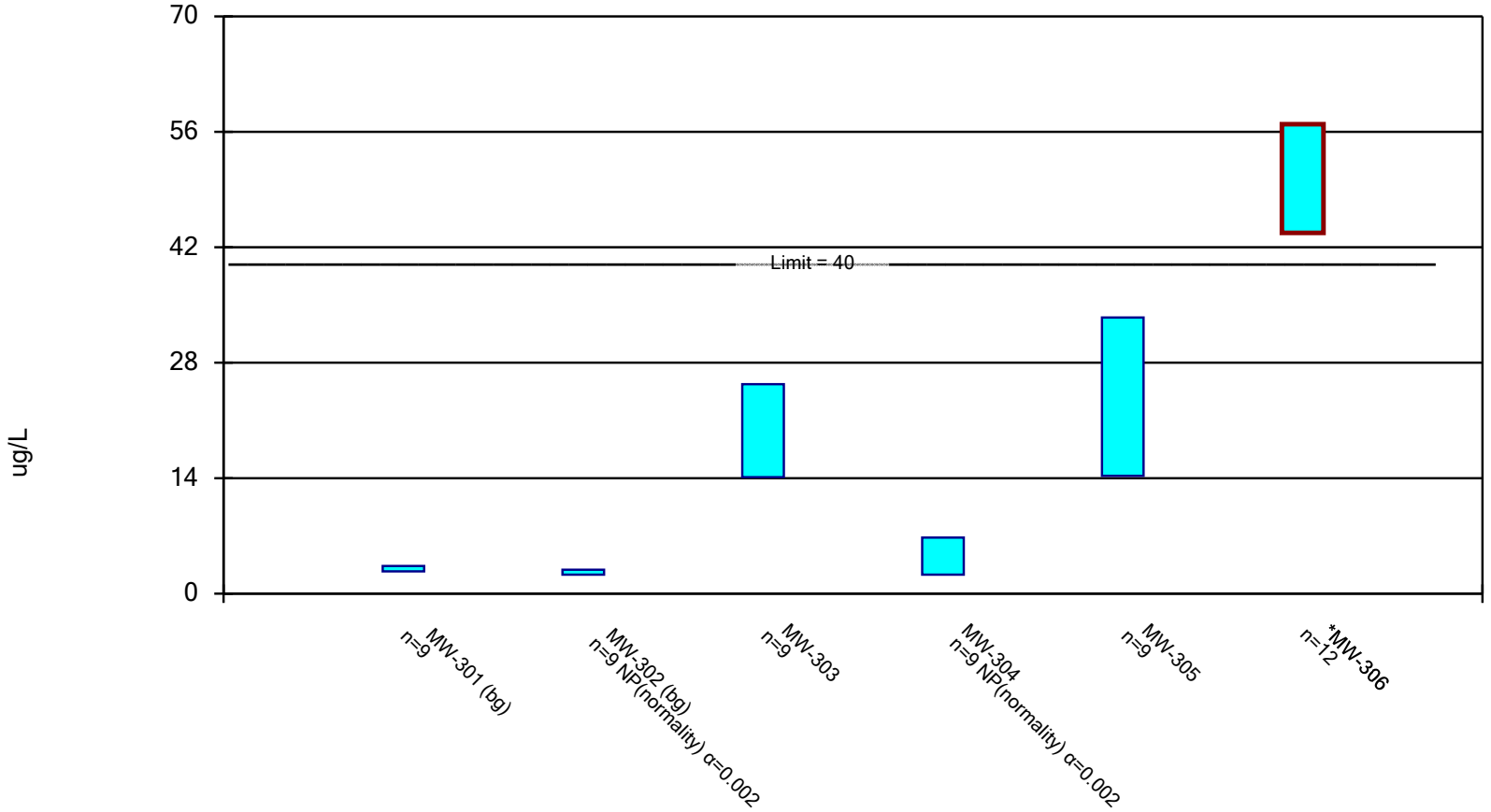
Confidence Interval

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 6/26/2023, 9:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (ug/L)	MW-301 (bg)	3.356	2.689	40	No	9	0	None	No	0.01	Param.
Lithium (ug/L)	MW-302 (bg)	2.9	2.3	40	No	9	22.22	None	No	0.002	NP (normality)
Lithium (ug/L)	MW-303	25.39	14.12	40	No	9	0	None	No	0.01	Param.
Lithium (ug/L)	MW-304	6.8	2.3	40	No	9	55.56	None	No	0.002	NP (normality)
Lithium (ug/L)	MW-305	33.49	14.29	40	No	9	0	None	No	0.01	Param.
Lithium (ug/L)	**MW-306**	**56.93**	**43.74**	**40**	**Yes**	**12**	**0**	**None**	**No**	**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: Lithium Analysis Run 6/26/2023 8:59 AM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 6/26/2023 9:00 AM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306
12/11/2019	3.5 (J)					
12/12/2019		2.8 (J)	27	2.9 (J)	16	40
2/3/2020	2.7 (J)	<2.3 (U)	22	<2.3 (U)	10	39
4/7/2020	3.4 (J)	<2.3 (U)	23	<2.3 (U)	12	40
5/11/2020						42
10/13/2020	3.2 (J)	2.8 (J)	26	2.8 (J)	22	52
2/24/2021						55
4/6/2021	2.5 (J)	2.8 (J)	17	<2.5 (U)	29	48
7/14/2021						59
10/26/2021	2.8 (J)	2.9 (J)	20	6.8 (J)	35	55
4/21/2022				<2.5 (U)	32	52
4/22/2022	3 (J)	2.5 (J)	7.8 (J)			
10/10/2022		2.8 (J)	19			
10/11/2022				6.8 (J)	37	
10/12/2022	3.3 (J)					63
4/10/2023		2.8 (J)	16			
4/11/2023	2.8 (J)			<2.5 (U)	22	
4/12/2023						59
Mean	3.022	2.667	19.76	3.489	23.89	50.33
Std. Dev.	0.3456	0.2345	5.834	1.888	9.943	8.403
Upper Lim.	3.356	2.9	25.39	6.8	33.49	56.93
Lower Lim.	2.689	2.3	14.12	2.3	14.29	43.74

ND substitution: RL or RL/2 if <15% NDs.

E2 LCL Evaluation – October 2023 Event

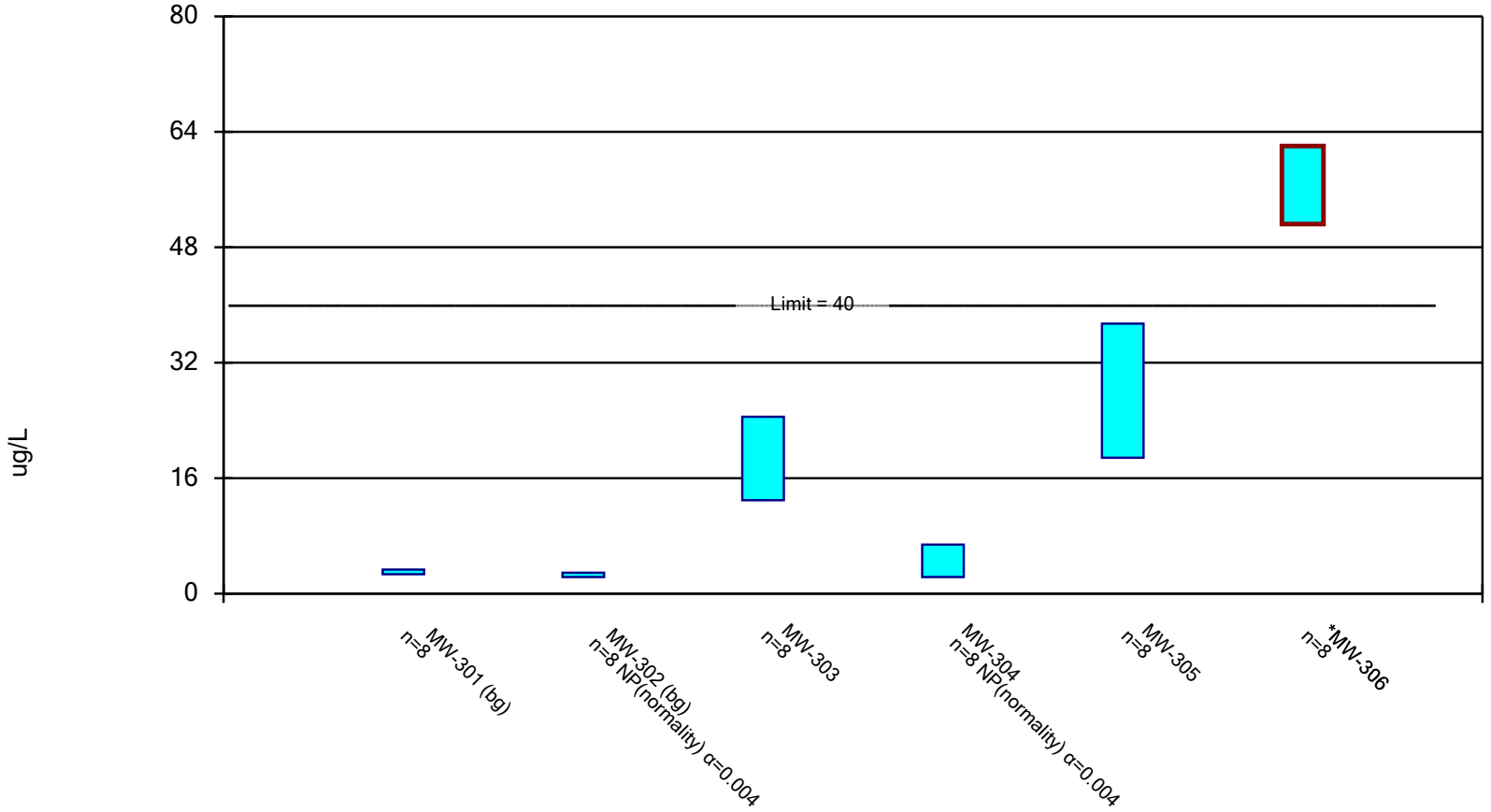
Confidence Interval

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 2/5/2024, 9:02 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (ug/L)	MW-301 (bg)	3.33	2.695	40	No	8	0	None	No	0.01	Param.
Lithium (ug/L)	MW-302 (bg)	2.9	2.3	40	No	8	12.5	None	No	0.004	NP (normality)
Lithium (ug/L)	MW-303	24.5	12.95	40	No	8	0	None	No	0.01	Param.
Lithium (ug/L)	MW-304	6.8	2.3	40	No	8	50	None	No	0.004	NP (normality)
Lithium (ug/L)	MW-305	37.42	18.83	40	No	8	0	None	No	0.01	Param.
Lithium (ug/L)	**MW-306**	**62.03**	**51.22**	**40**	**Yes**	**8**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (ug/L)	MW-301 (bg)	1.701	0.7532	100	No	8	75	Kapla...	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-302 (bg)	1.3	0.91	100	No	8	87.5	Kapla...	No	0.004	NP (NDs)
Molybdenum (ug/L)	MW-303	19.89	2.681	100	No	8	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-304	3.8	0.91	100	No	8	62.5	None	No	0.004	NP (normality)
Molybdenum (ug/L)	MW-305	51.92	27.33	100	No	8	0	None	No	0.01	Param.
Molybdenum (ug/L)	MW-306	90.77	44.98	100	No	8	0	None	No	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: Lithium Analysis Run 2/5/2024 8:53 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 2/5/2024 9:02 PM

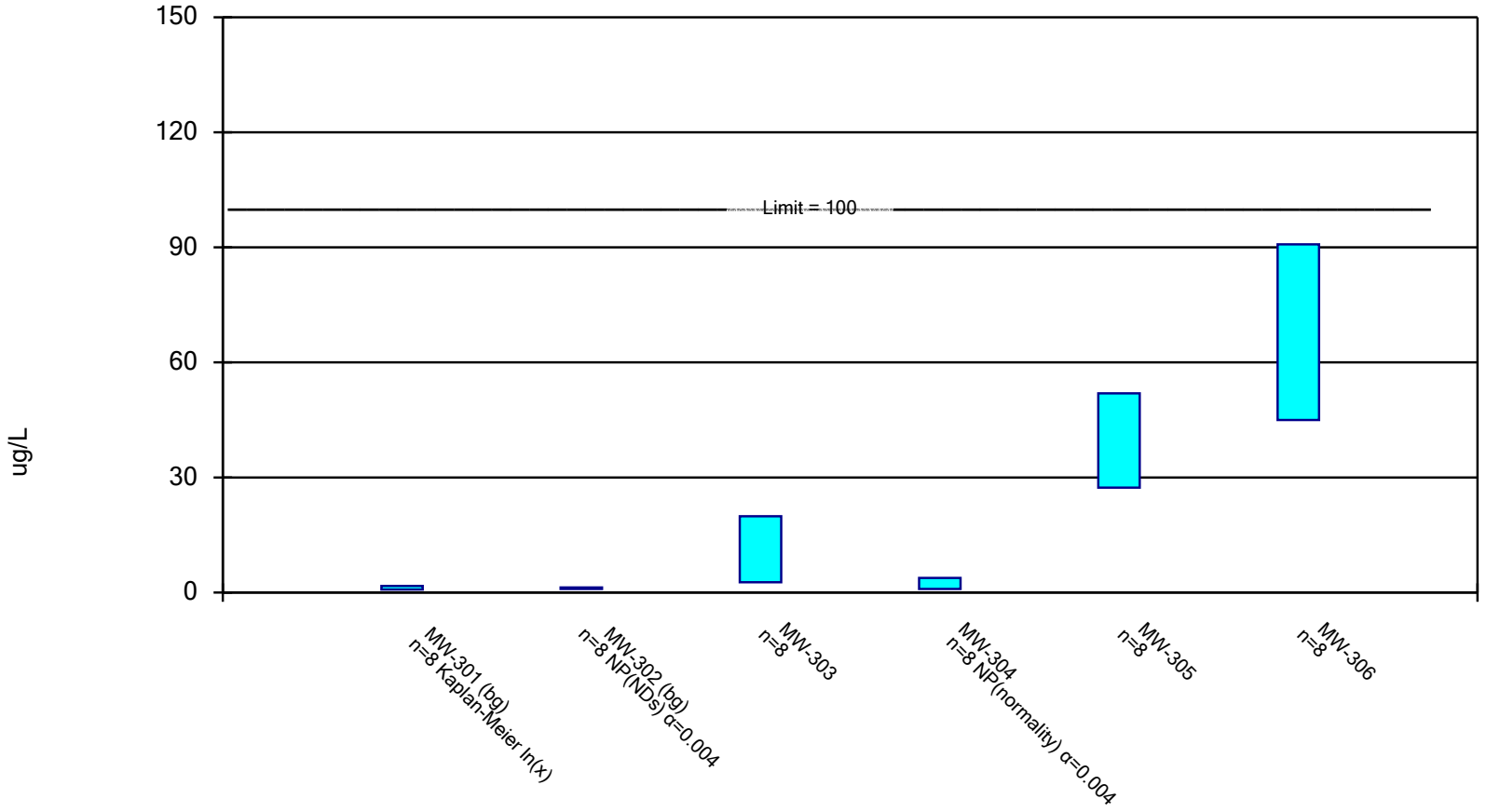
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306
4/7/2020	3.4 (J)	<2.3 (U)	23	<2.3 (U)	12	
10/13/2020	3.2 (J)	2.8 (J)	26	2.8 (J)	22	
2/24/2021						55
4/6/2021	2.5 (J)	2.8 (J)	17	<2.5 (U)	29	48
7/14/2021						59
10/26/2021	2.8 (J)	2.9 (J)	20	6.8 (J)	35	55
4/21/2022				<2.5 (U)	32	52
4/22/2022	3 (J)	2.5 (J)	7.8 (J)			
10/10/2022		2.8 (J)	19			
10/11/2022				6.8 (J)	37	
10/12/2022	3.3 (J)					63
4/10/2023		2.8 (J)	16			
4/11/2023	2.8 (J)			<2.5 (U)	22	
4/12/2023						59
10/18/2023	3.1 (J)	2.8 (J)				
10/19/2023						62
10/20/2023			21	6.3 (J)	36	
Mean	3.013	2.712	18.73	4.062	28.13	56.63
Std. Dev.	0.2997	0.2031	5.449	2.139	8.774	5.097
Upper Lim.	3.33	2.9	24.5	6.8	37.42	62.03
Lower Lim.	2.695	2.3	12.95	2.3	18.83	51.22

ND substitution: RL or RL/2 if <15% NDs.

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: Molybdenum Analysis Run 2/5/2024 8:53 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 2/5/2024 9:02 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306
4/7/2020	<1.1 (U)	<1.1 (U)	23	<1.1 (U)	20	36
10/13/2020	2.5	<1.1 (U)	22	1.4 (J)	36	42
4/6/2021	<1.3 (U)	<1.3 (U)	11	<1.3 (U)	41	59
10/26/2021	<1.3 (U)	<1.3 (U)	5.9	<1.3 (U)	55	66
4/21/2022				<1.2 (U)	42	83
4/22/2022	<1.2 (U)	<1.2 (U)	2.4			
10/10/2022		<1.2 (U)	5.3			
10/11/2022				2.5	48	
10/12/2022	<1.2 (U)					81
4/10/2023		0.91 (J)	4.7			
4/11/2023	1.9 (J)			<0.91 (U)	27	
4/12/2023						76
10/18/2023	<0.91 (U)	<0.91 (U)				
10/19/2023						100
10/20/2023			16	3.8	48	
Mean	1.426	1.128	11.29	1.689	39.63	67.88
Std. Dev.	0.5189	0.1541	8.12	0.9778	11.6	21.6
Upper Lim.	1.701	1.3	19.89	3.8	51.92	90.77
Lower Lim.	0.7532	0.91	2.681	0.91	27.33	44.98

ND substitution: RL or RL/2 if <15% NDs.

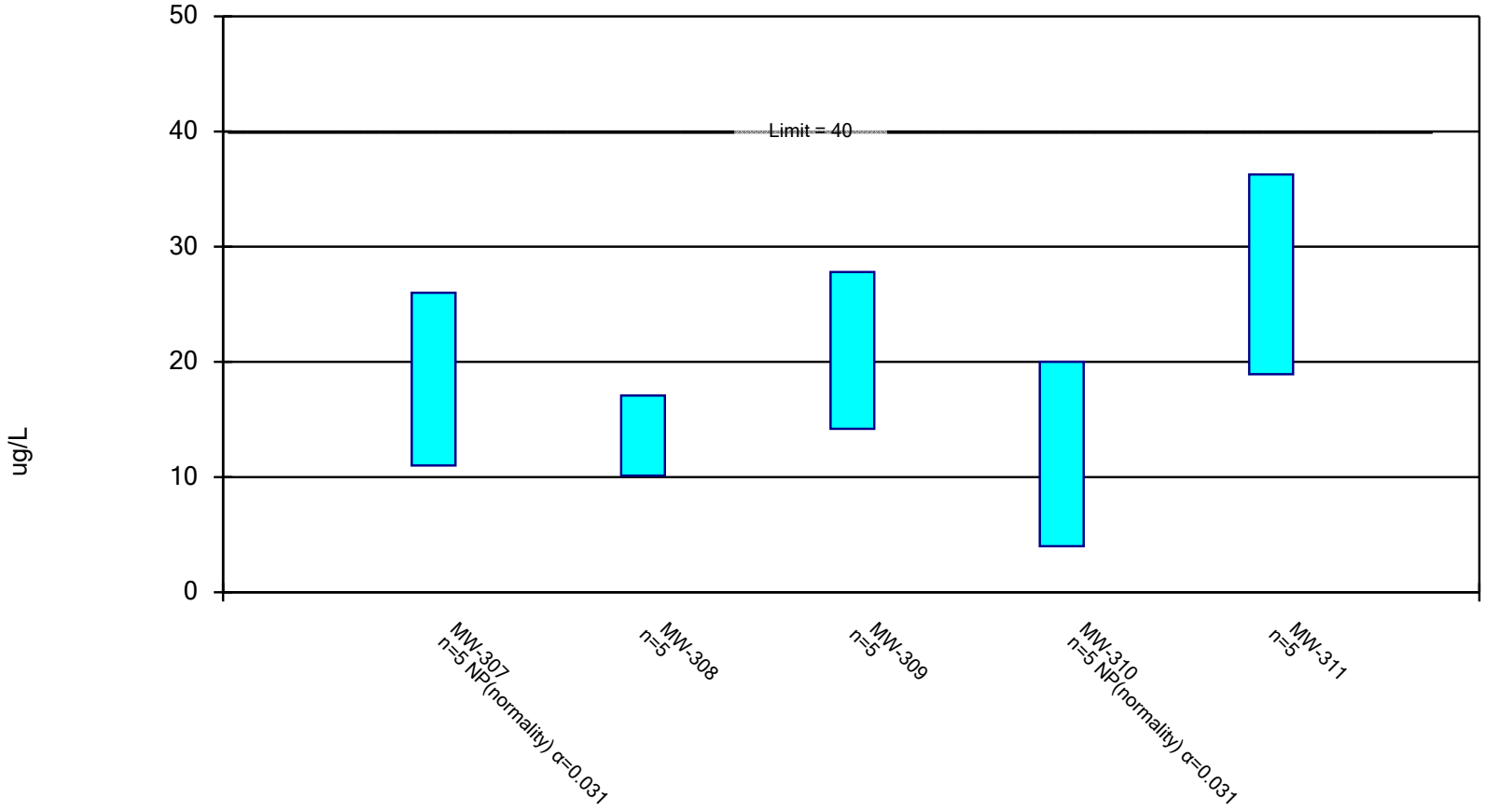
Confidence Interval

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 2/5/2024, 9:29 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (ug/L)	MW-307	26	11	40	No	5	0	None	No	0.031	NP (normality)
Lithium (ug/L)	MW-308	17.07	10.13	40	No	5	0	None	No	0.01	Param.
Lithium (ug/L)	MW-309	27.81	14.19	40	No	5	0	None	No	0.01	Param.
Lithium (ug/L)	MW-310	20	4	40	No	5	0	None	No	0.031	NP (normality)
Lithium (ug/L)	MW-311	36.27	18.93	40	No	5	0	None	No	0.01	Param.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 2/5/2024 9:06 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 2/5/2024 9:29 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-307	MW-308	MW-309	MW-310	MW-311
12/9/2021	22	11			
4/21/2022	26	15			
5/12/2022			17	20	25
8/11/2022			26	19	31
10/10/2022	22	14			
10/11/2022			24	18	29
4/10/2023	24				
4/11/2023			21	4 (J)	20
4/13/2023		12			
10/18/2023	11	16			
10/20/2023			17	20	33
Mean	21	13.6	21	16.2	27.6
Std. Dev.	5.831	2.074	4.062	6.87	5.177
Upper Lim.	26	17.07	27.81	20	36.27
Lower Lim.	11	10.13	14.19	4	18.93