

2022 Annual Groundwater Monitoring and Corrective Action Report

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OVERVIEW OF CURRENT STATUS

Sutherland Generating Station 2022 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: <u>April 2022</u> Boron: MW-304, MW-305, MW-306

Category	Rule Requirement	Site Status
SSIs (continued)		Calcium: MW-304, MW-305, MW-306 Sulfate: MW-304, MW-305, MW-306 Total Dissolved Solids (TDS): MW-304, MW-305, MW-306 <u>October 2022</u> Boron: MW-303, MW-304, MW-305, MW-306 Calcium: MW-304, MW-305, MW-306 Field pH: MW-306 Sulfate: MW-304, MW-305, MW-306 Total Dissolved Solids: MW-304, MW-305, MW-306
	(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 2022, concentrations determined to be at SSL above the GPS as follows: <u>April 2022</u> Lithium: MW-306 <u>October 2022</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 2022 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 2022 Annual Groundwater Monitoring and Corrective Action Report for the CCR unit.

This report covers the period of groundwater monitoring from January 1, 2022, through December 31, 2022.

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 and four downgradient monitoring wells (**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, May, August, and October 2022 shallow water table maps (**Figures 3, 4, 5, and 6**). 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 four 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. 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.

One additional compliance well, two new delineation monitoring wells, and one delineation piezometer were installed in 2023. These well installations will be discussed in the 2023 Annual Report.

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;

Three new monitoring wells, MW-309, MW-310, and MW-311, were installed in May 2022, to characterize site conditions in accordance with § 257.95(g)(1). 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;

Four groundwater sampling events were completed for the SGS CCR units in 2022. Assessment monitoring continued in 2022 with semiannual sampling events in April and October. Supplemental sampling events for evaluation of the nature and extent of groundwater impacts occurred in May and August 2022 at MW-309, MW-310, and MW-311.

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 in the April and October sampling events were analyzed for both Appendix III and Appendix IV constituents. The samples collected at MW-309, MW-310, and MW-311 March and August events were analyzed for field pH and lithium.

The sampling results for Appendix III and Appendix IV parameters in 2022 are summarized in **Table 5A** and **Table 5B**. All field parameter results for the 2022 sampling events are provided in **Table 6**. The analytical laboratory reports from the April through October 2022 monitoring events are provided in **Appendix C**. Historical results for monitoring wells MW-301 through MW-311 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 2022.

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 2022 events are provided in **Appendix E**.

Consistent with previous determinations, lithium was determined to be at an SSL above the GPS at monitoring well MW-306 in the evaluation of the 2022 assessment monitoring results.

In 2022, the monitoring results for the April, May, August, and October 2022 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 UPL calculations for Appendix III parameters and UTL calculations for Appendix IV parameters are included in **Appendix E**. The UPLs calculated in January 2023 were applied to the evaluation of the October 2022 monitoring results.

The Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (USEPA, 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 2022 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.

- Well documentation report for the monitoring wells MW-307 and MW-308 (March 2022).
- Statistical evaluation for the October 2021 assessment monitoring event, completed in January 2022.
- Statistical evaluation for the December 2021 supplemental monitoring event, completed in April 2022.
- Two semiannual groundwater sampling and analysis events (April and October 2022).
- Installation of monitoring wells MW-309, MW-310, and MW-311 (May 2022).
- Two supplemental sampling events for lithium at MW-309, MW-310, and MW-311 (May and August 2022).
- Assessment of Corrective Measures (June 2022).
- Statistical evaluation for the April 2022 semiannual groundwater sampling event and May 2022 supplemental monitoring event (June 2022).
- 2021 Annual Groundwater Monitoring and Corrective Action Report (July 2022).
- Two supplemental sampling events for initial samples at newly installed monitoring wells MW-309, MW-310, and MW-311 (May and August 2022).
- Alliant Energy contacted the United States Fish and Wildlife Service (USFWS) for evaluation of potential protected bat species habitat at the proposed locations for monitoring wells MW-306A, MW-312, MW-313, and MW-314, which were installed in

2023. Received approval from the USFWS for clearing of access routes and proposed well locations (September 2022).

- Semiannual Progress Report for the Selection of Remedy (September 2022).
- Reconnaissance for the proposed delineation well MW-306A, MW-312, MW-313, and MW-314 locations and identify access routes that require tree clearing (September 2022).
- Asplundh performed reconnaissance of access routes and proposed delineation well locations to determine the viability of providing access and developing a cost proposal (October 2022).
- Statistical evaluation for the August 2022 supplemental sampling event (November 2022).
- August 2022 Groundwater Monitoring Results Report (December 2022).

Description of Any Problems Encountered.

Not applicable. No problems encountered during 2022.

Discussion of Actions to Resolve the Problems.

Not applicable. No problems encountered during 2022.

Projection of Key Activities for the Upcoming Year (2023):

- Statistical evaluation and determination of any SSLs exceeding the GPS for the October 2022 monitoring event (January 2023).
- Installation of one new compliance well, two new delineation monitoring wells, and one delineation piezometer (February 2023).
- Well documentation report for the monitoring wells MW-309, MW-310, and MW-311 (July 2023).
- Two semiannual groundwater sampling and analysis events (April and October 2023).
- Statistical evaluation and determination of any SSLs exceeding the GPS for the April 2023 monitoring event (July 2023).
- Update the groundwater monitoring network certification to include compliance well MW-312.
- Supplemental monitoring event(s) for the new delineation wells to support the selection remedy.

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 2022.

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 2022 assessment monitoring results, background UPLs, and GPSs established for SGS are provided in **Table 5A** and **Table 5B**. 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 2022.

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.

A demonstration of the need for additional time to complete the ACM was prepared on April 18, 2022, including a certification from a qualified professional engineer. A copy of the demonstration is included in **Appendix F**.

§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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**Table 1. Groundwater Monitoring Well Network
Sutherland Generating Station / SCS Engineers Project #25222076.00**

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-307	Upgradient	Delineation
MW-308	Upgradient	Delineation
MW-309	Downgradient	Delineation
MW-310	Downgradient	Delineation
MW-311	Downgradient	Delineation

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

Date: 12/14/2020
 Date: 10/6/2022
 Date: 1/24/2023

**Table 2. Groundwater Samples Summary
Sutherland Generating Station / SCS Engineers Project #25222076.00**

Sample Dates	Background Wells		Compliance Wells				Delineation Wells				
	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311
4/21-22/2022	A	A	A	A	A	A	A	A	NI	NI	NI
5/12/2022	--	--	--	--	--	--	--	--	S	S	S
8/11/2022	--	--	--	--	--	--	--	--	S	S	S
10/10-12/2022	A	A	A	A	A	A	A	A	A	A	A
Total Samples	2	2	2	2	2	2	2	2	3	3	3

Abbreviations:

- A = Assessment Monitoring Program sampling event
- R-A = Assessment Monitoring Program resampling event
- S = Supplemental Monitoring Event
- NI = Not Installed
- = Not Sampled

Created by: NDK Date: 3/9/2021
 Last revision by: ACW Date: 12/23/2022
 Checked by: RM Date: 12/23/2022

I:\25222076.00\Deliverables\2022 Fed Annual Report\Tables\[Table 2 - GW Samples Summary Table.xlsx]GW Summary

Table 3. Groundwater Elevation Summary
Sutherland Generating Station / SCS Engineers Project #25222076.00

Ground Water Elevation in feet above mean sea level (amsl)											
Well Number	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311
Top of Casing Elevation (feet amsl)	866.61	863.08	859.54	860.79	859.81	861.13	864.87	863.07	859.95	860.55	857.64
Screen Length (ft)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	15.00	15.00	10.00
Total Depth (ft from top of casing)	18.80	18.50	18.65	18.80	19.08	18.71	17.50	16.00	20.00	20.00	15.00
Top of Well Screen Elevation (ft)	857.81	854.58	850.89	851.99	850.73	852.42	857.37	857.07	854.95	855.55	852.64
Measurement Date											
November 29, 2017	853.76	853.81	851.98	851.74	851.68	851.36	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
May 23, 2018	855.45	855.32	854.07	853.92	853.99	854.11	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
July 26, 2018	855.96	855.75	854.14	853.86	854.00	853.94	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
November 28, 2018	856.99	856.74	855.01	854.79	854.87	854.91	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
February 12, 2019	856.59	856.43	854.58	854.41	854.56	854.75	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
October 16, 2019	856.15	855.30	854.90	854.78	854.99	852.16	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
February 3, 2020	856.24	856.59	854.57	854.35	854.28	854.14	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
May 11, 2020	NM	NM	NM	NM	853.78	853.71	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
February 24, 2021	NM	NM	NM	NM	NM	850.56	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
July 14, 2021	NM	NM	NM	NM	NM	850.67	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
December 9, 2021	NM	NM	NM	NM	NM	NM	851.56	851.87	NI	NI	NI
April 21-22, 2022	853.87	855.04	852.35	851.97	851.91	851.82	852.76	853.08	NI	NI	NI
May 12, 2022	NM	NM	NM	NM	NM	NM	NM	NM	853.95	853.71	853.56
May 24, 2022	854.22	854.38	853.09	852.98	853.00	853.03	853.83	854.02	851.92	851.94	851.91
August 11, 2022	853.41	853.25	851.39	851.03	851.02	850.92	852.17	852.52	849.47	849.49	849.46
October 10, 2022	851.98	851.94	849.96	849.70	849.73	849.62	850.79	851.18	848.44	848.31	848.21
Bottom of Well Elevation (ft)	847.81	844.58	840.89	841.99	840.73	842.42	847.37	847.07	839.95	840.55	842.64

Notes:
 NM = not measured
 NI = not installed

Created by: NDK Date: 1/15/2018
 Last revision by: LMH Date: 10/14/2022
 Checked by: NDK Date: 10/17/2022
 Proj Mgr QA/QC: TK Date: 3/19/2023

\\Mad-fs01\data\Projects\25222076.00\Deliverables\2022 Fed Annual Report\Tables\[Table 3 - GW Elevation Summary_SGS.xlsx]levels

**Table 4. Horizontal Gradients and Flow Velocity
Sutherland Generating Station /
SCS Engineers Project #25222076.00
January - December 2022**

Sampling Dates	East				
	h1 (ft)	h2 (ft)	Δl (ft)	Δh/Δl (ft/ft)	V (ft/d)
April 21-23, 2022	852.50	851.91	521.62	0.0011	0.17
May 24, 2022	853.00	851.94	1261.06	0.0008	0.13
August 11, 2022	851.00	849.49	1272.85	0.0012	0.18
October 10, 2022	849.50	848.31	1113.00	0.001	0.16

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

Assumed Porosity, n
0.40

Note: Geometric Mean calculation does not include the upgradient wells

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

ft = feet

ft/d = feet per day

K = hydraulic conductivity

n = effective porosity

V = groundwater flow velocity

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

Δl = distance between location 1 and 2

Δh/Δl = hydraulic gradient

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

Date: 10/6/2022
Date: 1/25/2023
Date: 2/10/2023

**Table 5A. Groundwater Analytical Results - April, May, and August 2022
Sutherland Generating Station / SCS Engineers Project #25222076.00**

Parameter Name	UPL Method	UPL	GPS	Background Wells		Compliance Wells		Compliance Wells		Delineation Wells									
				MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309		MW-310		MW-311			
				4/22/2022	4/22/2022	4/22/2022	4/21/2022	4/21/2022	4/21/2022	4/21/2022	4/21/2022	5/12/2022	8/11/2022	5/12/2022	8/11/2022	5/12/2022	8/11/2022		
Appendix III																			
Boron, ug/L	P	307		<58.0	71.0 J	130	630	1100	4400	500	370	--	--	--	--	--	--		
Calcium, mg/L	P	96		50.0	77.0	28.0	130	140	170	180	120	--	--	--	--	--	--		
Chloride, mg/L	P	63.5		2.4 J	17.0	<2.30	3.70 J	20.0	19.0	21.0	14.0	--	--	--	--	--	--		
Fluoride, mg/L	P	0.32		<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	--	--	--	--	--	--		
Field pH, Std. Units	P	7.78		6.23	7.11	7.30	6.77	6.99	7.71	6.62	7.12	7.42	7.40	7.44	7.37	7.17	7.27		
Sulfate, mg/L	P	95.6		33.0	91.0	33.0	310	280	470	350	120	--	--	--	--	--	--		
Total Dissolved Solids, mg/L	P	516		150	320	100	580	590	780	750	390	--	--	--	--	--	--		
Appendix IV																			
Antimony, ug/L	P	2.9	6	<0.69	0.69 J	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	--	--	--	--	--	--		
Arsenic, ug/L	P	40	40	<0.75	21.0	1.90 J	<0.75	7.10	4.00	4.40	0.90 J	--	--	--	--	--	--		
Barium, ug/L	NP	1,100	2,000	86.0	170	36.0	21.0	35.0	80.0	46.0	81.0	--	--	--	--	--	--		
Beryllium, ug/L	NP	1.3	4	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	--	--	--	--	--	--		
Cadmium, ug/L	P	0.97	5	<0.055	<0.055	0.29	0.073 J	0.061 J	<0.055	0.35	<0.055	--	--	--	--	--	--		
Chromium, ug/L	P	3.7	100	<1.10	<1.10	<1.10	<1.10	2.8 J	<1.10	1.30 J	<1.10	--	--	--	--	--	--		
Cobalt, ug/L	P	8.8	8.8	0.63	6.30	1.40	<0.19	1.40	0.54	6.80	2.80	--	--	--	--	--	--		
Fluoride, mg/L	P	0.32	4	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	--	--	--	--	--	--		
Lead, ug/L	P	2.9	15	0.26 J	<0.24	0.73	<0.24	<0.24	<0.24	0.92	0.34 J	--	--	--	--	--	--		
Lithium, ug/L	NP	13	40	3.00 J	2.50 J	7.80 J	<2.50	32.0	52.0	26.0	15.0	17.0	26.0	20.0	19.0	25.0	31.0		
Mercury, ug/L	DQ	DQ	2	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	--	--	--	--	--	--		
Molybdenum, ug/L	P	18	100	<1.20	<1.20	2.40	<1.20	42.0	83.0	4.10	<1.20	--	--	--	--	--	--		
Selenium, ug/L	P	16	50	1.30 J	22.0	1.40 J	<0.96	<0.96	<0.96	<0.96	<0.96	--	--	--	--	--	--		
Thallium, ug/L	NP*	0.43	2	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	--	--	--	--	--	--		
Radium 226/228 Combined, pCi/L	P	3.2	5	0.244	0.663	2.04	0.350	0.349	0.194	0.568	0.517	--	--	--	--	--	--		
Additional Parameters																			
Lithium, dissolved, ug/L	UPL or GPS not applicable			--	--	--	--	--	56	23	--	--	--	--	--	--	--		
Iron, dissolved, ug/L				<36	<36	<36	<36	<36	46.0	500	590	--	--	--	--	--	--	--	--
Iron, ug/L				410	780	2,300	<36	200	84.0	1,200	1,200	--	--	--	--	--	--	--	--
Magnesium, dissolved, ug/L				9,300	23,000	7,400	34,000	31,000	35,000	44,000	29,000	--	--	--	--	--	--	--	--
Magnesium, ug/L				9,500	23,000	7,800	34,000	31,000	37,000	44,000	30,000	--	--	--	--	--	--	--	--
Manganese, dissolved, ug/L				150	65.0	51.0	5.00 J	1,200	2,300	5,600	1,500	--	--	--	--	--	--	--	--
Manganese, ug/L				590	600	560	61.0	1,200	2,500	5,500	1,500	--	--	--	--	--	--	--	--
Potassium, ug/L				1,400	280 J	2,000	<150	4,800	7,900	4,500	4,400	--	--	--	--	--	--	--	--
Sodium, ug/L				9,300	19,000	6,700	41,000	41,000	47,000	27,000	20,000	--	--	--	--	--	--	--	--
Total Alkalinity, mg/L				170	200	88.0	200	250	120	290	310	--	--	--	--	--	--	--	--
Carbonate Alkalinity, mg/L				<4.60	<4.60	<4.60	<4.6	<4.6	<4.60	<4.6	<4.6	--	--	--	--	--	--	--	--
Bicarbonate Alkalinity, mg/L				170	200	88.0	200	250	120	290	310	--	--	--	--	--	--	--	--

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 and evaluation of Monitored Natural Attenuation

**Table 5A. Groundwater Analytical Results - April, May, and August 2022
Sutherland Generating Station / SCS Engineers Project #25222076.00**

Abbreviations:

UPL = Upper Prediction Limit
ug/L= micrograms per Liter
mg/L = milligrams per Liter
LOD = Limit of Detection

P = Parametric UPL with 1-of-2 retesting
NP= Nonparametric UPL (highest background value)
DQ= Double Quantification (not detected in background)
LOQ = Limit of Quantification
GPS = Groundwater Protection Standard
-- = Not Analyzed

Lab Notes/Qualifiers:

J = Result is less than the reporting limit but greater than limits or equal to the method detection limit
* = UPL is below the LOQ for background sampling. For compliance wells, only results confirmed above the LOQ are evaluated as potential SSIs above background or statistically significant level above GPS.

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.

Created by: <u>NDK</u>	Date: <u>4/30/2021</u>
Last revision by: <u>DK</u>	Date: <u>10/6/2022</u>
Checked by: <u>JR</u>	Date: <u>10/9/2022</u>
Proj Mgr QA/QC: <u>TK</u>	Date: <u>3/19/2023</u>

Table 5B. Groundwater Analytical Results - October 2022
Sutherland Generating Station / SCS Engineers Project #25222076.00

Parameter Name	UPL Method	UPL	GPS	Background Wells			Compliance Wells				Delineation Wells				
				MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	
				10/12/2022	10/10/2022	10/10/2022	10/11/2022	10/11/2022	10/12/2022	10/10/2022	10/10/2022	10/11/2022	10/11/2022	10/11/2022	
Appendix III															
Boron, ug/L	P	278		71 J	<58	410	470	1,100	3,400	420	400	1,400	920	1,400	
Calcium, mg/L	P	95.4		55	68	79	110	110	140	170	130	170	140	150	
Chloride, mg/L	P	90.9		8.9	5.8	12	12	27	16	17	14	17	20	19	
Fluoride, mg/L	NP	0.60		<0.22	<0.22	<0.22	0.26 J	0.36 J	0.25 J	<0.22	0.26 J	0.22 J	<0.22	0.33 J	
Field pH, Std. Units	P	7.67		6.50	7.17	7.44	6.64	7.58	7.68	6.64	6.91	7.17	7.10	7.05	
Sulfate, mg/L	P	150.0		22	16	55	160	200	340	270	130	350	290	310	
Total Dissolved Solids, mg/L	P	483		260	270	350	530	540	720	760	540	800	710	760	
Appendix IV															
	UTL Method	UTL													
Antimony, ug/L	P	1.48	6	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	
Arsenic, ug/L	NP	21	40	<0.75	4.5	2.5	<0.75	8.4	4.1	5.9	<0.75	2.2	1.2 J	1.2 J	
Barium, ug/L	P	275	2,000	45	88	48	26	41	66	44	64	170	55	120	
Beryllium, ug/L	NP	0.48	4	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	
Cadmium, ug/L	NP	0.28	5	0.081 J	<0.055	0.062 J	0.068 J	<0.055	<0.055	0.24	<0.055	0.25	0.11	0.092 J	
Chromium, ug/L	NP	3.5	100	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	2.5 J	<1.1	<1.1	
Cobalt, ug/L	P	17.3	8.8	0.25 J	1.8	1.1	<0.19	0.62	0.42 J	4.6	2.5	5.8	2.7	1.1	
Fluoride, mg/L	NP	0.600	4	<0.22	<0.22	<0.22	0.26 J	0.36 J	0.25 J	<0.22	0.26 J	0.22 J	<0.22	0.33 J	
Lead, ug/L	NP	2.5	15	<0.24	<0.24	0.34 J	<0.24	<0.24	<0.24	0.80	<0.24	2.0	2.6	0.27 J	
Lithium, ug/L	NP	12.6	40	3.3 J	2.8 J	19	6.8 J	37	63	22	14	24	18	29	
Mercury, ug/L	DQ	DQ	2	--	--	--	--	--	--	--	--	--	--	--	
Molybdenum, ug/L	NP	13.6	100	<1.2	<1.2	5.3	2.5	48	81	5.8	<1.2	<1.2	<1.2	<1.2	
Selenium, ug/L	NP	22.0	50	11	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	
Thallium, ug/L	NP*	0.43	2	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	
Radium 226/228 Combined, pCi/L	P	3.36	5	0.739	1.14	0.623	0.772	0.703	0.750	0.873	0.763	2.39	1.99	0.541	
Additional Parameters - Selection of Remedy															
Lithium, dissolved, ug/L	UPL or GPS not applicable			--	--	--	--	--	62	21	--	--	--	--	
Iron, dissolved, ug/L				<36	270	62 J	<36	<36	<36	560	660	83 J	250	<36	
Iron, ug/L				150 F1	650	410	61 J	240	85 J	2,300	710	4,800	1,900	1,400	
Magnesium, dissolved, ug/L				16,000	23,000	20,000	29,000	<150	25,000	39,000	30,000	44,000	40,000	36,000	
Magnesium, ug/L				15,000	20,000	20,000	29,000	26,000	25,000	40,000	29,000	51,000	43,000	37,000	
Manganese, dissolved, ug/L				2200	910	1200	14	<3.6	1,900	5,200	1,700	35	240	100	
Manganese, ug/L				2,400	970	1,500	66	620	1,800	5,500	1,700	990	600	510	
Potassium, ug/L				1,800	330 J	4,700	620	5,700	7,500	5,200	4,800	4,900	4,100	5,200	
Sodium, ug/L				12,000	4,300	19,000	33,000	38,000	34,000	29,000	21,000	42,000	39,000	45,000	
Total Alkalinity, mg/L				190	380	280	290	230	150	350	310	240	260	250	
Carbonate Alkalinity, mg/L				<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	
Bicarbonate Alkalinity, mg/L				190	380	280	290	230	150	350	310	240	260	250	

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 and evaluation of Monitored Natural Attenuation.

Table 5B. Groundwater Analytical Results - October 2022
Sutherland Generating Station / SCS Engineers Project #25222076.00

Abbreviations:

UPL = Upper Prediction Limit
ug/L= micrograms per Liter
mg/L = milligrams per Liter
LOD = Limit of Detection

P = Parametric UPL with 1-of-2 retesting
NP= Nonparametric UPL (highest background value)
DQ= Double Quantification (not detected in background)

LOQ = Limit of Quantification
GPS = Groundwater Protection Standard
-- = Not Analyzed

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.
- * = UPL is below the LOQ for background sampling. For compliance wells, only results confirmed above the LOQ are evaluated as potential SSIs above background or statistically significant level above GPS.

Created by: <u>NDK</u>	Date: <u>11/1/2022</u>
Last revision by: <u>RM</u>	Date: <u>11/13/2022</u>
Checked by: <u>BR</u>	Date: <u>1/3/2023</u>
Proj Mgr QA/QC: <u>TK</u>	Date: <u>3/19/2023</u>

Table 6. 2022 Groundwater Field Data Summary
Sutherland Generating Station / SCS Engineers Project #25222076.00
January - December 2022

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	4/22/2022	853.87	8.9	6.23	0.98	282	139.7	40.7
	10/12/2022	851.98	15.6	6.50	0.00*	388	172.5	0.0
MW-302	4/22/2022	855.04	8.2	7.11	3.76	539	123.3	16.3
	10/10/2022	851.94	13.2	7.17	0.00*	473	2.6	84.0
MW-303	4/22/2022	852.35	7.0	7.30	3.23	241	83.7	34.7
	10/10/2022	849.96	15.7	7.44	0.01	546	-8.5	0.0
MW-304	4/21/2022	851.97	7.2	6.77	0.77	874	98.9	4.7
	10/11/2022	849.70	13.0	6.64	0.00	732	218.8	0.0
MW-305	4/21/2022	851.91	10.0	6.99	0.14	938	120.5	11.1
	10/11/2022	849.73	14.7	7.58	0.00*	786	17.5	0.0
MW-306	4/21/2022	851.82	11.2	7.71	0.25	1,100	110.2	4.6
	10/12/2022	849.62	14.2	7.68	0.00*	915	118.8	0.0
MW-307	4/21/2022	852.76	10.6	6.62	0.12	1,104	81.3	26.3
	10/10/2022	850.79	17.3	6.64	0.00	1,025	22.9	44.8
MW-308	4/22/2022	853.08	8.9	7.12	0.15	726	105.7	26.9
	10/10/2022	851.18	15.0	6.91	0.00*	780	-23.9	77.9
MW-309	5/12/2022	853.95	9.5	7.42	7.66	937	191.4	0.1
	8/11/2022	849.47	13.3	7.40	0.25	1,065	22.3	36.6
	10/11/2022	848.44	11.7	7.17	0.09	1,017	193.6	653.3
MW-310	5/12/2022	853.71	9.6	7.44	4.81	1,044	190.7	2.9
	8/11/2022	849.49	13.3	7.37	0.14	1,001	29.0	36.4
	10/11/2022	848.31	13.7	7.10	1.07	937	178.5	217.9
MW-311	5/12/2022	853.56	7.9	7.17	5.15	1,017	199.6	0.7
	8/11/2022	849.46	15.0	7.27	0.71	952	39.7	32.0
	10/10/2022	848.21	14.9	7.05	0.16	977	160.3	4.9

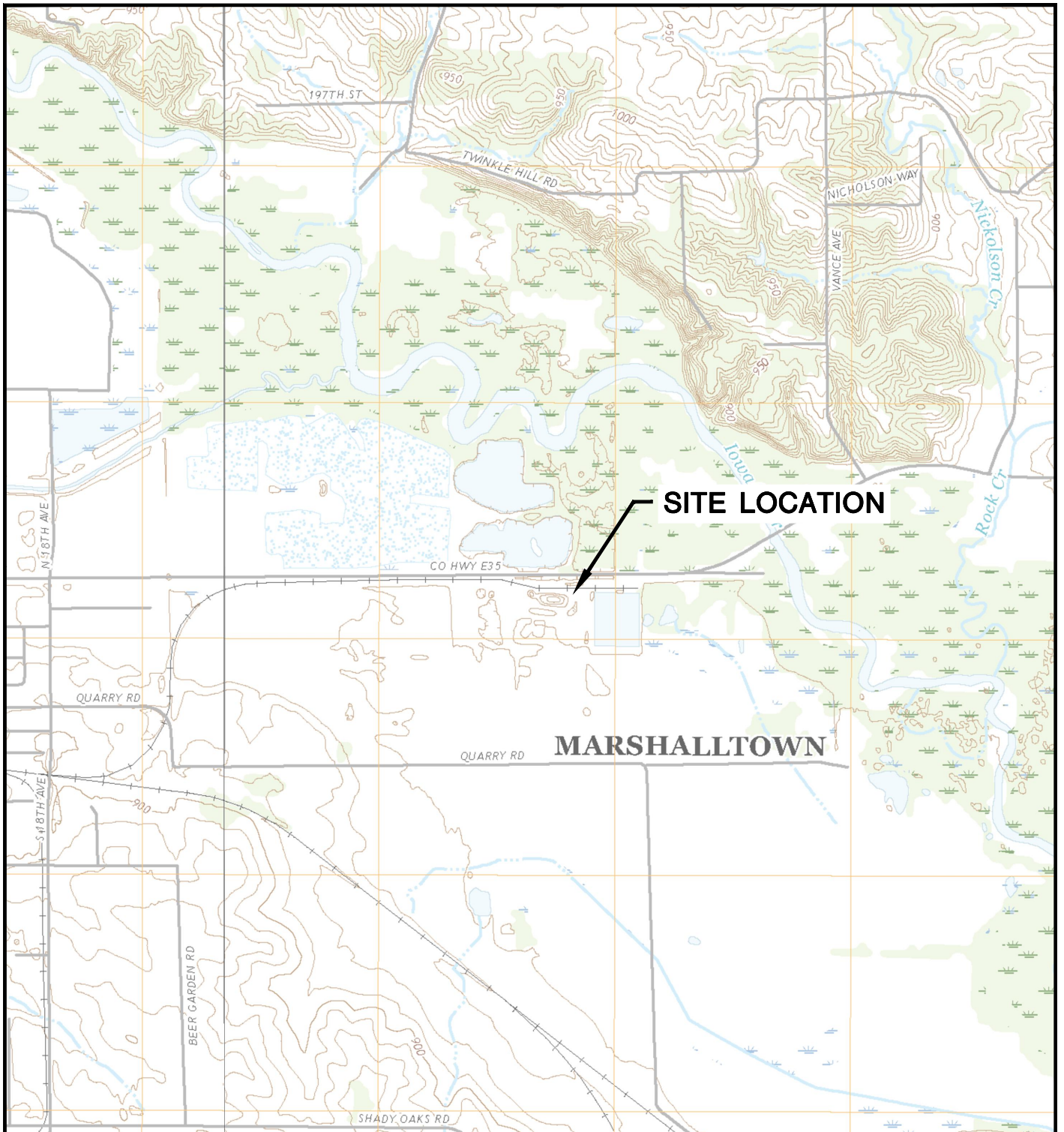
Notes:

* = Multiple readings for Oxygen, Dissolved were originally reading as as negative values on the field instrument during the October 2022 sampling event and have been corrected to zeros.

Created by:	<u>NDK</u>	Date:	<u>10/6/2022</u>
Last revision by:	<u>ACW</u>	Date:	<u>12/23/2022</u>
Checked by:	<u>RM</u>	Date:	<u>1/25/2023</u>

Figures

- 1 Site Location Map
- 2 Site Plan and Monitoring Well Locations
- 3 Water Table Map April 2022
- 4 Water Table Map May 2022
- 5 Water Table Map August 2022
- 6 Water Table Map October 2022



MARSHALLTOWN

SITE LOCATION



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		ENGINEER	SITE LOCATION MAP	
	PROJECT NO.	25222076.00		DRAWN BY:	BSS		SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE
DRAWN:	11/15/2019	CHECKED BY:	MDB	1				
REVISED:	01/14/2020	APPROVED BY:	TK 3/20/2022					

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

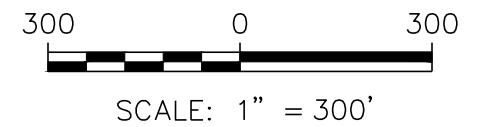


LEGEND

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

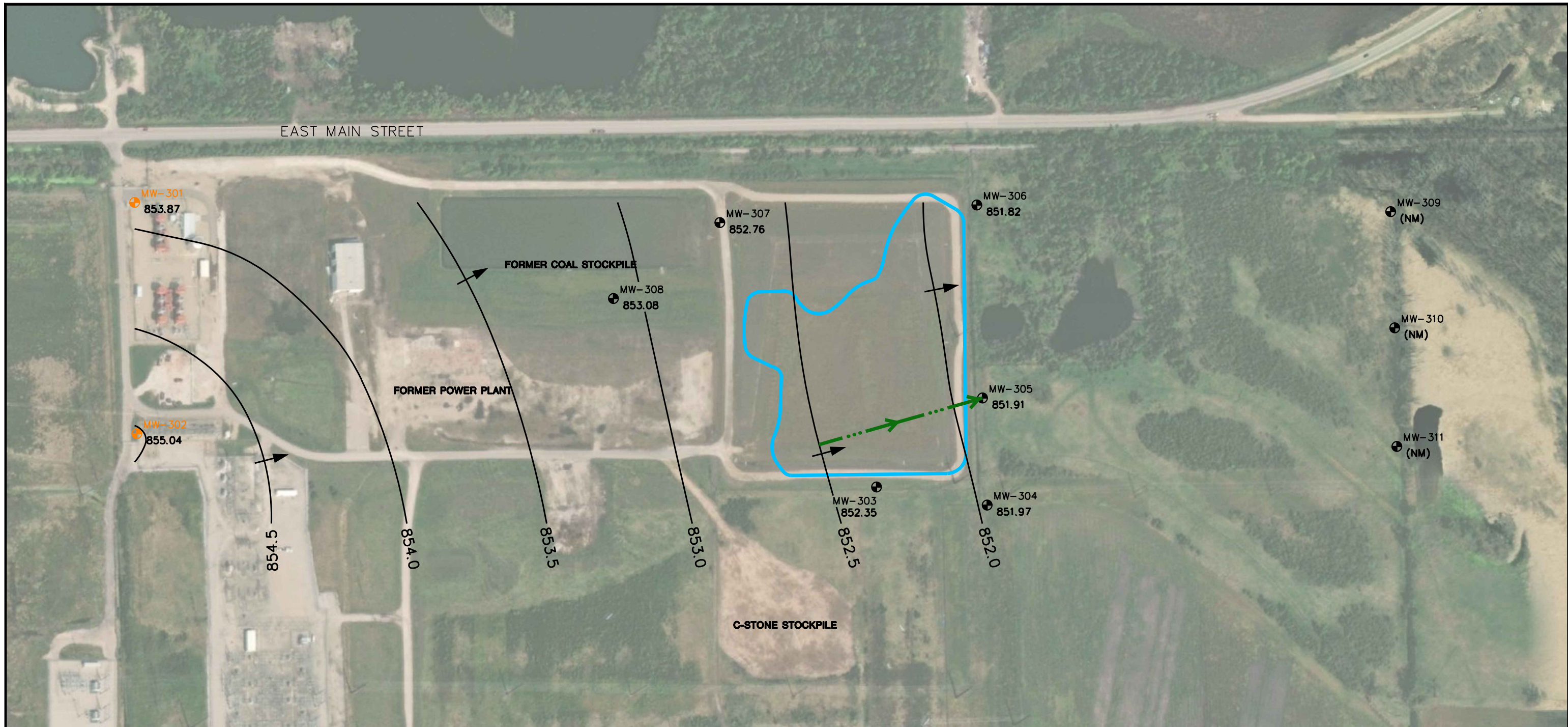
NOTES:

1. 2020 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRIID, 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. CCR UNIT LIMITS ARE APPROXIMATE.
6. THE BACKGROUND MONITORING WELLS FOR THE SUTHERLAND GENERATING STATION ARE MW-301 AND MW-302.



PROJECT NO. 25222076.00	DRAWN BY: BSS	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 MASHALLTOWN, IOWA	SITE PLAN AND MONITORING WELL LOCATIONS	FIGURE
DRAWN: 11/14/2019	CHECKED BY: TK/NDK								2
REVISED: 06/20/2022	APPROVED BY: TK								

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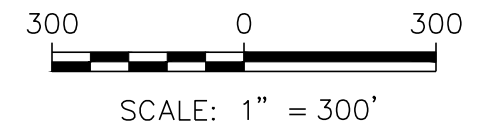


LEGEND

	CCR MONITORING WELL		WATER TABLE CONTOUR
	CCR BACKGROUND MONITORING WELL		FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4A)
	CCR UNITS		APPROXIMATE GROUNDWATER FLOW DIRECTION
854.38	WATER TABLE ELEVATION (APRIL 21-22, 2022)		
(NM)	NOT MEASURED		

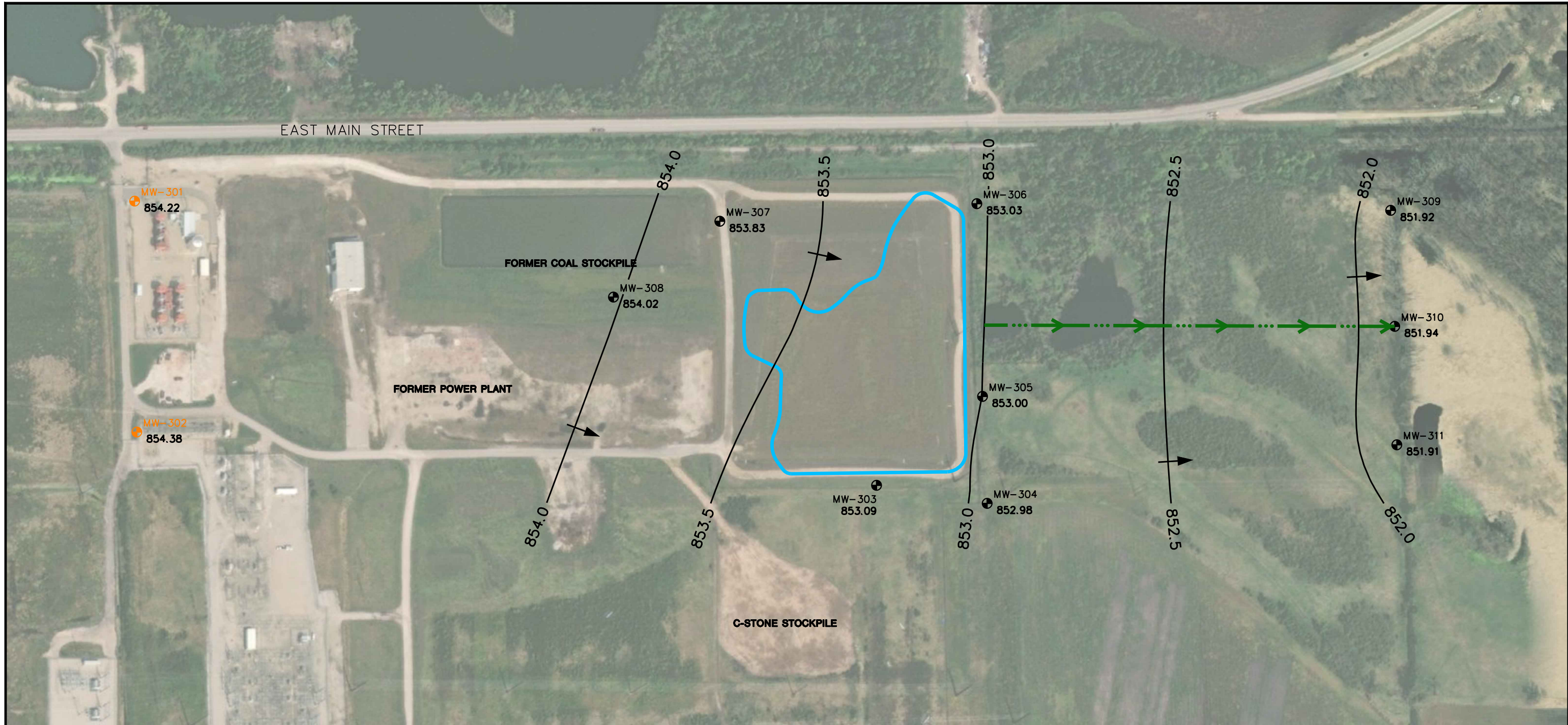
NOTES:

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. MONITORING WELLS MW-309, MW-310, AND MW-311 WERE INSTALLED BY DIRECT PUSH ANALYTICAL ON MAY 4, 2022.
4. WATER TABLE CONTOURS ARE ESTIMATED BASED ON DATA OBTAINED ON APRIL 21-23, 2022.



PROJECT NO. 25222076.00	DRAWN BY: KP	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 2022	FIGURE
DRAWN: 10/21/2022	CHECKED BY: RM					3
REVISED: 02/14/2023	APPROVED BY: TK					

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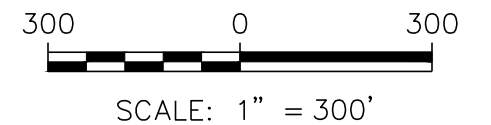


LEGEND

	CCR MONITORING WELL		WATER TABLE CONTOUR
	CCR BACKGROUND MONITORING WELL		FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4A)
	CCR UNITS		APPROXIMATE GROUNDWATER FLOW DIRECTION
854.38	WATER TABLE ELEVATION (MAY 24, 2022)		

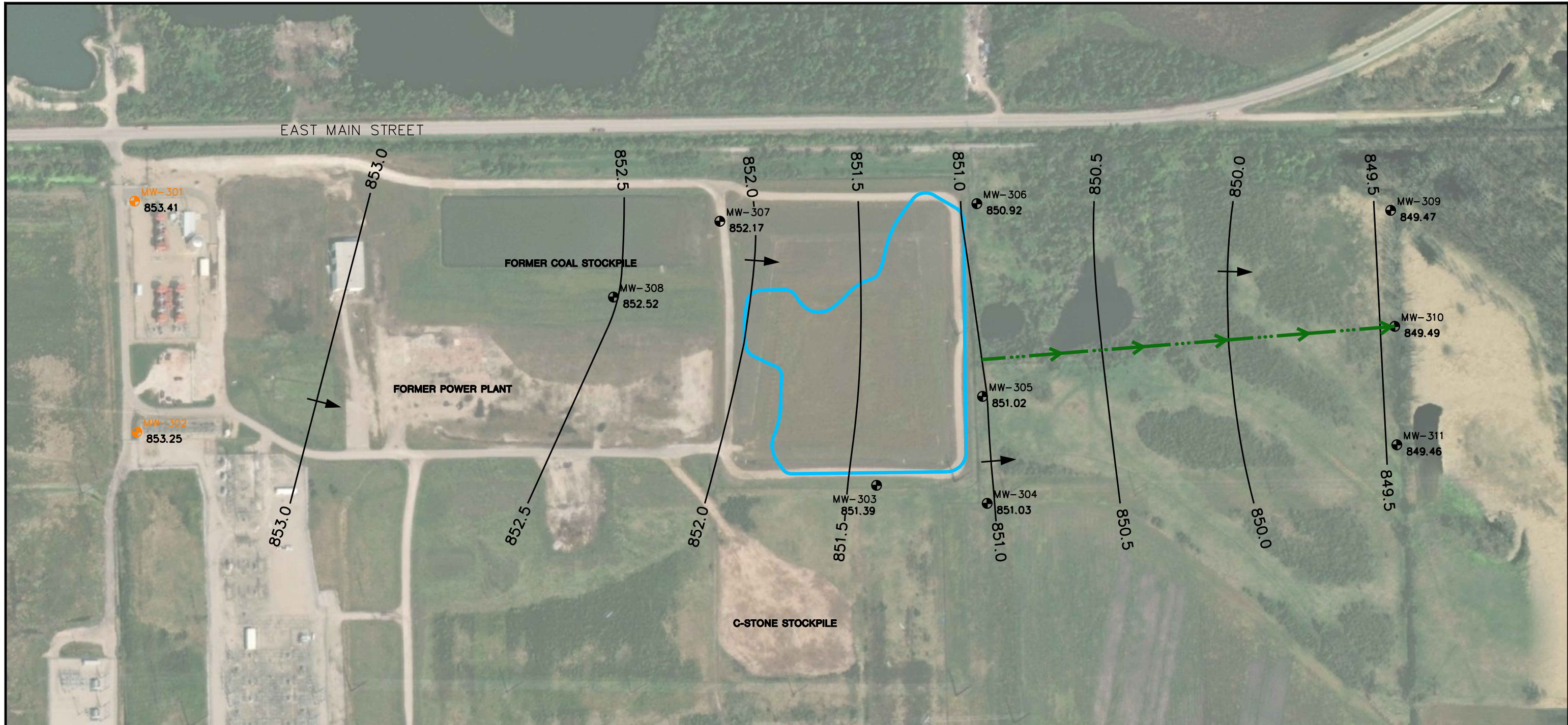
NOTES:

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 05/24/2022.



PROJECT NO. 25222076.00	DRAWN BY: BSS	 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 MAY 2022	FIGURE		
DRAWN: 06/01/2022	CHECKED BY: RM									4
REVISED: 02/14/2023	APPROVED BY: TK									

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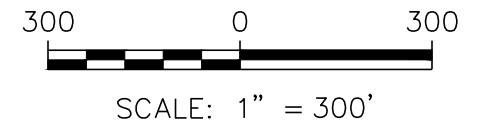


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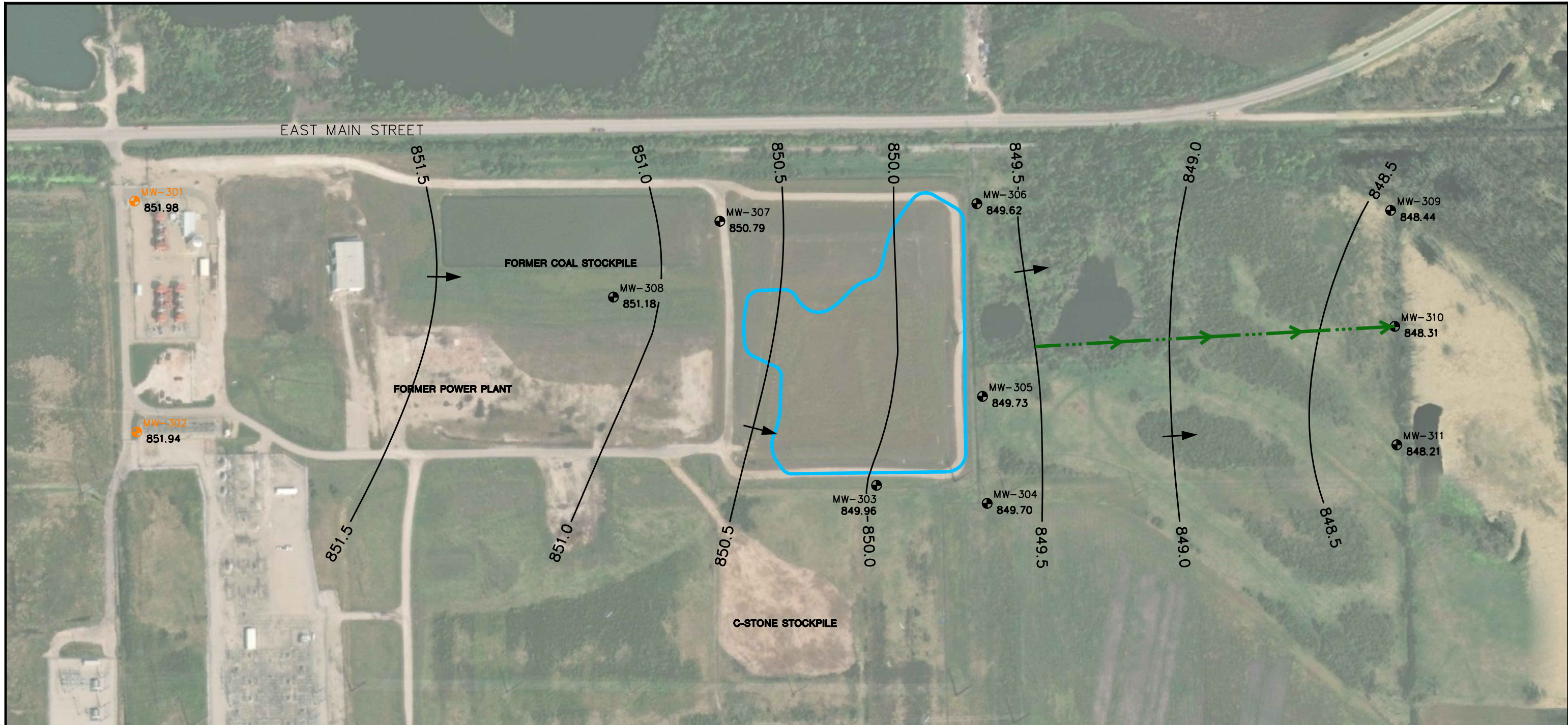
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- CCR UNITS
- 854.38** WATER TABLE ELEVATION (AUGUST 11, 2022)
- WATER TABLE CONTOUR
- FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4A)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

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 08/11/2022.



PROJECT NO.	25222076.00	DRAWN BY:	BSS	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 AUGUST 2022	FIGURE
DRAWN:	08/23/2022	CHECKED BY:	RM								5
REVISED:	02/14/2023	APPROVED BY:	TK								

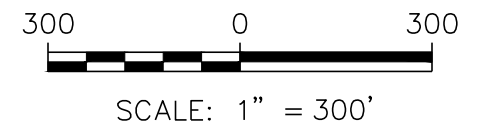


LEGEND


- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- CCR UNITS
- 854.38** WATER TABLE ELEVATION (OCTOBER 10, 2022)
- WATER TABLE CONTOUR
- FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4A)
- 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 10, 2022.



PROJECT NO.	25222076.00	DRAWN BY:	BSS	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 2022	FIGURE
DRAWN:	08/23/2022	CHECKED BY:	RM				6				
REVISED:	02/14/2023	APPROVED BY:	TK								



Appendix A
Summary of Regional Hydrogeologic Stratigraphy

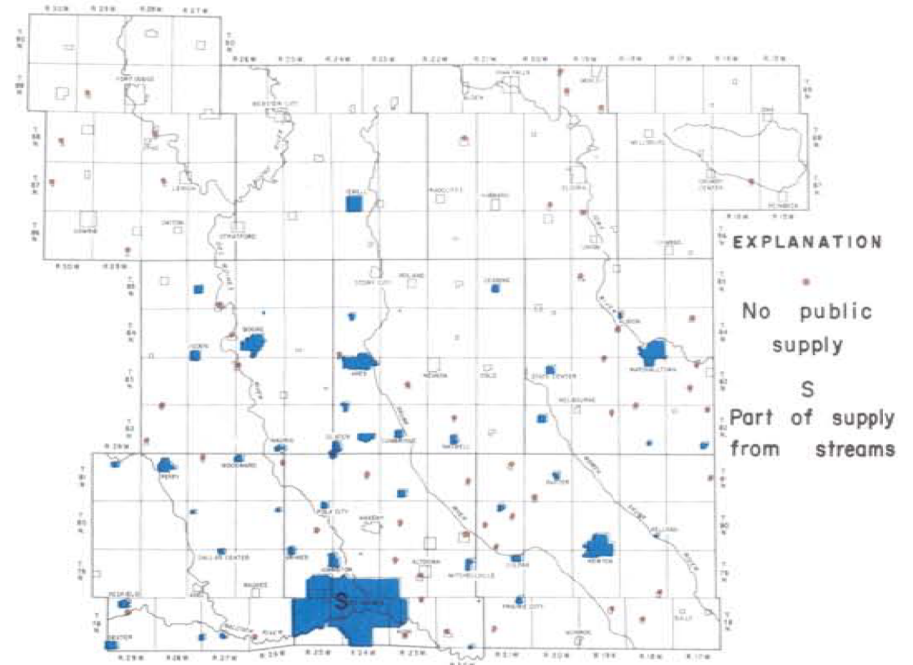
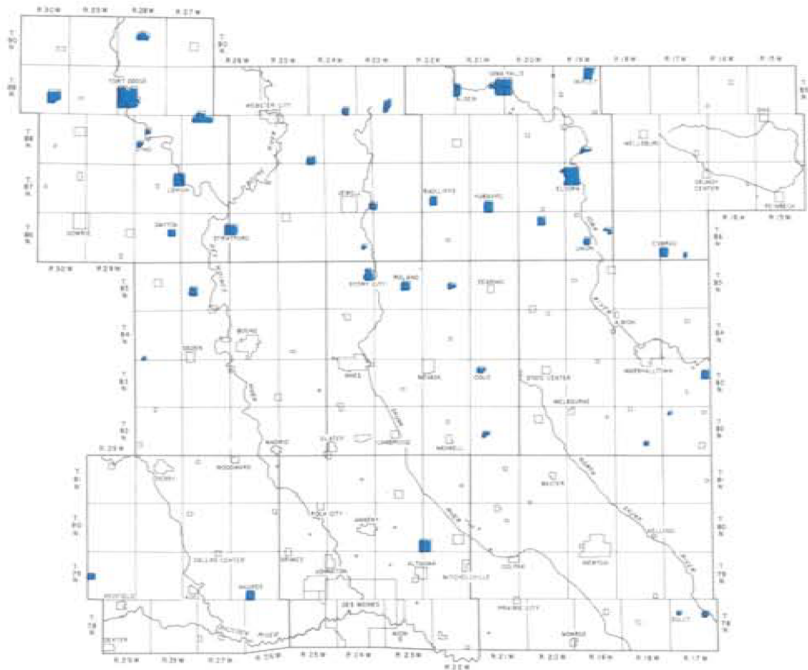
The aquifers and rocks in central Iowa

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
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

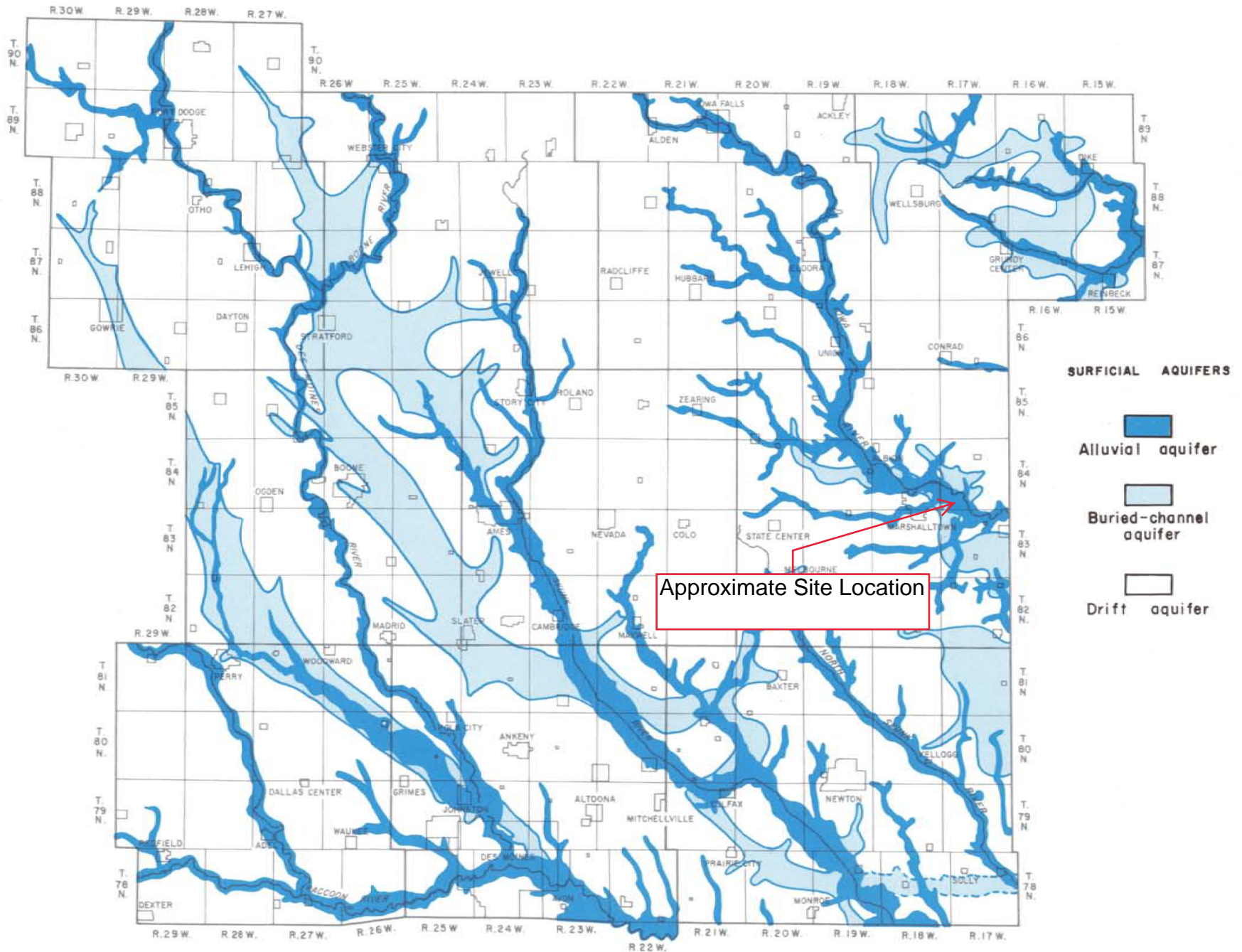
The aquifers that supply water for cities and communities

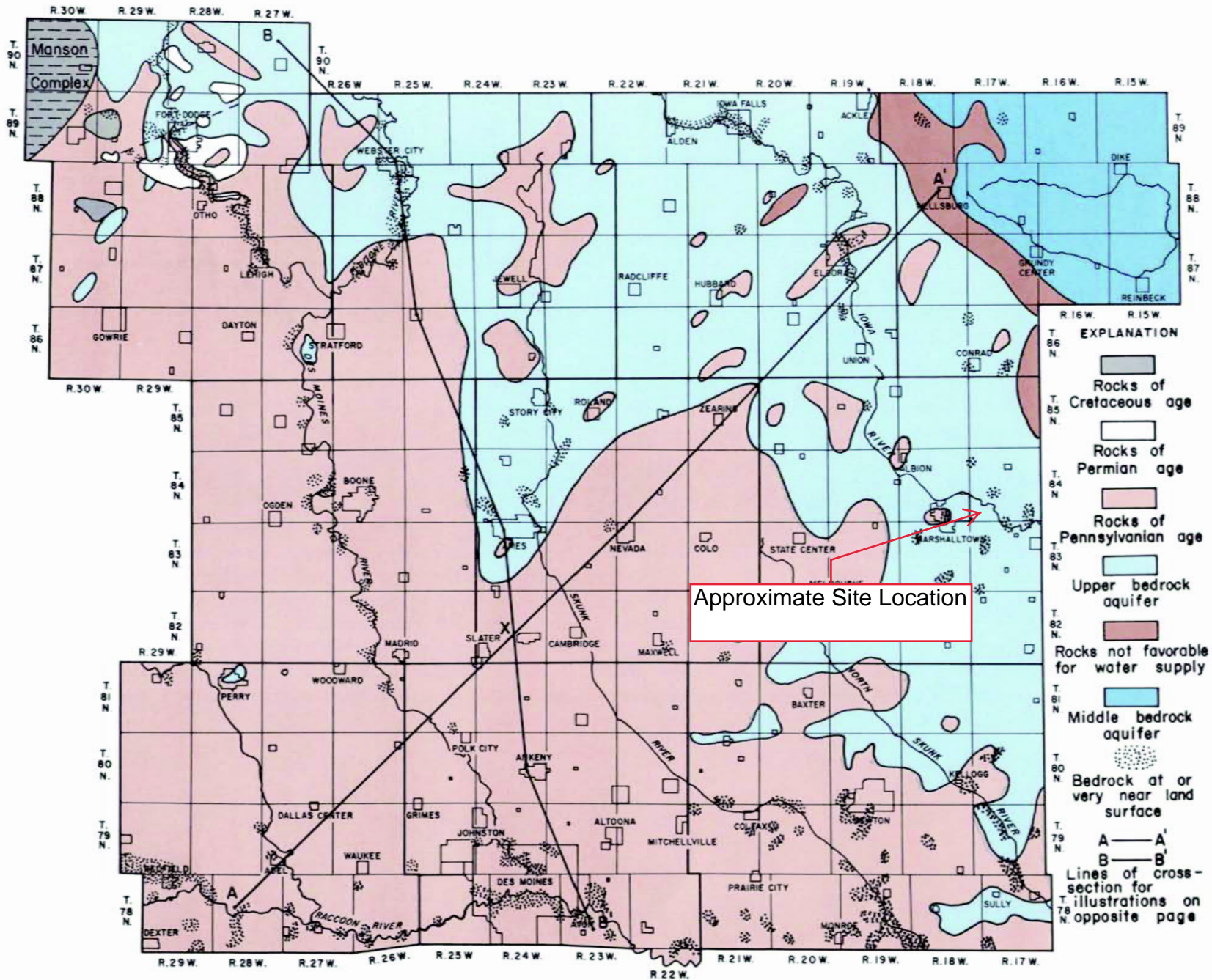
Various reasons determine why a city or community will choose one aquifer over the other as a source of water for their municipal supply. In general, however, the aquifer selected will be one that will provide the largest quantity of good water at the lowest cost.

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.





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

Appendix B

Boring Logs and Well Construction Documentation

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

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25216149.00		License/Permit/Monitoring Number		Boring Number MW-301	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 11/20/2017		Date Drilling Completed 11/20/2017	
Drilling Method hollow stem auger		Unique Well No.		DNR Well ID No.	
Common Well Name MW-301		Final Static Water Level Feet		Surface Elevation 863.5 Feet	
Borehole Diameter 8.3 in		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		Local Grid Location	
State Plane 3,481,478 N, 5,094,231 E S/C/N		Lat _____"		<input type="checkbox"/> N <input type="checkbox"/> E	
NW 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W		Long _____"		Feet <input type="checkbox"/> S Feet <input type="checkbox"/> W	
Facility ID		County Marshall		Civil Town/City/ or Village 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					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1	POORLY GRADED SAND, fine to medium, 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											
			9	POORLY GRADED SAND, fine to coarse, dark brown, (7.5YR 3/3).										
S1	30		10							M+W				Depth to water at ~8 feet
			11											
			12		SP									
			13											
S2	30		14							W				
			15											
			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 <i>Patrick Goetz</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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SCS ENGINEERS

Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25216149.00		License/Permit/Monitoring Number		Boring Number MW-302	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 11/20/2017		Date Drilling Completed 11/20/2017	
Unique Well No.		DNR Well ID No.		Common Well Name MW-302	
Final Static Water Level Feet		Surface Elevation 860.1 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,480,768 N, 5,094,238 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W		Lat _____ ' _____ "		Long _____ ' _____ "	
Facility ID		County Marshall		Civil Town/City/ or Village 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						RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S1	36		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										
			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 <i>Mike Mann for Nete Harris</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25216149.00		License/Permit/Monitoring Number		Boring Number MW-303	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 11/20/2017		Date Drilling Completed 11/20/2017	
Unique Well No.		DNR Well ID No.		Common Well Name MW-303	
Final Static Water Level Feet		Surface Elevation 856.7 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,480,604 N, 5,096,509 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NE 1/4 of Section 32 , T 84 N, R 17 W		Lat _____"		Long _____"	

Facility ID	County Marshall	Civil Town/City/ or Village Marshalltown
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1	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).										
S1	24		9											
			10											
			11											
			12		SP									
			13											
S2	30		14											
			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 <i>Mike Harms for Mike Harms</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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SCS ENGINEERS

Environmental Consultants and Contractors

SOIL BORING LOG INFORMATION

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

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25216149.00		License/Permit/Monitoring Number		Boring Number MW-304	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 11/20/2017		Date Drilling Completed 11/20/2017	
Unique Well No.		DNR Well ID No.		Common Well Name MW-304	
Final Static Water Level Feet		Surface Elevation 857.8 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,480,549 N, 5,096,849 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W		Lat _____ ' _____ "		Long _____ ' _____ "	

Facility ID	County Marshall	Civil Town/City/ or Village Marshalltown
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200			
S1	30		1	POORLY GRADED SAND, fine to coarse, tan, (construction fill sand to fill in hydrovac hole).	SP											
			2	Blind drilled to 4 feet.												
S2	32		4	LEAN CLAY, brown, (7.5YR 4/3), soft, plastic, trace organic fibers.	CL											Depth to water at ~7 feet.
			5													
			6													
			7													
S3	42		12	POORLY GRADED SAND, fine to coarse, dark yellow brown, (10YR 3/6).	SM											
			13	SILTY SAND, very dark gray, (10YR 3/1), soft.												
			14													
			15													
			16	POORLY GRADED SAND with fine sub-rounded gravel, fine to coarse, dark yellow brown, (10YR 3/6).												
				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 <i>Mike Mann for Nade Harris</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25216149.00		License/Permit/Monitoring Number		Boring Number MW-305	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 11/21/2017		Date Drilling Completed 11/21/2017	
Unique Well No.		DNR Well ID No.		Common Well Name MW-305	
		Final Static Water Level Feet		Surface Elevation 856.8 Feet	
				Borehole Diameter 8.3 in	

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

Facility ID	County Marshall	Civil Town/City/ or Village Marshalltown
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	18		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											
S2	12		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).	SP					M+/W				Depth to water at ~7 feet.
			5											
			6											
S3	30		8	LEAN CLAY with trace medium to coarse sand, very dark gray, (2.5YR 3/1), medium stiffness. POORLY GRADED SAND with trace fine sub-rounded gravel, fine to coarse, light olive brown, (2.5YR 3/1 and 2.5YR 5/4).	CL									
			9											
			10											
				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 <i>Patrick Goetz for Node Teams</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25216149.00		License/Permit/Monitoring Number		Boring Number MW-306	
Boring Drilled By: Name of crew chief (first, last) and Firm Patrick Goetz Direct Push Analytical		Date Drilling Started 11/21/2017		Date Drilling Completed 11/21/2017	
Unique Well No.		DNR Well ID No.		Common Well Name MW-306	
Final Static Water Level Feet		Surface Elevation 858.2 Feet		Borehole Diameter 8.3 in	

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

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


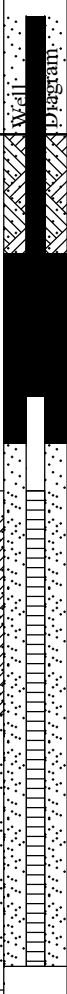
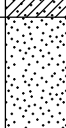
I hereby certify that the information on this form is true and correct to the best of my knowledge.

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

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25221243.00		License/Permit/Monitoring Number		Boring Number MW-307	
Boring Drilled By: Name of crew chief (first, last) and Firm Duncan List Terracon		Date Drilling Started 11/30/2021		Date Drilling Completed 11/30/2021	
Unique Well No.		DNR Well ID No.		Common Well Name MW-307	
Final Static Water Level 13.3 Feet bgs		Surface Elevation 862.3 Feet		Borehole Diameter 8.25 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 3,481,415 N, 5,096,028 E S/C/N		Lat _____ ° _____ ' _____ "		Local Grid Location	
NE 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W		Long _____ ° _____ ' _____ "		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	

Facility ID	County Marshall	Civil Town/City/ or Village Marshalltown
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1.5	Hydroexcavated to 7.5' bgs											
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						W					
S4	17		15.0		SP					W					
S5	16		16.5	color change to reddish brown at 17' bgs						W					
			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 SCS Engineers	Tel: Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name IPL-Sutherland Generating Station SCS#: 25221243.00		License/Permit/Monitoring Number		Boring Number MW-308	
Boring Drilled By: Name of crew chief (first, last) and Firm Duncan List Terracon		Date Drilling Started 11/30/2021		Date Drilling Completed 11/30/2021	
Unique Well No.		DNR Well ID No.		Common Well Name MW-308	
Final Static Water Level 11.2 Feet bgs		Surface Elevation 860.8 Feet		Borehole Diameter 8.25 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>		State Plane 3,481,182 N, 5,095,701 E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NE 1/4 of NW 1/4 of Section 32, T 84 N, R 17 W		Lat _____ ° _____ ' _____ "		Long _____ ° _____ ' _____ "	

Facility ID	County Marshall	Civil Town/City/ or Village Marshalltown
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments				
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200					
			1.5	Hydroexcavated to 8.5'														
S1	9		9.0	POORLY GRADED SAND, medium to coarse, brown, dense														
S2	14		10.5	trace gravel	SP													
S3	15		12.0															
S4	9		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 <i>James [unclear]</i>	Firm SCS Engineers	Tel: Fax:
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Route To: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other

Facility/Project Name Sutherland Generating Station		SCS#: 25221243.00		License/Permit/Monitoring Number		Boring Number MW-309	
Boring Drilled By: Name of crew chief (first, last) and Firm Brian Kinzer Direct Push Analytical				Date Drilling Started 5/4/2022		Date Drilling Completed 5/4/2022	
Unique Well No.		DNR Well ID No.		Common Well Name MW-309		Final Static Water Level 854.2 Feet	
				Surface Elevation 857.7 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane 3,481,449 N, 5,095,701 E S/C/N				Lat 42° 2' 55.1"		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E	
NW 1/4 of NE 1/4 of Section 32 , T 84 N, R 17 W				Long 92° 50' 56.1"		Feet <input type="checkbox"/> S Feet <input type="checkbox"/> W	

Facility ID	County Marshall	Civil Town/City/ or Village Marshalltown
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	22		1	CLAY, black, soft with roots and sticks and plant material (Topsoil).	CL									
			2											
S2	41		4	LEAN CLAY, brownish gray with orange mottling and trace organics, roots, and sand throughout, soft to medium stiff.	CL									
			5											
			6											
S3	29		10	SILT, brownish gray with orange mottling, and black organic material (looks like decaying wood).	CL-ML									
			11											
S4	22		12	SILT, gray to dark gray, very soft to soft with trace organics/wood.	ML									
			13											

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:
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Boring Number MW-309

Page 2 of 2

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

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

Facility/Project Name Sutherland Generating Station SCS#: 25221243.00		License/Permit/Monitoring Number		Boring Number MW-310	
Boring Drilled By: Name of crew chief (first, last) and Firm Brian Kinzer Direct Push Analytical		Date Drilling Started 5/4/2022		Date Drilling Completed 5/4/2022	
Unique Well No.		DNR Well ID No.		Common Well Name MW-310	
Final Static Water Level 851.9 Feet		Surface Elevation 858.1 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane 3,481,093 N, 5,098,101 E S/C/N		Lat 42° 2' 51.6"		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
NW 1/4 of NE 1/4 of Section 32 , T 84 N, R 17 W		Long 92° 50' 56.0"		Feet <input type="checkbox"/> S Feet <input type="checkbox"/> W	

Facility ID	County Marshall	Civil Town/City/ or Village Marshalltown
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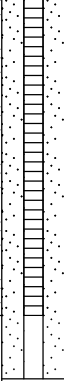
Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S1	20		1	CLAY, black with roots and sticks and plant material (Topsoil).											
			2												
S2	22		4	LEAN CLAY, light brown to brown, orange mottling with trace gray, roots and fine to medium grained sand, soft.	CL										
			5												
S3	26		8	Same as above but with trace sand and silt, soft.	CL										
			9												
S4	36		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										
			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:
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Boring Number MW-310

Page 2 of 2

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

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

Facility/Project Name Sutherland Generating Station SCS#: 25221243.00		License/Permit/Monitoring Number		Boring Number MW-311	
Boring Drilled By: Name of crew chief (first, last) and Firm Brian Kinzer Direct Push Analytical		Date Drilling Started 5/4/2022		Date Drilling Completed 5/4/2022	
Unique Well No.		DNR Well ID No.		Common Well Name MW-311	
Final Static Water Level 849.6 Feet		Surface Elevation 855.3 Feet		Borehole Diameter 8.3 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane 3,480,729 N, 5,098,107 E S/C/N		Lat 42° 2' 48.0"		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E	
NW 1/4 of NE 1/4 of Section 32, T 84 N, R 17 W		Long 92° 50' 56.0"		Feet <input type="checkbox"/> S Feet <input type="checkbox"/> W	
Facility ID		County Marshall		Civil Town/City/ or Village Marshalltown	



Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments					
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200						
S1	27		1	CLAY, black, soft with roots and sticks (Topsoil).															
			2																
S2	8		3	POORLY GRADED SAND, fine to coarse grained, brown with trace fine gravel and clay.															Dual core and MC5 geoprobe were used.
			4																
S3	13		5	Same as above but with more gravel, fine to coarse grained, brown to dark brown.	SP														Driller noted water at 4' bgs.
			6																
S4	18		7																
			8																
			9																
			10																
			11																
			12																
			13																
			14																
			15																

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

Signature 	Firm SCS Engineers 3900 Kilroy Airport Way Long Beach, CA 90806	Tel: Fax:
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Boring Number MW-311

Page 2 of 2

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



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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>3481477.68 N, 5094230.68 E</u> Specify corner of site: <u>NW of parcel 8417-32-126-002</u> Distance & direction along boundary: <u>82' E</u> Distance & direction from boundary to wall: <u>173' S</u> Elevations (± 0.01 ft MSL): Ground Surface: <u>863.50</u> Top of protective casing: <u>866.9</u> Top of well casing: <u>866.61</u> Benchmark elevation: <u>590.75</u> Benchmark description: <u>BM-001</u>	Name & Address of Construction Company: <u>Direct Push Analytical</u> <u>4N969 Old Lafox Rd Unit F</u> <u>St. Charles, IL 60175</u> Name of Driller: <u>Patrick Goetz</u> Drilling Method: <u>4 1/4 Hollow Stem Auger</u> Drilling Fluid: <u>N/A</u> Bore Hole Diameter: <u>8.5"</u> Soil Sampling Method: <u>2" Split Spoon</u> Depth of Boring: <u>16'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u> Length of casing: <u>5'</u> Outside casing diameter: <u>2.38"</u> Inside casing diameter: <u>2"</u> Casing joint type: <u>Flush Threaded</u> Casing/screen joint type: <u>PVC</u> Screen material: <u>PVC</u> Screen opening size: <u>0.010"</u> Screen length: <u>10'</u> Depth of well: <u>15'</u> Filter Pack: <u>3.5'-15.69' bgs</u> Material: <u>RW Sidley</u> Grain size: <u>#5</u> Volume: <u>2.1 cu ft</u> Seal (minimum 3 ft length above filter pack): <u>0.5'-3.5' bgs</u> Material: <u>3/8" Benseal Bentonite Chips</u>	Placement method: <u>Gravity</u> Volume: <u>0.66 cu ft</u> Backfill (if different from seal): <u>N/A</u> Material: <u>N/A</u> Placement method: <u>N/A</u> Volume: <u>N/A</u> Surface seal design: <u>0'-0.5' bgs</u> Material of protective casing: <u>Steel, 4" diameter</u> Material of grout between protective casing and well casing: <u>Sand</u> Protective cap: <u>6" diameter</u> Material: <u>Steel</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Well Cap: <u>2" diameter</u> Material: <u>Plastic with rubber gasket</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>12.80</u> Well development method: <u>surged with bailer and pumped</u> Average depth of frostline: <u>4 feet</u>	Stabilization Time: <u><5 min</u>

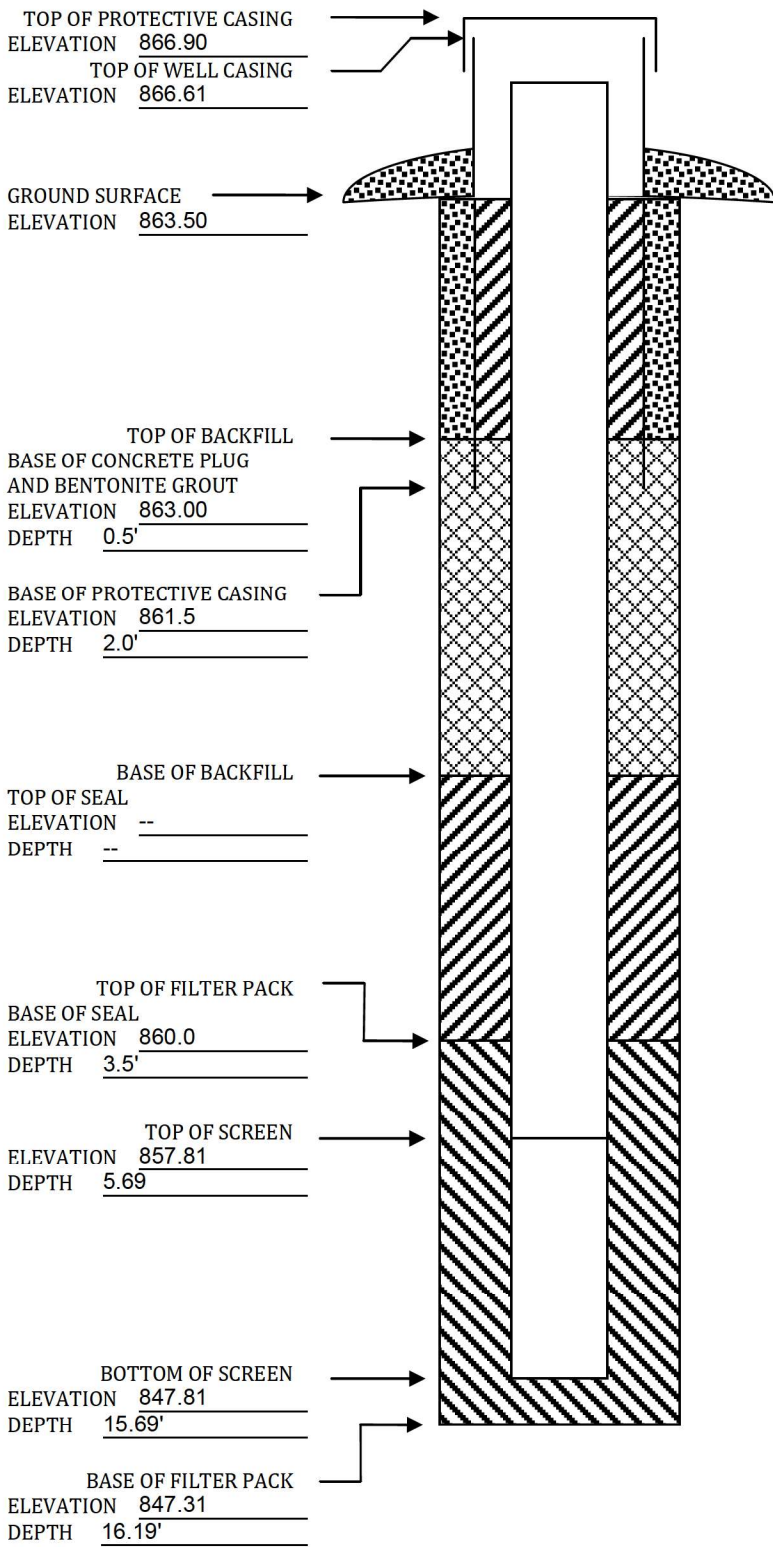
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL-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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>3480767.91 N, 5094237.526 E</u> Specify corner of site: <u>SW of parcel 8417-32-126-002</u> Distance & direction along boundary: <u>324' N</u> Distance & direction from boundary to wall: <u>42' E</u> Elevations (± 0.01 ft MSL): Ground Surface: <u>860.06</u> Top of protective casing: <u>863.32</u> Top of well casing: <u>863.08</u> Benchmark elevation: <u>590.75</u> Benchmark description: <u>BM-001</u>	Name & Address of Construction Company: <u>Direct Push Analytical</u> <u>4N969 Old Lafox Rd Unit F</u> <u>St. Charles, IL 60175</u> Name of Driller: <u>Patrick Goetz</u> Drilling Method: <u>4 1/4 Hollow Stem Auger</u> Drilling Fluid: <u>N/A</u> Bore Hole Diameter: <u>8.5"</u> Soil Sampling Method: <u>2" Split Spoon</u> Depth of Boring: <u>16'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u> Length of casing: <u>5'</u> Outside casing diameter: <u>2.38"</u> Inside casing diameter: <u>2"</u> Casing joint type: <u>Flush Threaded</u> Casing/screen joint type: <u>PVC</u> Screen material: <u>PVC</u> Screen opening size: <u>0.010"</u> Screen length: <u>10'</u> Depth of well: <u>15'</u> Filter Pack: <u>3.5'-15.48' bgs</u> Material: <u>RW Sidley</u> Grain size: <u>#5</u> Volume: <u>2.1 cu ft</u> Seal (minimum 3 ft length above filter pack): <u>0.5'-3.5' bgs</u> Material: <u>3/8" Benseal Bentonite Chips</u>	Placement method: <u>Gravity</u> Volume: <u>0.66 cu ft</u> Backfill (if different from seal): <u>N/A</u> Material: <u>N/A</u> Placement method: <u>N/A</u> Volume: <u>N/A</u> Surface seal design: <u>0'-0.5' bgs</u> Material of protective casing: <u>Steel, 4" diameter</u> Material of grout between protective casing and well casing: <u>Sand</u> Protective cap: <u>6" diameter</u> Material: <u>Steel</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Well Cap: <u>2" diameter</u> Material: <u>Plastic with rubber gasket</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>9.10</u> Well development method: <u>surged with bailer and pumped</u> Average depth of frostline: <u>4 feet</u>	Stabilization Time: <u><5 min</u>

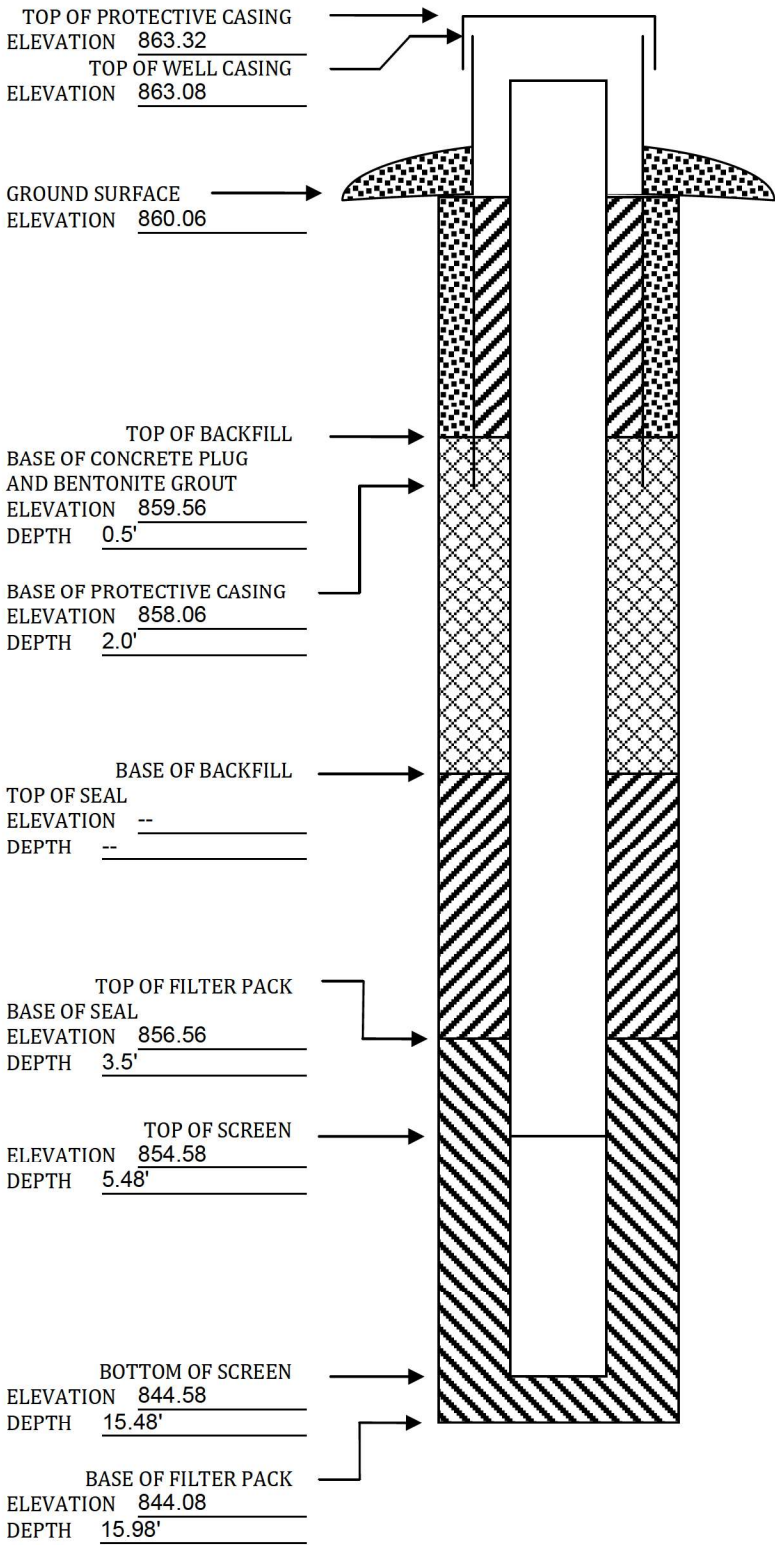
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL-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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>3480604.15 N, 5096509.24 E</u> Specify corner of site: <u>SE of parcel 8417-32-126-002</u> Distance & direction along boundary: <u>326' W</u> Distance & direction from boundary to wall: <u>200' N</u> Elevations (± 0.01 ft MSL): Ground Surface: <u>856.70</u> Top of protective casing: <u>859.74</u> Top of well casing: <u>859.54</u> Benchmark elevation: <u>590.75</u> Benchmark description: <u>BM-001</u>	Name & Address of Construction Company: <u>Direct Push Analytical</u> <u>4N969 Old Lafox Rd Unit F</u> <u>St. Charles, IL 60175</u> Name of Driller: <u>Patrick Goetz</u> Drilling Method: <u>4 1/4 Hollow Stem Auger</u> Drilling Fluid: <u>N/A</u> Bore Hole Diameter: <u>8.5"</u> Soil Sampling Method: <u>2" Split Spoon</u> Depth of Boring: <u>16'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u> Length of casing: <u>5'</u> Outside casing diameter: <u>2.38"</u> Inside casing diameter: <u>2"</u> Casing joint type: <u>Flush Threaded</u> Casing/screen joint type: <u>PVC</u> Screen material: <u>PVC</u> Screen opening size: <u>0.010"</u> Screen length: <u>10'</u> Depth of well: <u>15'</u> Filter Pack: <u>3.5'- 15.81' bgs</u> Material: <u>RW Sidley</u> Grain size: <u>#5</u> Volume: <u>2.1 cu ft</u> Seal (minimum 3 ft length above filter pack): <u>0.5'-3.5' bgs</u> Material: <u>3/8" Benseal Bentonite Chips</u>	Placement method: <u>Gravity</u> Volume: <u>0.66 cu ft</u> Backfill (if different from seal): <u>N/A</u> Material: <u>N/A</u> Placement method: <u>N/A</u> Volume: <u>N/A</u> Surface seal design: <u>0'-0.5' bgs</u> Material of protective casing: <u>Steel, 4" diameter</u> Material of grout between protective casing and well casing: <u>Sand</u> Protective cap: <u>6" diameter</u> Material: <u>Steel</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Well Cap: <u>2" diameter</u> Material: <u>Plastic with rubber gasket</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>7.35</u> Well development method: <u>surged with bailer and pumped</u> Average depth of frostline: <u>4 feet</u>	Stabilization Time: <u><5 min</u>

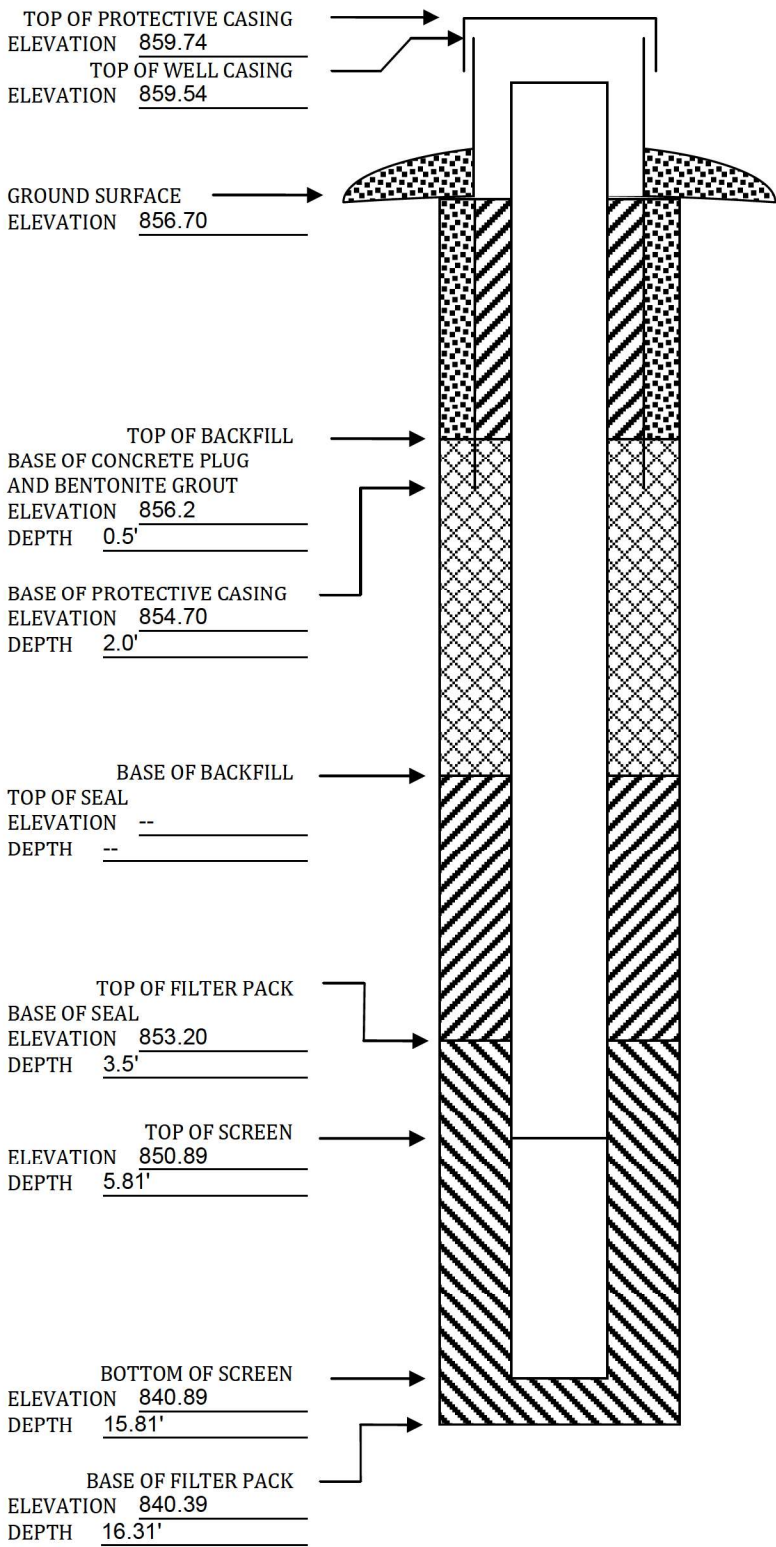
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL-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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>3480548.65 N, 5096849.06 E</u>	Name & Address of Construction Company: <u>Direct Push Analytical</u>
Specify corner of site: <u>SW of parcel 8417-32-200-002</u>	<u>4N969 Old Lafox Rd Unit F</u>
Distance & direction along boundary: <u>156' N</u>	<u>St. Charles, IL 60175</u>
Distance & direction from boundary to wall: <u>10' E</u>	Name of Driller: <u>Patrick Goetz</u>
Elevations (± 0.01 ft MSL):	Drilling Method: <u>4 1/4 Hollow Stem Auger</u>
Ground Surface: <u>857.79</u>	Drilling Fluid: <u>N/A</u>
Top of protective casing: <u>861.06</u>	Bore Hole Diameter: <u>8.5"</u>
Top of well casing: _____ <u>860.79</u>	Soil Sampling Method: <u>2" Split Spoon</u>
Benchmark elevation: <u>590.75</u>	Depth of Boring: <u>16'</u>
Benchmark description: <u>BM-001</u>	

C. MONITORING WELL INSTALLATION	
Casing material: _____ <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: _____ <u>5'</u>	Volume: <u>0.66 cu ft</u>
Outside casing diameter: _____ <u>2.38"</u>	Backfill (if different from seal): <u>N/A</u>
Inside casing diameter: _____ <u>2"</u>	Material: <u>N/A</u>
Casing joint type: _____ <u>Flush Threaded</u>	Placement method: <u>N/A</u>
Casing/screen joint type: _____ <u>PVC</u>	Volume: <u>N/A</u>
Screen material: _____ <u>PVC</u>	Surface seal design: <u>0'-0.5' bgs</u>
Screen opening size: _____ <u>0.010"</u>	Material of protective casing: <u>Steel, 4" diameter</u>
Screen length: _____ <u>10'</u>	Material of grout between protective casing and well casing: <u>Sand</u>
Depth of well: _____ <u>15'</u>	Protective cap: <u>6" diameter</u>
Filter Pack: _____ <u>3.5'-15.80' bgs</u>	Material: <u>Steel</u>
Material: _____ <u>RW Sidley</u>	Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: _____ <u>#5</u>	Well Cap: <u>2" diameter</u>
Volume: _____ <u>2.1 cu ft</u>	Material: <u>Plastic with rubber gasket</u>
Seal (minimum 3 ft length above filter pack): <u>0.5'- 3.5' bgs</u>	Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Material: <u>3/8" Benseal Bentonite Chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>8.91</u>	Stabilization Time: <u><5 min</u>
Well development method: <u>surged with bailer and pumped</u>	
Average depth of frostline: <u>4 feet</u>	

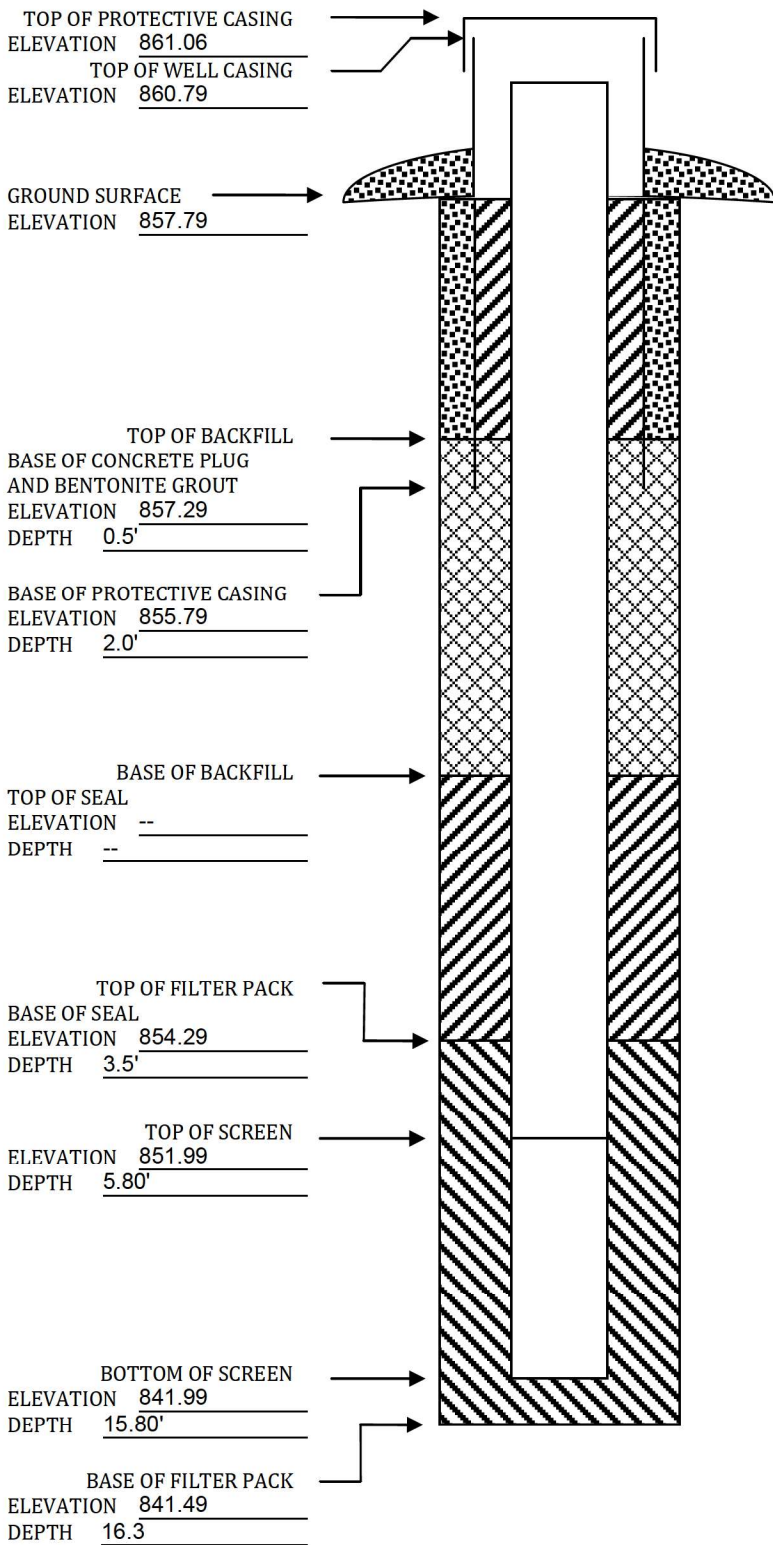
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL-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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft): <u>3480877.26 N, 5096834.70 E</u> Specify corner of site: <u>SW of parcel 8417-32-200-002</u> Distance & direction along boundary: <u>545' N</u> Distance & direction from boundary to wall: <u>12' E</u> Elevations (± 0.01 ft MSL): Ground Surface: <u>856.81</u> Top of protective casing: <u>860.12</u> Top of well casing: <u>859.81</u> Benchmark elevation: <u>590.75</u> Benchmark description: <u>BM-001</u>	Name & Address of Construction Company: <u>Direct Push Analytical</u> <u>4N969 Old Lafox Rd Unit F</u> <u>St. Charles, IL 60175</u> Name of Driller: <u>Patrick Goetz</u> Drilling Method: <u>4 1/4 Hollow Stem Auger</u> Drilling Fluid: <u>N/A</u> Bore Hole Diameter: <u>8.5"</u> Soil Sampling Method: <u>2" Split Spoon</u> Depth of Boring: <u>16'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u> Length of casing: <u>5'</u> Outside casing diameter: <u>2.38"</u> Inside casing diameter: <u>2"</u> Casing joint type: <u>Flush Threaded</u> Casing/screen joint type: <u>PVC</u> Screen material: <u>PVC</u> Screen opening size: <u>0.010"</u> Screen length: <u>10'</u> Depth of well: <u>15'</u> Filter Pack: <u>3.5'-16.08' bgs</u> Material: <u>RW Sidley</u> Grain size: <u>#5</u> Volume: <u>2.1 cu ft</u> Seal (minimum 3 ft length above filter pack): <u>0.5'-3.5' bgs</u> Material: <u>3/8" Benseal Bentonite Chips</u>	Placement method: <u>Gravity</u> Volume: <u>0.66 cu ft</u> Backfill (if different from seal): <u>N/A</u> Material: <u>N/A</u> Placement method: <u>N/A</u> Volume: <u>N/A</u> Surface seal design: <u>0'-0.5' bgs</u> Material of protective casing: <u>Steel, 4" diameter</u> Material of grout between protective casing and well casing: <u>Sand</u> Protective cap: <u>6" diameter</u> Material: <u>Steel</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Well Cap: <u>2" diameter</u> Material: <u>Plastic with rubber gasket</u> Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>8.24</u> Well development method: <u>surged with bailer and pumped</u> Average depth of frostline: <u>4 feet</u>	Stabilization Time: <u><5 min</u>

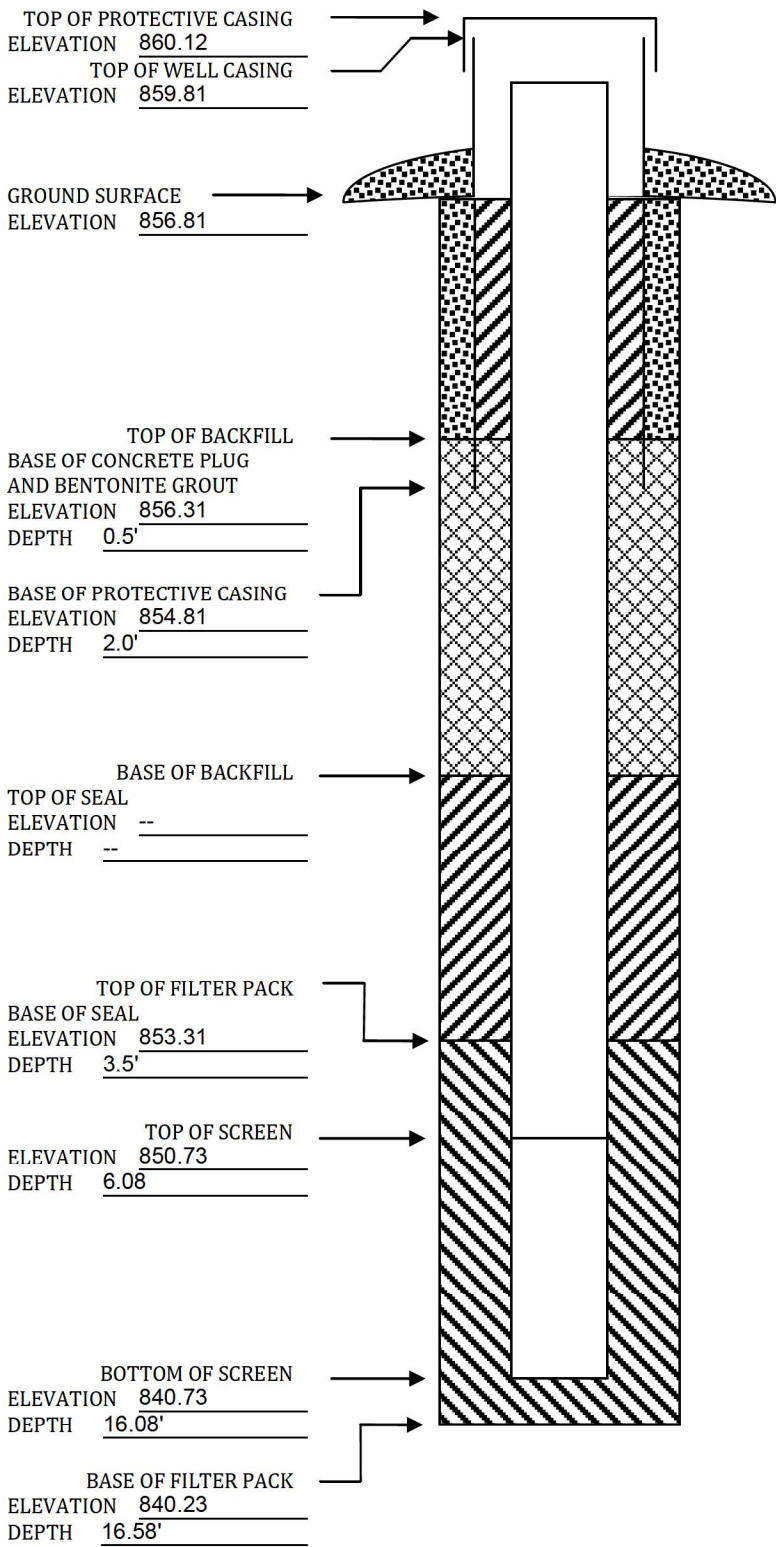
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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





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

Disposal Site Name: IPL-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	B. SOIL BORING INFORMATION
Locations (± 0.5 ft):	Name & Address of Construction Company:
Specify corner of site: <u>NW of parcel 8417-32-200-001</u>	<u>Direct Push Analytical</u>
Distance & direction along boundary: <u>222' S</u>	<u>4N969 Old Lafox Rd Unit F</u>
Distance & direction from boundary to wall: <u>17' E</u>	<u>St. Charles, IL 60175</u>
Elevations (± 0.01 ft MSL):	Name of Driller: <u>Patrick Goetz</u>
Ground Surface: <u>858.15</u>	Drilling Method: <u>4 1/4 Hollow Stem Auger</u>
Top of protective casing: <u>861.36</u>	Drilling Fluid: <u>N/A</u>
Top of well casing: <u>861.13</u>	Bore Hole Diameter: <u>8.5"</u>
Benchmark elevation: <u>590.75</u>	Soil Sampling Method: <u>2" Split Spoon</u>
Benchmark description: <u>BM-001</u>	Depth of Boring: <u>16'</u>

C. MONITORING WELL INSTALLATION	
Casing material: <u>PVC</u>	Placement method: <u>Gravity</u>
Length of casing: <u>5'</u>	Volume: <u>0.66 cu ft</u>
Outside casing diameter: <u>2.38"</u>	Backfill (if different from seal): <u>N/A</u>
Inside casing diameter: <u>2"</u>	Material: <u>N/A</u>
Casing joint type: <u>Flush Threaded</u>	Placement method: <u>N/A</u>
Casing/screen joint type: <u>PVC</u>	Volume: <u>N/A</u>
Screen material: <u>PVC</u>	Surface seal design: <u>0'-0.5' bgs</u>
Screen opening size: <u>0.010"</u>	Material of protective casing: <u>Steel, 4" diameter</u>
Screen length: <u>10'</u>	Material of grout between protective casing and well casing: <u>Sand</u>
Depth of well: <u>15'</u>	Protective cap: <u>6" diameter</u>
Filter Pack: <u>3.5'-15.73' bgs</u>	Material: <u>Steel</u>
Material: <u>RW Sidley</u>	Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Locking: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Grain size: <u>#5</u>	Well Cap: <u>2" diameter</u>
Volume: <u>2.1 cu ft</u>	Material: <u>Plastic with rubber gasket</u>
Seal (minimum 3 ft length above filter pack): <u>0.5'-3.5' bgs</u>	Vented: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Material: <u>3/8" Benseal Bentonite Chips</u>	

D. GROUNDWATER MEASUREMENT (± 0.01 ft below top of inner well casing)	
Water level: <u>9.77</u>	Stabilization Time: <u><5 min</u>
Well development method: <u>surged with bailer and pumped</u>	
Average depth of frostline: <u>4 feet</u>	

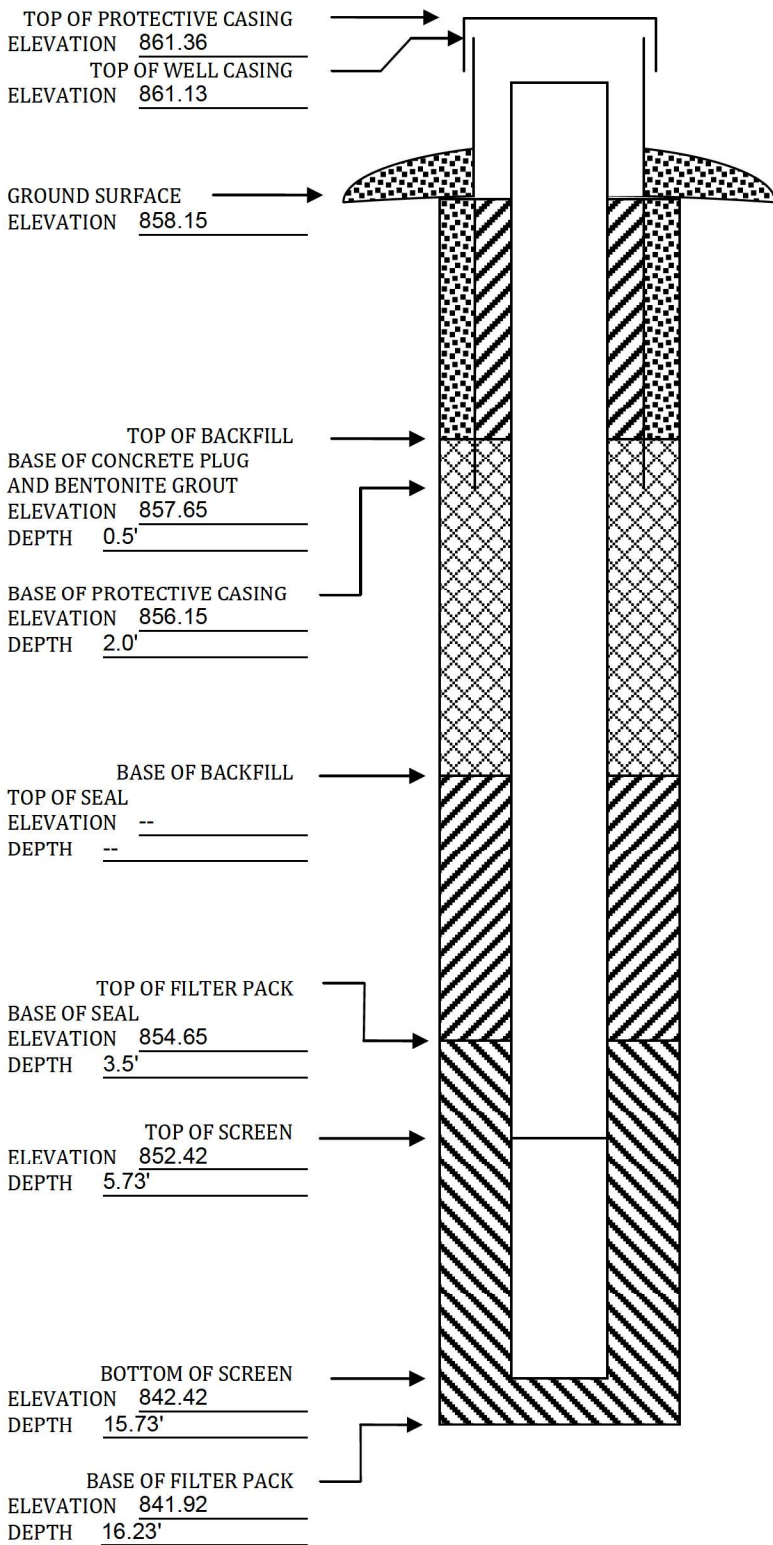
Attachments: Driller's log, Pipe schedules and grouting schedules. 8 1/2x11 inch map showing locations of all monitoring wells and piezometers.

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL 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 <u>PVC</u>	Placement method <u>Gravity - poured</u>
Length of casing <u>10'</u>	Volume <u>2.67 cu. ft.</u>
Outside casing diameter <u>2.38"</u>	Backfill (if different from seal): <u>Same as seal</u>
Inside casing diameter <u>2.01"</u>	Material <u> </u>
Casing joint type <u>Flush threaded</u>	Placement method <u> </u>
Casing/screen joint type <u>Flush threaded</u>	Volume <u> </u>
Screen material <u>PVC - factory slotted</u>	Surface seal design: <u> </u>
Screen opening size <u>0.010"</u>	Material of protective casing: <u>Steel</u>
Screen length <u>10'</u>	Material of grout between protective casing and well casing: <u>bentonite chips</u>
Depth of Well <u>17.5'</u>	Protective cap: <u> </u>
Filter Pack:	Material <u>Steel</u>
Material <u>Sand - Gillibrand Industrial</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u> </u>	Well cap: <u> </u>
Volume <u>2 cu. ft.</u>	Material <u>Plastic</u>
Seal (minimum 3 ft. length above filter pack):	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>3/8" Bentonite chips - Holeplug</u>	

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.

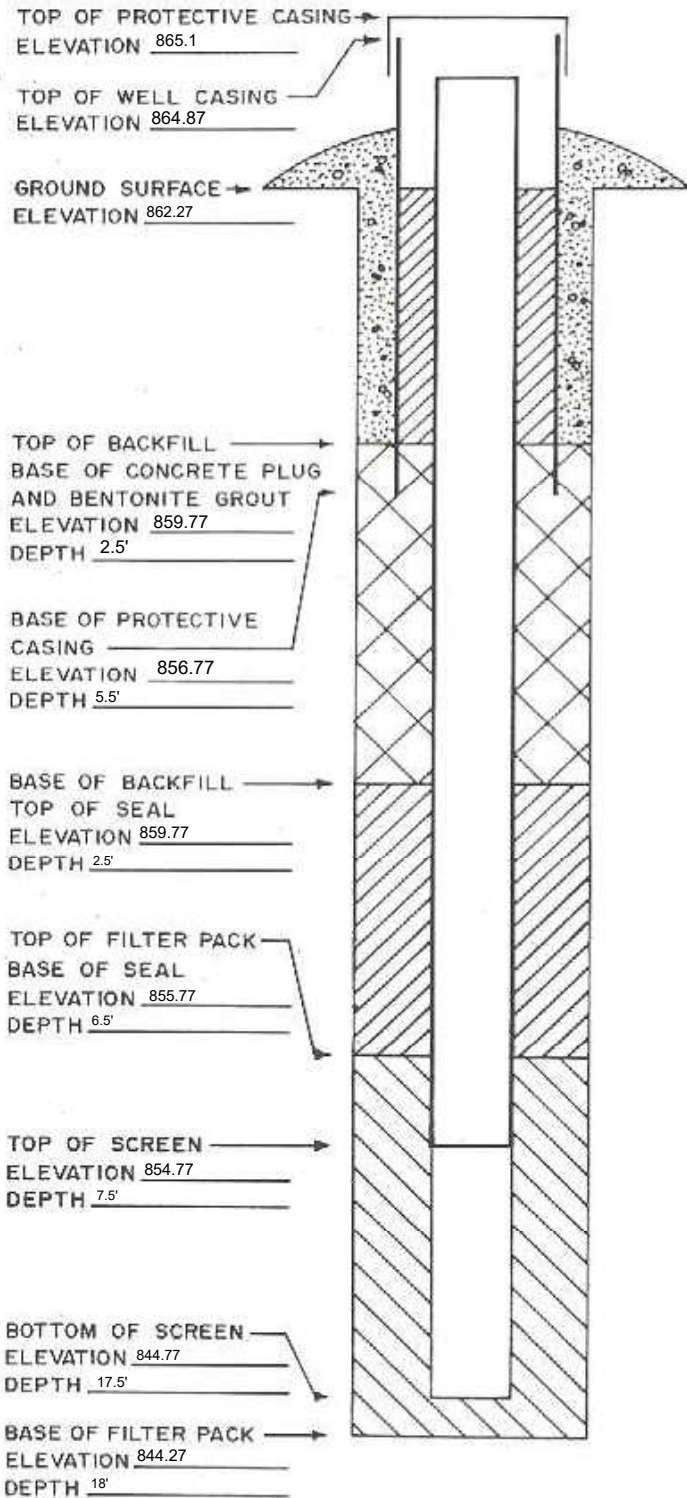
Signature  Certification # 1183 Date 12/23/21

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name IPL 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 <u>PVC</u>	Placement method <u>Gravity - poured</u>
Length of casing <u>10'</u>	Volume <u>2.67 cu. ft.</u>
Outside casing diameter <u>2.38"</u>	Backfill (if different from seal): <u>Same as seal</u>
Inside casing diameter <u>2.01"</u>	Material _____
Casing joint type <u>Flush threaded</u>	Placement method _____
Casing/screen joint type <u>Flush threaded</u>	Volume _____
Screen material <u>PVC - factory slotted</u>	Surface seal design: _____
Screen opening size <u>0.010"</u>	Material of protective casing: <u>Steel</u>
Screen length <u>10'</u>	Material of grout between protective casing and well casing: <u> bentonite chips</u>
Depth of Well <u>16'</u>	Protective cap: _____
Filter Pack:	Material <u>Steel</u>
Material <u>Sand - Gillibrand Industrial</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size _____	Well cap: _____
Volume <u>2 cu. ft.</u>	Material <u>Plastic</u>
Seal (minimum 3 ft. length above filter pack):	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>3/8" Bentonite chips - Holeplug</u>	

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.

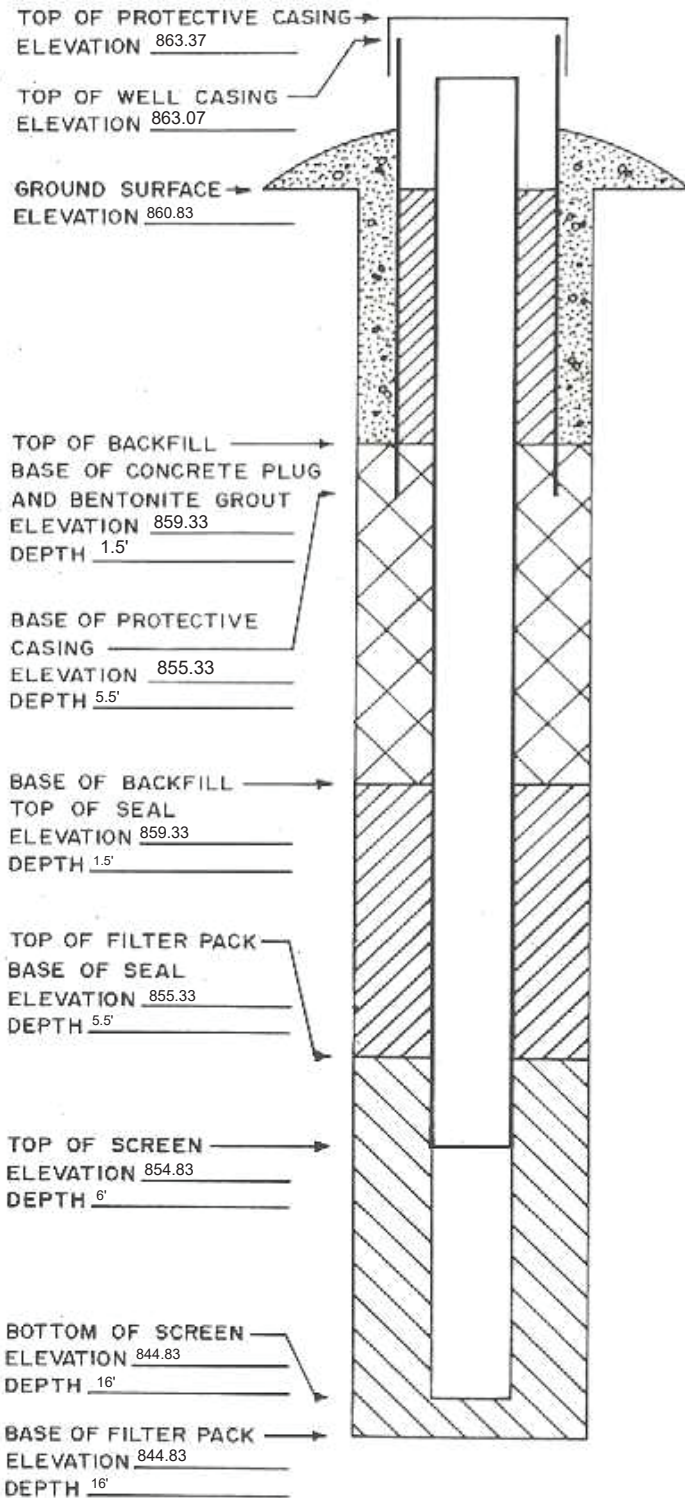
Signature [Signature] Certification # 11183 Date 12/23/21

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Sutherland Generating 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 3" sample tubes Depth of boring 22'

C. MONITORING WELL INSTALLATION

Casing material <u>Sch. 40 PVC</u>	Placement method <u>Poured/Hydrated</u>
Length of casing <u>23.19'</u>	Volume _____
Outside casing diameter <u>2.4"</u>	Backfill (if different from seal): _____
Inside casing diameter <u>2.05"</u>	Material _____
Casing joint type <u>Threaded</u>	Placement method _____
Casing/screen joint type <u>Threaded</u>	Volume _____
Screen material <u>Sch. 40 PVC</u>	Surface seal design: _____
Screen opening size <u>0.01"</u>	Material of protective casing: <u>Steel</u>
Screen length <u>15'</u>	Material of grout between protective casing and well casing: _____
Depth of Well <u>21'</u>	Protective cap: _____
Filter Pack: _____	Material <u>Steel</u>
Material <u>RW Sidley filter sand</u>	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locking?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Grain Size <u>#5</u>	Well cap: _____
Volume <u>2.75 ft^3 (5.5 bags)</u>	Material <u>Plastic</u>
Seal (minimum 3 ft. length above filter pack): _____	Vented?: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Material <u>3/8" Bentonite chips</u>	

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

Water level 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 _____ Certification # 0498 Date 0-23-22

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

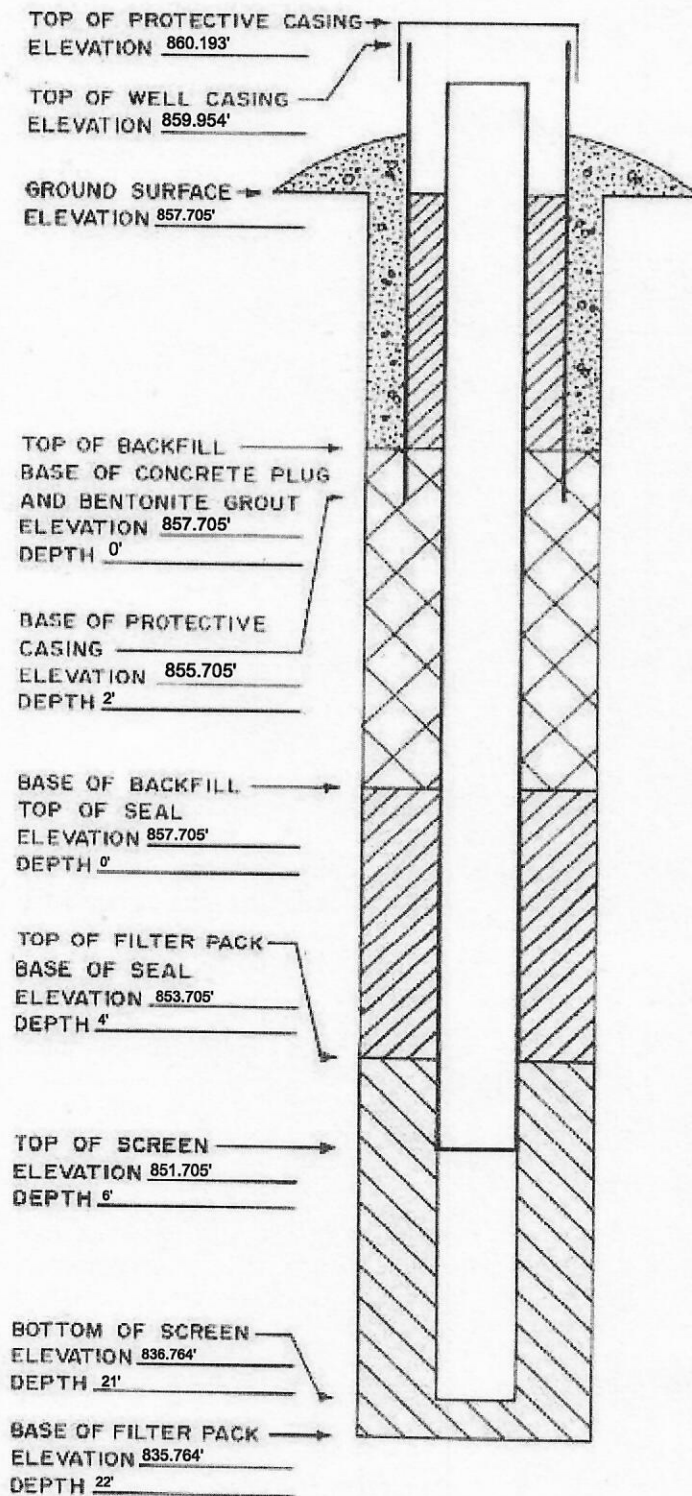
Please mail completed form to: Iowa Department of Natural Resources, Land Quality Bureau, 502 E. 9th St, Des Moines, IA 50319.

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

ELEVATIONS: ± 0.01 FT. MSL

DEPTHS: ± 0.1 FT. FROM
GROUND SURFACE

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Sutherland Generating 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 Placement method Poured/Hydrated
Length of casing 23.46' Volume 1, 50lbs bags
Outside casing diameter 2.4" Backfill (if different from seal): _____
Inside casing diameter 2.05" Material _____
Casing joint type Threaded Placement method _____
Casing/screen joint type Threaded Volume _____
Screen material Sch. 40 PVC Surface seal design: _____
Screen opening size 0.01" Material of protective casing: Steel
Material of grout between protective casing and well casing: _____
Protective cap: _____
Screen length 15' Material Steel
Depth of Well 21' Vented?: Y N Locking?: Y N
Filter Pack: _____ Well cap: _____
Material RW Sidley filter sand Material Plastic
Grain Size #5 Vented?: Y N
Volume 2.75 ft^3 (5.5 bags)
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 6.74' 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.

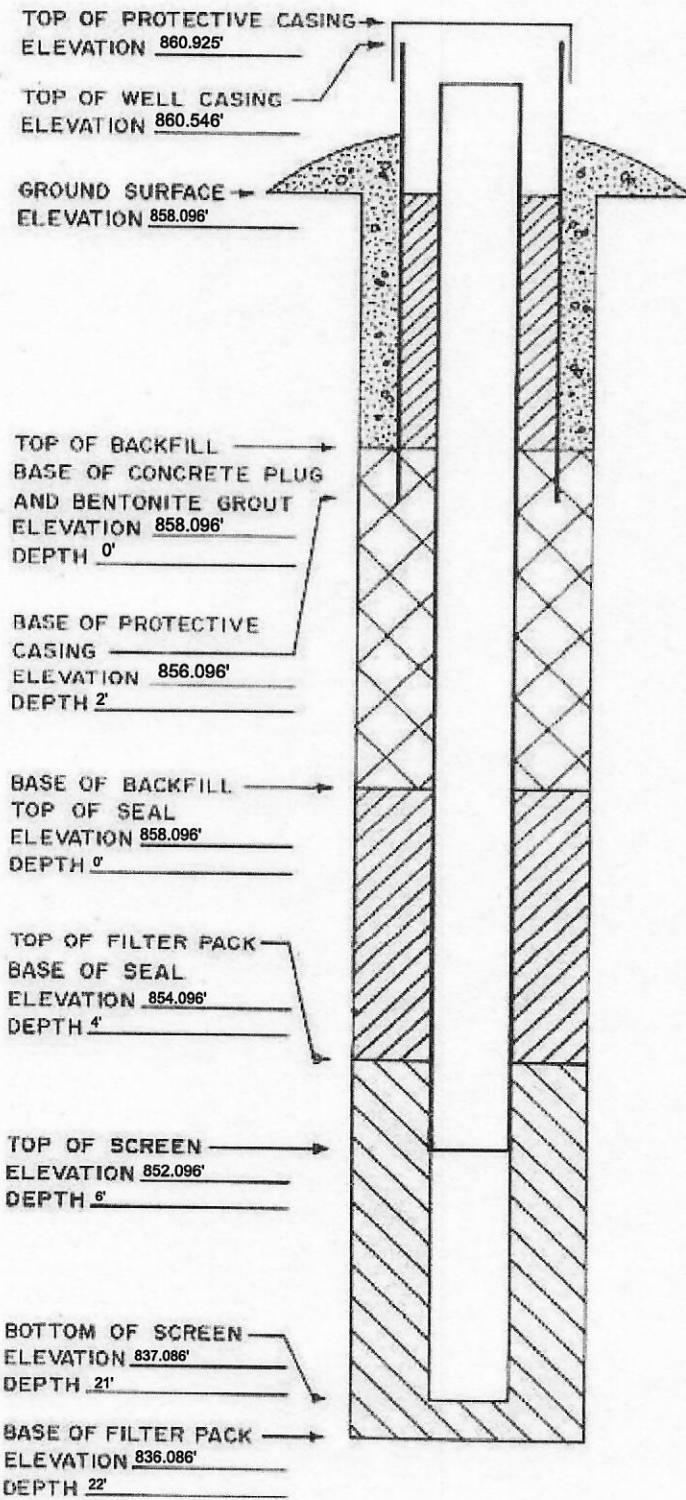
Signature [Signature] Certification # 2498 Date 5-13-22

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

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

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

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



MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name Sutherland Generating 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 sample tubes Depth of boring 17'

C. MONITORING WELL INSTALLATION

Casing material Sch. 40 PVC Placement method Poured/Hydrated
Length of casing 18.41' Volume 1, 50lbs bags
Outside casing diameter 2.4" Backfill (if different from seal): _____
Inside casing diameter 2.05" Material _____
Casing joint type Threaded Placement method _____
Casing/screen joint type Threaded Volume _____
Screen material Sch. 40 PVC Surface seal design: _____
Screen opening size 0.01" Material of protective casing: Steel
Screen length 10' Material of grout between
Depth of Well 16' protective casing and well casing: _____
Filter Pack: _____ Protective cap: _____
Material RW Sidley filter sand Material Steel
Grain Size #5 Vented?: Y N Locking?: Y N
Volume 1 ft^3 (2 bags) Well cap: _____
Seal (minimum 3 ft. length above filter pack): _____ Material Plastic
Material 3/8" Bentonite chips 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 _____ Certification # 8498 Date 8-23-22

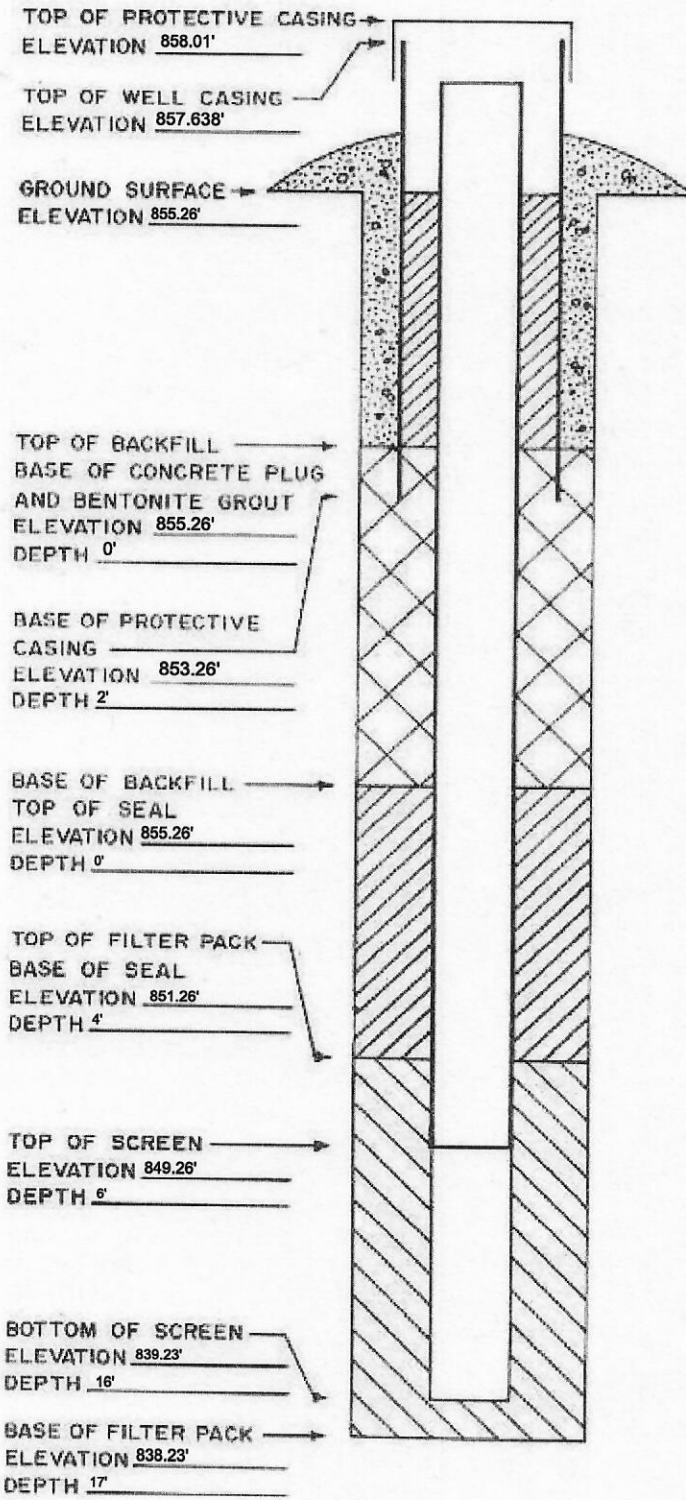
Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing locations of all monitoring wells and piezometers.


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

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

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

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





Appendix C
Analytical Laboratory Reports

C1 April 2022 Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-229885-1

Client Project/Site: Sutherland Generating Station 25222076

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
5/23/2022 12:53:13 PM

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

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Job ID: 310-229885-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-229885-1

Comments

No additional comments.

Receipt

The samples were received on 4/25/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 1.5° C and 2.5° C.

Metals

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

General Chemistry

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

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Sample Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-229885-1	MW-306	Water	04/21/22 13:02	04/25/22 17:00
310-229885-2	Field Blank	Water	04/22/22 12:07	04/25/22 17:00
310-229885-3	MW-301	Water	04/22/22 13:48	04/25/22 17:00
310-229885-4	MW-302	Water	04/22/22 12:28	04/25/22 17:00
310-229885-5	MW-303	Water	04/22/22 11:13	04/25/22 17:00
310-229885-6	MW-304	Water	04/21/22 09:54	04/25/22 17:00
310-229885-7	MW-305	Water	04/21/22 11:26	04/25/22 17:00
310-229885-8	MW-307	Water	04/21/22 16:02	04/25/22 17:00
310-229885-9	MW-308	Water	04/21/22 08:35	04/25/22 17:00

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Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-306

Lab Sample ID: 310-229885-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	84	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	37000		500	150	ug/L	1		6020A	Total/NA
Manganese	2500		10	3.6	ug/L	1		6020A	Total/NA
Potassium	7900		500	150	ug/L	1		6020A	Total/NA
Sodium	47000		1000	610	ug/L	1		6020A	Total/NA
Iron	46	J	100	36	ug/L	1		6020A	Dissolved
Lithium	56		10	2.5	ug/L	1		6020A	Dissolved
Magnesium	35000		500	150	ug/L	1		6020A	Dissolved
Manganese	2300		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	120		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	120		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-229885-2

No Detections.

Client Sample ID: MW-301

Lab Sample ID: 310-229885-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	410		100	36	ug/L	1		6020A	Total/NA
Magnesium	9500		500	150	ug/L	1		6020A	Total/NA
Manganese	590		10	3.6	ug/L	1		6020A	Total/NA
Potassium	1400		500	150	ug/L	1		6020A	Total/NA
Sodium	9300		1000	610	ug/L	1		6020A	Total/NA
Magnesium	9300		500	150	ug/L	1		6020A	Dissolved
Manganese	150		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	170		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	170		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-229885-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	780		100	36	ug/L	1		6020A	Total/NA
Magnesium	23000		500	150	ug/L	1		6020A	Total/NA
Manganese	600		10	3.6	ug/L	1		6020A	Total/NA
Potassium	280	J	500	150	ug/L	1		6020A	Total/NA
Sodium	19000		1000	610	ug/L	1		6020A	Total/NA
Magnesium	23000		500	150	ug/L	1		6020A	Dissolved
Manganese	65		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-229885-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2300		100	36	ug/L	1		6020A	Total/NA
Magnesium	7800		500	150	ug/L	1		6020A	Total/NA
Manganese	560		10	3.6	ug/L	1		6020A	Total/NA
Potassium	2000		500	150	ug/L	1		6020A	Total/NA
Sodium	6700		1000	610	ug/L	1		6020A	Total/NA
Magnesium	7400		500	150	ug/L	1		6020A	Dissolved
Manganese	51		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	88		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-303 (Continued)

Lab Sample ID: 310-229885-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Alkalinity as CaCO3	88		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-229885-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	34000		500	150	ug/L	1		6020A	Total/NA
Manganese	61		10	3.6	ug/L	1		6020A	Total/NA
Sodium	41000		1000	610	ug/L	1		6020A	Total/NA
Magnesium	34000		500	150	ug/L	1		6020A	Dissolved
Manganese	5.0	J	10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	200		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-229885-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	200		100	36	ug/L	1		6020A	Total/NA
Magnesium	31000		500	150	ug/L	1		6020A	Total/NA
Manganese	1200		10	3.6	ug/L	1		6020A	Total/NA
Potassium	4800		500	150	ug/L	1		6020A	Total/NA
Sodium	41000		1000	610	ug/L	1		6020A	Total/NA
Magnesium	31000		500	150	ug/L	1		6020A	Dissolved
Manganese	1200		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	250		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	250		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-229885-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1200		100	36	ug/L	1		6020A	Total/NA
Magnesium	44000		500	150	ug/L	1		6020A	Total/NA
Manganese	5500		40	14	ug/L	4		6020A	Total/NA
Potassium	4500		500	150	ug/L	1		6020A	Total/NA
Sodium	27000		1000	610	ug/L	1		6020A	Total/NA
Iron	500		100	36	ug/L	1		6020A	Dissolved
Lithium	23		10	2.5	ug/L	1		6020A	Dissolved
Magnesium	44000		500	150	ug/L	1		6020A	Dissolved
Manganese	5600		40	14	ug/L	4		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	290		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	290		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 310-229885-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1200		100	36	ug/L	1		6020A	Total/NA
Magnesium	30000		500	150	ug/L	1		6020A	Total/NA
Manganese	1500		10	3.6	ug/L	1		6020A	Total/NA
Potassium	4400		500	150	ug/L	1		6020A	Total/NA
Sodium	20000		1000	610	ug/L	1		6020A	Total/NA
Iron	590		100	36	ug/L	1		6020A	Dissolved
Magnesium	29000		500	150	ug/L	1		6020A	Dissolved
Manganese	1500		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-308 (Continued)

Lab Sample ID: 310-229885-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA

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This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-306

Lab Sample ID: 310-229885-1

Date Collected: 04/21/22 13:02

Matrix: Water

Date Received: 04/25/22 17:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	84	J	100	36	ug/L		05/02/22 09:15	05/19/22 16:13	1
Magnesium	37000		500	150	ug/L		05/02/22 09:15	05/19/22 16:13	1
Manganese	2500		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:13	1
Potassium	7900		500	150	ug/L		05/02/22 09:15	05/19/22 16:13	1
Sodium	47000		1000	610	ug/L		05/02/22 09:15	05/19/22 16:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	46	J	100	36	ug/L		04/29/22 09:30	05/20/22 22:27	1
Lithium	56		10	2.5	ug/L		04/29/22 09:30	05/20/22 22:27	1
Magnesium	35000		500	150	ug/L		04/29/22 09:30	05/20/22 22:27	1
Manganese	2300		10	3.6	ug/L		04/29/22 09:30	05/20/22 22:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	120		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	120		10	4.6	mg/L			05/02/22 11:08	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: Field Blank

Lab Sample ID: 310-229885-2

Date Collected: 04/22/22 12:07

Matrix: Water

Date Received: 04/25/22 17:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		05/02/22 09:15	05/19/22 16:26	1
Magnesium	<150		500	150	ug/L		05/02/22 09:15	05/19/22 16:26	1
Manganese	<3.6		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:26	1
Potassium	<150		500	150	ug/L		05/02/22 09:15	05/19/22 16:26	1
Sodium	<610		1000	610	ug/L		05/02/22 09:15	05/19/22 16:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/29/22 09:30	05/20/22 22:54	1
Magnesium	<150		500	150	ug/L		04/29/22 09:30	05/20/22 22:54	1
Manganese	<3.6		10	3.6	ug/L		04/29/22 09:30	05/20/22 22:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/04/22 10:45	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/04/22 10:45	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/04/22 10:45	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-301

Lab Sample ID: 310-229885-3

Date Collected: 04/22/22 13:48

Matrix: Water

Date Received: 04/25/22 17:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	410		100	36	ug/L		05/02/22 09:15	05/19/22 16:29	1
Magnesium	9500		500	150	ug/L		05/02/22 09:15	05/19/22 16:29	1
Manganese	590		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:29	1
Potassium	1400		500	150	ug/L		05/02/22 09:15	05/19/22 16:29	1
Sodium	9300		1000	610	ug/L		05/02/22 09:15	05/19/22 16:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/29/22 09:30	05/20/22 22:58	1
Magnesium	9300		500	150	ug/L		04/29/22 09:30	05/20/22 22:58	1
Manganese	150		10	3.6	ug/L		04/29/22 09:30	05/20/22 22:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	170		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	170		10	4.6	mg/L			05/02/22 11:08	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-302

Lab Sample ID: 310-229885-4

Date Collected: 04/22/22 12:28

Matrix: Water

Date Received: 04/25/22 17:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	780		100	36	ug/L		05/02/22 09:15	05/19/22 16:32	1
Magnesium	23000		500	150	ug/L		05/02/22 09:15	05/19/22 16:32	1
Manganese	600		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:32	1
Potassium	280	J	500	150	ug/L		05/02/22 09:15	05/19/22 16:32	1
Sodium	19000		1000	610	ug/L		05/02/22 09:15	05/19/22 16:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/29/22 09:30	05/20/22 23:02	1
Magnesium	23000		500	150	ug/L		04/29/22 09:30	05/20/22 23:02	1
Manganese	65		10	3.6	ug/L		04/29/22 09:30	05/20/22 23:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	200		10	4.6	mg/L			05/02/22 11:08	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-303

Lab Sample ID: 310-229885-5

Date Collected: 04/22/22 11:13

Matrix: Water

Date Received: 04/25/22 17:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2300		100	36	ug/L		05/02/22 09:15	05/19/22 16:35	1
Magnesium	7800		500	150	ug/L		05/02/22 09:15	05/19/22 16:35	1
Manganese	560		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:35	1
Potassium	2000		500	150	ug/L		05/02/22 09:15	05/19/22 16:35	1
Sodium	6700		1000	610	ug/L		05/02/22 09:15	05/19/22 16:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/29/22 09:30	05/20/22 23:06	1
Magnesium	7400		500	150	ug/L		04/29/22 09:30	05/20/22 23:06	1
Manganese	51		10	3.6	ug/L		04/29/22 09:30	05/20/22 23:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	88		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	88		10	4.6	mg/L			05/02/22 11:08	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-304
 Date Collected: 04/21/22 09:54
 Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-6
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		05/02/22 09:15	05/19/22 16:39	1
Magnesium	34000		500	150	ug/L		05/02/22 09:15	05/19/22 16:39	1
Manganese	61		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:39	1
Potassium	<150		500	150	ug/L		05/02/22 09:15	05/19/22 16:39	1
Sodium	41000		1000	610	ug/L		05/02/22 09:15	05/19/22 16:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/29/22 09:30	05/20/22 23:10	1
Magnesium	34000		500	150	ug/L		04/29/22 09:30	05/20/22 23:10	1
Manganese	5.0 J		10	3.6	ug/L		04/29/22 09:30	05/20/22 23:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	200		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	200		10	4.6	mg/L			05/02/22 11:08	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-305

Lab Sample ID: 310-229885-7

Date Collected: 04/21/22 11:26

Matrix: Water

Date Received: 04/25/22 17:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	200		100	36	ug/L		05/02/22 09:15	05/19/22 16:42	1
Magnesium	31000		500	150	ug/L		05/02/22 09:15	05/19/22 16:42	1
Manganese	1200		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:42	1
Potassium	4800		500	150	ug/L		05/02/22 09:15	05/19/22 16:42	1
Sodium	41000		1000	610	ug/L		05/02/22 09:15	05/19/22 16:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		04/29/22 09:30	05/20/22 23:14	1
Magnesium	31000		500	150	ug/L		04/29/22 09:30	05/20/22 23:14	1
Manganese	1200		10	3.6	ug/L		04/29/22 09:30	05/20/22 23:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	250		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	250		10	4.6	mg/L			05/02/22 11:08	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-307

Lab Sample ID: 310-229885-8

Date Collected: 04/21/22 16:02

Matrix: Water

Date Received: 04/25/22 17:00

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1200		100	36	ug/L		05/02/22 09:15	05/19/22 16:58	1
Magnesium	44000		500	150	ug/L		05/02/22 09:15	05/19/22 16:58	1
Manganese	5500		40	14	ug/L		05/02/22 09:15	05/20/22 18:27	4
Potassium	4500		500	150	ug/L		05/02/22 09:15	05/19/22 16:58	1
Sodium	27000		1000	610	ug/L		05/02/22 09:15	05/19/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	500		100	36	ug/L		04/29/22 09:30	05/20/22 23:18	1
Lithium	23		10	2.5	ug/L		04/29/22 09:30	05/20/22 23:18	1
Magnesium	44000		500	150	ug/L		04/29/22 09:30	05/20/22 23:18	1
Manganese	5600		40	14	ug/L		04/29/22 09:30	05/21/22 13:04	4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	290		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	290		10	4.6	mg/L			05/02/22 11:08	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-308
 Date Collected: 04/21/22 08:35
 Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-9
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1200		100	36	ug/L		05/02/22 09:15	05/19/22 17:01	1
Magnesium	30000		500	150	ug/L		05/02/22 09:15	05/19/22 17:01	1
Manganese	1500		10	3.6	ug/L		05/02/22 09:15	05/19/22 17:01	1
Potassium	4400		500	150	ug/L		05/02/22 09:15	05/19/22 17:01	1
Sodium	20000		1000	610	ug/L		05/02/22 09:15	05/19/22 17:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	590		100	36	ug/L		04/29/22 09:30	05/20/22 23:22	1
Magnesium	29000		500	150	ug/L		04/29/22 09:30	05/20/22 23:22	1
Manganese	1500		10	3.6	ug/L		04/29/22 09:30	05/20/22 23:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	310		10	4.6	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<4.6		10	4.6	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	310		10	4.6	mg/L			05/02/22 11:08	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-351417/1-A
Matrix: Water
Analysis Batch: 353878

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 351417

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<36		100	36	ug/L		04/29/22 09:30	05/20/22 22:19	1
Lithium	<2.5		10	2.5	ug/L		04/29/22 09:30	05/20/22 22:19	1
Magnesium	<150		500	150	ug/L		04/29/22 09:30	05/20/22 22:19	1
Manganese	<3.6		10	3.6	ug/L		04/29/22 09:30	05/20/22 22:19	1

Lab Sample ID: LCS 310-351417/2-A ^10
Matrix: Water
Analysis Batch: 353878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	2000	2070		ug/L		103	80 - 120
Magnesium	20000	20000		ug/L		100	80 - 120
Manganese	1000	984		ug/L		98	80 - 120

Lab Sample ID: MB 310-351508/1-A
Matrix: Water
Analysis Batch: 353776

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 351508

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	<36		100	36	ug/L		05/02/22 09:15	05/19/22 16:07	1
Magnesium	<150		500	150	ug/L		05/02/22 09:15	05/19/22 16:07	1
Manganese	<3.6		10	3.6	ug/L		05/02/22 09:15	05/19/22 16:07	1
Potassium	<150		500	150	ug/L		05/02/22 09:15	05/19/22 16:07	1
Sodium	<610		1000	610	ug/L		05/02/22 09:15	05/19/22 16:07	1

Lab Sample ID: LCS 310-351508/2-A
Matrix: Water
Analysis Batch: 353776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	2000	2260		ug/L		113	80 - 120
Manganese	100	106		ug/L		106	80 - 120
Potassium	2000	2250		ug/L		113	80 - 120
Sodium	2000	2250		ug/L		113	80 - 120

Lab Sample ID: 310-229885-1 MS
Matrix: Water
Analysis Batch: 353776

Client Sample ID: MW-306
Prep Type: Total/NA
Prep Batch: 351508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	37000		2000	38500	4	ug/L		83	75 - 125
Manganese	2500		100	2540	4	ug/L		80	75 - 125
Potassium	7900		2000	9860		ug/L		97	75 - 125
Sodium	47000		2000	48100	4	ug/L		49	75 - 125

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QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

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

Lab Sample ID: 310-229885-1 MSD
Matrix: Water
Analysis Batch: 353776

Client Sample ID: MW-306
Prep Type: Total/NA
Prep Batch: 351508

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	Limit	
Iron	84	J	200	322		ug/L		119	75 - 125	2	20
Magnesium	37000		2000	38600	4	ug/L		85	75 - 125	0	20
Manganese	2500		100	2550	4	ug/L		92	75 - 125	0	20
Potassium	7900		2000	9850		ug/L		96	75 - 125	0	20
Sodium	47000		2000	48300	4	ug/L		60	75 - 125	0	20

Lab Sample ID: 310-229885-1 DU
Matrix: Water
Analysis Batch: 353878

Client Sample ID: MW-306
Prep Type: Dissolved
Prep Batch: 351417

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier				Limit
Iron	46	J	55.1	J	ug/L		19	20
Lithium	56		53.4		ug/L		5	20
Magnesium	35000		35900		ug/L		2	20
Manganese	2300		2340		ug/L		0.7	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-351948/1
Matrix: Water
Analysis Batch: 351948

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/04/22 10:45	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/04/22 10:45	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			05/04/22 10:45	1

Lab Sample ID: LCS 310-351948/2
Matrix: Water
Analysis Batch: 351948

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				Limits
Total Alkalinity as CaCO3	1000	964		mg/L		96	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-351678/1
Matrix: Water
Analysis Batch: 351678

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	<23		50	23	mg/L			05/02/22 11:08	1
Carbonate Alkalinity as CaCO3	<23		50	23	mg/L			05/02/22 11:08	1
Total Alkalinity as CaCO3	<23		50	23	mg/L			05/02/22 11:08	1

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QC Sample Results

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 310-351678/2
Matrix: Water
Analysis Batch: 351678

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	980		mg/L		98	90 - 110

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QC Association Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Metals

Prep Batch: 351417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-1	MW-306	Dissolved	Water	3005A	
310-229885-2	Field Blank	Dissolved	Water	3005A	
310-229885-3	MW-301	Dissolved	Water	3005A	
310-229885-4	MW-302	Dissolved	Water	3005A	
310-229885-5	MW-303	Dissolved	Water	3005A	
310-229885-6	MW-304	Dissolved	Water	3005A	
310-229885-7	MW-305	Dissolved	Water	3005A	
310-229885-8	MW-307	Dissolved	Water	3005A	
310-229885-9	MW-308	Dissolved	Water	3005A	
MB 310-351417/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-351417/2-A ^10	Lab Control Sample	Total/NA	Water	3005A	
310-229885-1 DU	MW-306	Dissolved	Water	3005A	

Prep Batch: 351508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-1	MW-306	Total/NA	Water	3005A	
310-229885-2	Field Blank	Total/NA	Water	3005A	
310-229885-3	MW-301	Total/NA	Water	3005A	
310-229885-4	MW-302	Total/NA	Water	3005A	
310-229885-5	MW-303	Total/NA	Water	3005A	
310-229885-6	MW-304	Total/NA	Water	3005A	
310-229885-7	MW-305	Total/NA	Water	3005A	
310-229885-8	MW-307	Total/NA	Water	3005A	
310-229885-9	MW-308	Total/NA	Water	3005A	
MB 310-351508/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-351508/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-229885-1 MS	MW-306	Total/NA	Water	3005A	
310-229885-1 MSD	MW-306	Total/NA	Water	3005A	

Analysis Batch: 353776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-1	MW-306	Total/NA	Water	6020A	351508
310-229885-2	Field Blank	Total/NA	Water	6020A	351508
310-229885-3	MW-301	Total/NA	Water	6020A	351508
310-229885-4	MW-302	Total/NA	Water	6020A	351508
310-229885-5	MW-303	Total/NA	Water	6020A	351508
310-229885-6	MW-304	Total/NA	Water	6020A	351508
310-229885-7	MW-305	Total/NA	Water	6020A	351508
310-229885-8	MW-307	Total/NA	Water	6020A	351508
310-229885-9	MW-308	Total/NA	Water	6020A	351508
MB 310-351508/1-A	Method Blank	Total/NA	Water	6020A	351508
LCS 310-351508/2-A	Lab Control Sample	Total/NA	Water	6020A	351508
310-229885-1 MS	MW-306	Total/NA	Water	6020A	351508
310-229885-1 MSD	MW-306	Total/NA	Water	6020A	351508

Analysis Batch: 353777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-9	MW-308	Total/NA	Water	6020A	351508

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QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Metals

Analysis Batch: 353878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-1	MW-306	Dissolved	Water	6020A	351417
310-229885-2	Field Blank	Dissolved	Water	6020A	351417
310-229885-3	MW-301	Dissolved	Water	6020A	351417
310-229885-4	MW-302	Dissolved	Water	6020A	351417
310-229885-5	MW-303	Dissolved	Water	6020A	351417
310-229885-6	MW-304	Dissolved	Water	6020A	351417
310-229885-7	MW-305	Dissolved	Water	6020A	351417
310-229885-8	MW-307	Dissolved	Water	6020A	351417
310-229885-8	MW-307	Total/NA	Water	6020A	351508
310-229885-9	MW-308	Dissolved	Water	6020A	351417
MB 310-351417/1-A	Method Blank	Total/NA	Water	6020A	351417
LCS 310-351417/2-A ^10	Lab Control Sample	Total/NA	Water	6020A	351417
310-229885-1 DU	MW-306	Dissolved	Water	6020A	351417

Analysis Batch: 353952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-8	MW-307	Dissolved	Water	6020A	351417

General Chemistry

Analysis Batch: 351678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-1	MW-306	Total/NA	Water	SM 2320B	
310-229885-3	MW-301	Total/NA	Water	SM 2320B	
310-229885-4	MW-302	Total/NA	Water	SM 2320B	
310-229885-5	MW-303	Total/NA	Water	SM 2320B	
310-229885-6	MW-304	Total/NA	Water	SM 2320B	
310-229885-7	MW-305	Total/NA	Water	SM 2320B	
310-229885-8	MW-307	Total/NA	Water	SM 2320B	
310-229885-9	MW-308	Total/NA	Water	SM 2320B	
MB 310-351678/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-351678/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 351948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229885-2	Field Blank	Total/NA	Water	2320B	
MB 310-351948/1	Method Blank	Total/NA	Water	2320B	
LCS 310-351948/2	Lab Control Sample	Total/NA	Water	2320B	

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-306

Date Collected: 04/21/22 13:02

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 22:27	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:13	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Client Sample ID: Field Blank

Date Collected: 04/22/22 12:07

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 22:54	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:26	SAP	TAL CF
Total/NA	Analysis	2320B		1	351948	05/04/22 10:45	JMH2	TAL CF

Client Sample ID: MW-301

Date Collected: 04/22/22 13:48

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 22:58	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:29	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Client Sample ID: MW-302

Date Collected: 04/22/22 12:28

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 23:02	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:32	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-303

Date Collected: 04/22/22 11:13

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 23:06	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:35	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Client Sample ID: MW-304

Date Collected: 04/21/22 09:54

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 23:10	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:39	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Client Sample ID: MW-305

Date Collected: 04/21/22 11:26

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 23:14	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:42	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Client Sample ID: MW-307

Date Collected: 04/21/22 16:02

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229885-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 23:18	SAP	TAL CF
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		4	353952	05/21/22 13:04	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		4	353878	05/20/22 18:27	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 16:58	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Client Sample ID: MW-308

Lab Sample ID: 310-229885-9

Date Collected: 04/21/22 08:35

Matrix: Water

Date Received: 04/25/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			351417	04/29/22 09:30	ACM2	TAL CF
Dissolved	Analysis	6020A		1	353878	05/20/22 23:22	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:01	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353777	05/19/22 17:01	SAP	TAL CF
Total/NA	Analysis	SM 2320B		1	351678	05/02/22 11:08	JMH2	TAL CF

Laboratory References:

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



Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Laboratory: Eurofins Cedar Falls

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

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229885-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
SM 2320B	Alkalinity	SM	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

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

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

Laboratory References:

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





Environment Testing
America



310-229885 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<small>CITY</small> <u>Cive</u>	<small>STATE</small> <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>4-25-22</u>	<small>TIME</small> <u>1700</u>	Received By: <u>ce</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>		Correction Factor (°C): <u>-0.1</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.6</u>		Corrected Temp (°C): <u>2.5</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No			
a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>304, 305, 306</u>			





Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<small>CITY</small> <u>Clive</u>	<small>STATE</small> <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>4-25-22</u>	<small>TIME</small> <u>1700</u>	Received By: <u>cc</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>D</u>	Correction Factor (°C):	<u>-0.1</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.6</u>	Corrected Temp (°C):	<u>1.5</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>Received 1L NT with no label, not bagged with anything</u>			
<u>Also received 3 250mL Nitrics, 1 500mL NT and 1 250mL NT empty</u>			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS			
City/State:	CITY Clive	STATE IA	Project:
Receipt Information			
Date/Time Received:	DATE 4-25-22	TIME 1700	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: N		Correction Factor (°C): 0	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 1.2		Corrected Temp (°C): 1.2	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

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

Client Information		Sampler: <u>Rosa Cruz</u>		Lab PM: <u>Fredrick, Sandie</u>	Carrier Tracking No(s): <u>310-70419-19292.1</u>
Client Contact: <u>Rosa Cruz</u>		Phone: <u>715-844-9340</u>		E-Mail: <u>Sandra.Fredrick@et.eurofins.com</u>	State of Origin:
Company: <u>SCS Engineers</u>		PWSID:		Job #:	
Address: <u>8450 Hickman Road Suite 27</u>		Due Date Requested:		Analysis Requested	
City: <u>Clive</u>		TAT Requested (days):		Total Number of Containers	
State, Zip: <u>IA, 50325</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Preservation Codes:	
Phone: <u>25222076</u>		PO #: <u>25222076</u>		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other	
Email: <u>rcruz@scsengineers.com</u>		WO #: <u>31011020</u>		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Project Name: <u>Sutherland Generating Station 25222076</u>		Project #: <u>31011020</u>		Special Instructions/Note:	
Site: <u></u>		SSOW#: <u></u>		Other	

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other, BT=BT-TISSUE, AA=AP)	Field Filled Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (5)	6020A - D Metals (3-4)	2220B - Alkalinity	Special Instructions/Note
MW-306	4-21-22	13:02	G	Water	X	X	X	X	N	
Field Blank	4-22-22	12:07	G	Water	X	X	X	X		
301-304	4-22-22	13:48	G	Water	X	X	X	X		
MW-302	4-22-22	12:28	G	Water	X	X	X	X		
MW-303	4-22-22	11:13	G	Water	X	X	X	X		
MW-304	4-21-22	9:54	G	Water	X	X	X	X		
MW-305	4-21-22	11:26	G	Water	X	X	X	X		
MW-306	4-21-22	16:02	G	Water	X	X	X	X		
MW-308	4-21-22	8:35	G	Water	X	X	X	X		

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

Empty Kit Relinquished by: RCR Date: 4-25-22 Time: 8:00 Company: Company

Relinquished by: RCR Date/Time: 4-25-22 8:00 Company: Company

Relinquished by: RCR Date/Time: 4-25-22 Company: Company

Custody Seals Intact: Yes No Delta Yes Delta No

Custody Seal No: ETA CF

Method of Shipment: 4-25-22 Date/Time: 4-25-22 Company: ETA CF

Special Instructions/QC Requirements:
 Return To Client Disposal By Lab Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Table 1. Sampling Points and Parameters CCR Rule Sampling Program
Groundwater Monitoring Sutherland Generating Station/ SCS Engineers Project #25222076

Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	Field Blank	TOTAL
	(COC #1 for non-radium, COC #2 for radium)	X	X	X	X	X	X	X	X	X
Appendix III & IV Parameters	Boron	X	X	X	X	X	X	X	X	9
	Calcium	X	X	X	X	X	X	X	X	9
	Chloride	X	X	X	X	X	X	X	X	9
	Fluoride	X	X	X	X	X	X	X	X	9
	pH	X	X	X	X	X	X	X	X	9
	Sulfate	X	X	X	X	X	X	X	X	9
	TDS	X	X	X	X	X	X	X	X	9
	Antimony	X	X	X	X	X	X	X	X	9
	Arsenic	X	X	X	X	X	X	X	X	9
	Barium	X	X	X	X	X	X	X	X	9
	Beryllium	X	X	X	X	X	X	X	X	9
	Cadmium	X	X	X	X	X	X	X	X	9
	Chromium	X	X	X	X	X	X	X	X	9
	Cobalt	X	X	X	X	X	X	X	X	9
	Fluoride	X	X	X	X	X	X	X	X	9
	Lead	X	X	X	X	X	X	X	X	9
	Lithium	X	X	X	X	X	X	X	X	9
	Mercury	X	X	X	X	X	X	X	X	9
	Molybdenum	X	X	X	X	X	X	X	X	9
	Selenium	X	X	X	X	X	X	X	X	9
Thallium	X	X	X	X	X	X	X	X	9	
Radium	X	X	X	X	X	X	X	X	9	
Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	8
	pH (field)	X	X	X	X	X	X	X	X	8
	Specific Conductance	X	X	X	X	X	X	X	X	8
	Dissolved Oxygen	X	X	X	X	X	X	X	X	8
	ORP	X	X	X	X	X	X	X	X	8
	Temperature	X	X	X	X	X	X	X	X	8
	Turbidity	X	X	X	X	X	X	X	X	8
	Color	X	X	X	X	X	X	X	X	8
	Odor	X	X	X	X	X	X	X	X	8
	Alkalinity Carbonate	X	X	X	X	X	X	X	X	7
	Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	7
	Iron	X	X	X	X	X	X	X	X	7
	Magnesium	X	X	X	X	X	X	X	X	7
	Manganese	X	X	X	X	X	X	X	X	7
	Potassium	X	X	X	X	X	X	X	X	7
Sodium	X	X	X	X	X	X	X	X	7	
Iron (Filtered)	X	X	X	X	X	X	X	X	7	
Manganese (Filtered)	X	X	X	X	X	X	X	X	7	
Magnesium (Filtered)	X	X	X	X	X	X	X	X	7	
Lithium	X	X	X	X	X	X	X	X	2	

Notes
\\Mad-fs01\data\Projects\25221076.00\Data and Calculations\Field Work Requests\JIP_Sutherland Generating Station_CCR_Rule_Sampling_21112.xls]Sheet1



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-229885-1

Login Number: 229885

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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



ANALYTICAL REPORT

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

Laboratory Job ID: 310-229886-1

Client Project/Site: Sutherland Generating Station 2522076

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
5/22/2022 6:20:51 PM

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

LINKS

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results through



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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Job ID: 310-229886-1

Laboratory: Eurofins Cedar Falls

Narrative

**Job Narrative
310-229886-1**

Comments

No additional comments.

Receipt

The samples were received on 4/25/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 1.5° C and 2.5° C.

HPLC/IC

Method 9056A: The following sample was diluted due to the nature of the sample matrix: MW-306 (310-229886-1). Elevated reporting limits (RLs) are provided.

Method 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-229886-3), MW-302 (310-229886-4), MW-303 (310-229886-5), MW-304 (310-229886-6), MW-305 (310-229886-7), MW-307 (310-229886-8) and MW-308 (310-229886-9). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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



Sample Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-229886-1	MW-306	Water	04/21/22 13:02	04/25/22 17:00
310-229886-2	Field Blank	Water	04/22/22 12:07	04/25/22 17:00
310-229886-3	MW-301	Water	04/22/22 13:48	04/25/22 17:00
310-229886-4	MW-302	Water	04/22/22 12:28	04/25/22 17:00
310-229886-5	MW-303	Water	04/22/22 11:13	04/25/22 17:00
310-229886-6	MW-304	Water	04/21/22 09:54	04/25/22 17:00
310-229886-7	MW-305	Water	04/21/22 11:26	04/25/22 17:00
310-229886-8	MW-307	Water	04/21/22 16:02	04/25/22 17:00
310-229886-9	MW-308	Water	04/21/22 08:35	04/25/22 17:00

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Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-306

Lab Sample ID: 310-229886-1

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	470		20	8.0	mg/L	20		9056A	Total/NA
Arsenic	4.0		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	80		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	4400		400	230	ug/L	4		6020A	Total/NA
Calcium	170		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.54		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	52		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	83		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	780		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	851.82				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	110.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.25				mg/L	1		Field Sampling	Total/NA
pH, Field	7.71				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1100				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.60				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-229886-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.24	J	0.50	0.24	ug/L	1		6020A	Total/NA
pH	6.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-301

Lab Sample ID: 310-229886-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.4	J	5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	33		5.0	2.0	mg/L	5		9056A	Total/NA
Barium	86		2.0	0.88	ug/L	1		6020A	Total/NA
Calcium	50		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.63		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.26	J	0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	3.0	J	10	2.5	ug/L	1		6020A	Total/NA
Selenium	1.3	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	150		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.4	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	853.87				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	139.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.98				mg/L	1		Field Sampling	Total/NA
pH, Field	6.23				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	282.4				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	40.7				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-229886-4

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	91		5.0	2.0	mg/L	5		9056A	Total/NA
Antimony	0.69	J	2.0	0.69	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-302 (Continued)

Lab Sample ID: 310-229886-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	21		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	170		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	71	J	100	58	ug/L	1		6020A	Total/NA
Calcium	77		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	6.3		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	2.5	J	10	2.5	ug/L	1		6020A	Total/NA
Selenium	22		5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	320		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	855.04				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	123.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	3.76				mg/L	1		Field Sampling	Total/NA
pH, Field	7.11				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	538.8				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	16.3				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-229886-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	33		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	1.9	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	36		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	130		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.29		0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	28		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.4		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.73		0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	7.8	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	2.4		2.0	1.2	ug/L	1		6020A	Total/NA
Selenium	1.4	J	5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	100		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	852.35				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	83.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	3.23				mg/L	1		Field Sampling	Total/NA
pH, Field	7.30				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	240.8				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	7.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	34.7				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-229886-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.7	J	5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	310		5.0	2.0	mg/L	5		9056A	Total/NA
Barium	21		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	630		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.073	J	0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Total Dissolved Solids	580		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-304 (Continued)

Lab Sample ID: 310-229886-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ground Water Elevation	851.97				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	98.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.77				mg/L	1		Field Sampling	Total/NA
pH, Field	6.77				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	874				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	7.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.72				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-229886-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	20		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	280		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	7.1		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	35		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	1100		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.061	J	0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	140		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	2.8	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	1.4		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	32		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	42		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	590		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	851.91				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	120.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.14				mg/L	1		Field Sampling	Total/NA
pH, Field	6.99				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	938				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	11.1				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-229886-8

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	350		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	4.4		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	46		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	500		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.35		0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	180		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	1.3	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	6.8		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.92		0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	26		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	4.1		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	750		50	26	mg/L	1		SM 2540C	Total/NA
pH	6.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	852.76				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	81.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.12				mg/L	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-307 (Continued)

Lab Sample ID: 310-229886-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH, Field	6.62				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1104				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	10.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	26.3				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 310-229886-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	120		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	0.90	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	81		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	370		100	58	ug/L	1		6020A	Total/NA
Calcium	120		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	2.8		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.34	J	0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	15		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	390		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	853.08				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	105.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.15				mg/L	1		Field Sampling	Total/NA
pH, Field	7.12				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	726				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	8.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	26.9				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-306

Lab Sample ID: 310-229886-1

Date Collected: 04/21/22 13:02

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		5.0	2.3	mg/L			05/06/22 16:16	5
Fluoride	<0.22		0.50	0.22	mg/L			05/06/22 16:16	5
Sulfate	470		20	8.0	mg/L			05/09/22 08:14	20

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:04	1
Arsenic	4.0		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:04	1
Barium	80		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:04	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:04	1
Boron	4400		400	230	ug/L		05/02/22 09:15	05/20/22 18:31	4
Cadmium	<0.055		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:04	1
Calcium	170		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:04	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:04	1
Cobalt	0.54		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:04	1
Lead	<0.24		0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:04	1
Lithium	52		10	2.5	ug/L		05/02/22 09:15	05/19/22 17:04	1
Molybdenum	83		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:04	1
Selenium	<0.96		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:04	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	780		50	26	mg/L			04/26/22 15:45	1
pH	7.7	HF	0.1	0.1	SU			04/26/22 12:11	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	851.82				ft			04/21/22 13:02	1
Oxidation Reduction Potential	110.2				millivolts			04/21/22 13:02	1
Oxygen, Dissolved, Client Supplied	0.25				mg/L			04/21/22 13:02	1
pH, Field	7.71				SU			04/21/22 13:02	1
Specific Conductance, Field	1100				umhos/cm			04/21/22 13:02	1
Temperature, Field	11.2				Degrees C			04/21/22 13:02	1
Turbidity, Field	4.60				NTU			04/21/22 13:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: Field Blank

Lab Sample ID: 310-229886-2

Date Collected: 04/22/22 12:07

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.45		1.0	0.45	mg/L			05/06/22 17:03	1
Fluoride	<0.044		0.10	0.044	mg/L			05/06/22 17:03	1
Sulfate	<0.40		1.0	0.40	mg/L			05/06/22 17:03	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:07	1
Arsenic	<0.75		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:07	1
Barium	<0.88		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:07	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:07	1
Boron	<58		100	58	ug/L		05/02/22 09:15	05/19/22 17:07	1
Cadmium	<0.055		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:07	1
Calcium	<0.19		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:07	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:07	1
Cobalt	<0.19		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:07	1
Lead	0.24	J	0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:07	1
Lithium	<2.5		10	2.5	ug/L		05/02/22 09:15	05/19/22 17:07	1
Molybdenum	<1.2		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:07	1
Selenium	<0.96		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:07	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			04/27/22 14:49	1
pH	6.6	HF	0.1	0.1	SU			04/26/22 12:09	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-301

Lab Sample ID: 310-229886-3

Date Collected: 04/22/22 13:48

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.4	J	5.0	2.3	mg/L			05/09/22 08:29	5
Fluoride	<0.22		0.50	0.22	mg/L			05/09/22 08:29	5
Sulfate	33		5.0	2.0	mg/L			05/09/22 08:29	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:14	1
Arsenic	<0.75		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:14	1
Barium	86		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:14	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:14	1
Boron	<58		100	58	ug/L		05/02/22 09:15	05/19/22 17:14	1
Cadmium	<0.055		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:14	1
Calcium	50		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:14	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:14	1
Cobalt	0.63		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:14	1
Lead	0.26	J	0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:14	1
Lithium	3.0	J	10	2.5	ug/L		05/02/22 09:15	05/19/22 17:14	1
Molybdenum	<1.2		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:14	1
Selenium	1.3	J	5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:14	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	150		50	26	mg/L			04/27/22 14:49	1
pH	6.4	HF	0.1	0.1	SU			04/26/22 12:12	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.87				ft			04/22/22 13:48	1
Oxidation Reduction Potential	139.7				millivolts			04/22/22 13:48	1
Oxygen, Dissolved, Client Supplied	0.98				mg/L			04/22/22 13:48	1
pH, Field	6.23				SU			04/22/22 13:48	1
Specific Conductance, Field	282.4				umhos/cm			04/22/22 13:48	1
Temperature, Field	8.9				Degrees C			04/22/22 13:48	1
Turbidity, Field	40.7				NTU			04/22/22 13:48	1

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-302

Lab Sample ID: 310-229886-4

Date Collected: 04/22/22 12:28

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		5.0	2.3	mg/L			05/09/22 08:45	5
Fluoride	<0.22		0.50	0.22	mg/L			05/09/22 08:45	5
Sulfate	91		5.0	2.0	mg/L			05/09/22 08:45	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.69	J	2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:17	1
Arsenic	21		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:17	1
Barium	170		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:17	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:17	1
Boron	71	J	100	58	ug/L		05/02/22 09:15	05/19/22 17:17	1
Cadmium	<0.055		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:17	1
Calcium	77		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:17	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:17	1
Cobalt	6.3		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:17	1
Lead	<0.24		0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:17	1
Lithium	2.5	J	10	2.5	ug/L		05/02/22 09:15	05/19/22 17:17	1
Molybdenum	<1.2		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:17	1
Selenium	22		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:17	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		50	26	mg/L			04/27/22 14:49	1
pH	7.1	HF	0.1	0.1	SU			04/26/22 12:13	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	855.04				ft			04/22/22 12:28	1
Oxidation Reduction Potential	123.3				millivolts			04/22/22 12:28	1
Oxygen, Dissolved, Client Supplied	3.76				mg/L			04/22/22 12:28	1
pH, Field	7.11				SU			04/22/22 12:28	1
Specific Conductance, Field	538.8				umhos/cm			04/22/22 12:28	1
Temperature, Field	8.2				Degrees C			04/22/22 12:28	1
Turbidity, Field	16.3				NTU			04/22/22 12:28	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-303

Lab Sample ID: 310-229886-5

Date Collected: 04/22/22 11:13

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.3		5.0	2.3	mg/L			05/09/22 09:01	5
Fluoride	<0.22		0.50	0.22	mg/L			05/09/22 09:01	5
Sulfate	33		5.0	2.0	mg/L			05/09/22 09:01	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:20	1
Arsenic	1.9	J	2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:20	1
Barium	36		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:20	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:20	1
Boron	130		100	58	ug/L		05/02/22 09:15	05/19/22 17:20	1
Cadmium	0.29		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:20	1
Calcium	28		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:20	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:20	1
Cobalt	1.4		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:20	1
Lead	0.73		0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:20	1
Lithium	7.8	J	10	2.5	ug/L		05/02/22 09:15	05/19/22 17:20	1
Molybdenum	2.4		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:20	1
Selenium	1.4	J	5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:20	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	100		50	26	mg/L			04/27/22 14:49	1
pH	7.3	HF	0.1	0.1	SU			04/26/22 12:25	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	852.35				ft			04/22/22 11:13	1
Oxidation Reduction Potential	83.7				millivolts			04/22/22 11:13	1
Oxygen, Dissolved, Client Supplied	3.23				mg/L			04/22/22 11:13	1
pH, Field	7.30				SU			04/22/22 11:13	1
Specific Conductance, Field	240.8				umhos/cm			04/22/22 11:13	1
Temperature, Field	7.0				Degrees C			04/22/22 11:13	1
Turbidity, Field	34.7				NTU			04/22/22 11:13	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-304
 Date Collected: 04/21/22 09:54
 Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-6
 Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.7	J	5.0	2.3	mg/L			05/09/22 09:16	5
Fluoride	<0.22		0.50	0.22	mg/L			05/09/22 09:16	5
Sulfate	310		5.0	2.0	mg/L			05/09/22 09:16	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:24	1
Arsenic	<0.75		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:24	1
Barium	21		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:24	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:24	1
Boron	630		100	58	ug/L		05/02/22 09:15	05/19/22 17:24	1
Cadmium	0.073	J	0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:24	1
Calcium	130		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:24	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:24	1
Cobalt	<0.19		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:24	1
Lead	<0.24		0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:24	1
Lithium	<2.5		10	2.5	ug/L		05/02/22 09:15	05/19/22 17:24	1
Molybdenum	<1.2		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:24	1
Selenium	<0.96		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:24	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	580		50	26	mg/L			04/26/22 15:45	1
pH	7.0	HF	0.1	0.1	SU			04/26/22 12:24	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	851.97				ft			04/21/22 09:54	1
Oxidation Reduction Potential	98.9				millivolts			04/21/22 09:54	1
Oxygen, Dissolved, Client Supplied	0.77				mg/L			04/21/22 09:54	1
pH, Field	6.77				SU			04/21/22 09:54	1
Specific Conductance, Field	874				umhos/cm			04/21/22 09:54	1
Temperature, Field	7.2				Degrees C			04/21/22 09:54	1
Turbidity, Field	4.72				NTU			04/21/22 09:54	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-305

Lab Sample ID: 310-229886-7

Date Collected: 04/21/22 11:26

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		5.0	2.3	mg/L			05/09/22 09:32	5
Fluoride	<0.22		0.50	0.22	mg/L			05/09/22 09:32	5
Sulfate	280		5.0	2.0	mg/L			05/09/22 09:32	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:27	1
Arsenic	7.1		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:27	1
Barium	35		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:27	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:27	1
Boron	1100		100	58	ug/L		05/02/22 09:15	05/19/22 17:27	1
Cadmium	0.061	J	0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:27	1
Calcium	140		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:27	1
Chromium	2.8	J	5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:27	1
Cobalt	1.4		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:27	1
Lead	<0.24		0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:27	1
Lithium	32		10	2.5	ug/L		05/02/22 09:15	05/19/22 17:27	1
Molybdenum	42		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:27	1
Selenium	<0.96		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:27	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	590		50	26	mg/L			04/27/22 14:49	1
pH	7.2	HF	0.1	0.1	SU			04/26/22 12:26	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	851.91				ft			04/21/22 11:26	1
Oxidation Reduction Potential	120.5				millivolts			04/21/22 11:26	1
Oxygen, Dissolved, Client Supplied	0.14				mg/L			04/21/22 11:26	1
pH, Field	6.99				SU			04/21/22 11:26	1
Specific Conductance, Field	938				umhos/cm			04/21/22 11:26	1
Temperature, Field	10.0				Degrees C			04/21/22 11:26	1
Turbidity, Field	11.1				NTU			04/21/22 11:26	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-307

Lab Sample ID: 310-229886-8

Date Collected: 04/21/22 16:02

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		5.0	2.3	mg/L			05/09/22 09:47	5
Fluoride	<0.22		0.50	0.22	mg/L			05/09/22 09:47	5
Sulfate	350		5.0	2.0	mg/L			05/09/22 09:47	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:43	1
Arsenic	4.4		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:43	1
Barium	46		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:43	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:43	1
Boron	500		100	58	ug/L		05/02/22 09:15	05/19/22 17:43	1
Cadmium	0.35		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:43	1
Calcium	180		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:43	1
Chromium	1.3 J		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:43	1
Cobalt	6.8		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:43	1
Lead	0.92		0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:43	1
Lithium	26		10	2.5	ug/L		05/02/22 09:15	05/20/22 18:50	1
Molybdenum	4.1		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:43	1
Selenium	<0.96		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:43	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:43	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		50	26	mg/L			04/27/22 14:49	1
pH	6.9 HF		0.1	0.1	SU			04/26/22 12:27	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	852.76				ft			04/21/22 16:02	1
Oxidation Reduction Potential	81.3				millivolts			04/21/22 16:02	1
Oxygen, Dissolved, Client Supplied	0.12				mg/L			04/21/22 16:02	1
pH, Field	6.62				SU			04/21/22 16:02	1
Specific Conductance, Field	1104				umhos/cm			04/21/22 16:02	1
Temperature, Field	10.6				Degrees C			04/21/22 16:02	1
Turbidity, Field	26.3				NTU			04/21/22 16:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-308

Lab Sample ID: 310-229886-9

Date Collected: 04/21/22 08:35

Matrix: Water

Date Received: 04/25/22 17:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		5.0	2.3	mg/L			05/09/22 10:03	5
Fluoride	<0.22		0.50	0.22	mg/L			05/09/22 10:03	5
Sulfate	120		5.0	2.0	mg/L			05/09/22 10:03	5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 17:46	1
Arsenic	0.90	J	2.0	0.75	ug/L		05/02/22 09:15	05/19/22 17:46	1
Barium	81		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 17:46	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 17:46	1
Boron	370		100	58	ug/L		05/02/22 09:15	05/19/22 17:46	1
Cadmium	<0.055		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 17:46	1
Calcium	120		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 17:46	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 17:46	1
Cobalt	2.8		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 17:46	1
Lead	0.34	J	0.50	0.24	ug/L		05/02/22 09:15	05/19/22 17:46	1
Lithium	15		10	2.5	ug/L		05/02/22 09:15	05/20/22 18:54	1
Molybdenum	<1.2		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 17:46	1
Selenium	<0.96		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 17:46	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 17:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:32	05/06/22 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		50	26	mg/L			04/27/22 14:49	1
pH	7.3	HF	0.1	0.1	SU			04/26/22 12:18	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.08				ft			04/21/22 08:35	1
Oxidation Reduction Potential	105.7				millivolts			04/21/22 08:35	1
Oxygen, Dissolved, Client Supplied	0.15				mg/L			04/21/22 08:35	1
pH, Field	7.12				SU			04/21/22 08:35	1
Specific Conductance, Field	726				umhos/cm			04/21/22 08:35	1
Temperature, Field	8.9				Degrees C			04/21/22 08:35	1
Turbidity, Field	26.9				NTU			04/21/22 08:35	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Qualifiers

HPLC/IC

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

Metals

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

General Chemistry

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

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-352419/3
Matrix: Water
Analysis Batch: 352419

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			05/06/22 13:56	1
Fluoride	<0.044		0.10	0.044	mg/L			05/06/22 13:56	1
Sulfate	<0.40		1.0	0.40	mg/L			05/06/22 13:56	1

Lab Sample ID: LCS 310-352419/4
Matrix: Water
Analysis Batch: 352419

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	10.5		mg/L		105	90 - 110
Fluoride	2.00	2.13		mg/L		106	90 - 110
Sulfate	10.0	10.9		mg/L		109	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-351508/1-A
Matrix: Water
Analysis Batch: 353776

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 351508

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		05/02/22 09:15	05/19/22 16:07	1
Arsenic	<0.75		2.0	0.75	ug/L		05/02/22 09:15	05/19/22 16:07	1
Barium	<0.88		2.0	0.88	ug/L		05/02/22 09:15	05/19/22 16:07	1
Beryllium	<0.27		1.0	0.27	ug/L		05/02/22 09:15	05/19/22 16:07	1
Boron	<58		100	58	ug/L		05/02/22 09:15	05/19/22 16:07	1
Cadmium	<0.055		0.10	0.055	ug/L		05/02/22 09:15	05/19/22 16:07	1
Calcium	<0.19		0.50	0.19	mg/L		05/02/22 09:15	05/19/22 16:07	1
Chromium	<1.1		5.0	1.1	ug/L		05/02/22 09:15	05/19/22 16:07	1
Cobalt	<0.19		0.50	0.19	ug/L		05/02/22 09:15	05/19/22 16:07	1
Lead	<0.24		0.50	0.24	ug/L		05/02/22 09:15	05/19/22 16:07	1
Lithium	<2.5		10	2.5	ug/L		05/02/22 09:15	05/19/22 16:07	1
Molybdenum	<1.2		2.0	1.2	ug/L		05/02/22 09:15	05/19/22 16:07	1
Selenium	<0.96		5.0	0.96	ug/L		05/02/22 09:15	05/19/22 16:07	1
Thallium	<0.26		1.0	0.26	ug/L		05/02/22 09:15	05/19/22 16:07	1

Lab Sample ID: LCS 310-351508/2-A
Matrix: Water
Analysis Batch: 353776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	200	210		ug/L		105	80 - 120
Barium	100	112		ug/L		112	80 - 120
Beryllium	100	108		ug/L		108	80 - 120
Boron	200	219		ug/L		109	80 - 120
Cadmium	100	110		ug/L		110	80 - 120
Calcium	2.00	1.97		mg/L		98	80 - 120
Chromium	100	114		ug/L		114	80 - 120
Cobalt	100	113		ug/L		113	80 - 120
Lead	200	229		ug/L		115	80 - 120

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QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

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

Lab Sample ID: LCS 310-351508/2-A
Matrix: Water
Analysis Batch: 353776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	200	213		ug/L		106	80 - 120
Molybdenum	200	219		ug/L		110	80 - 120
Selenium	400	406		ug/L		102	80 - 120
Thallium	200	240		ug/L		120	80 - 120

Lab Sample ID: LCS 310-351508/2-A
Matrix: Water
Analysis Batch: 353878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	200	223		ug/L		111	80 - 120

Lab Sample ID: 310-229886-2 DU
Matrix: Water
Analysis Batch: 353776

Client Sample ID: Field Blank
Prep Type: Total/NA
Prep Batch: 351508

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	
			Result	Qualifier			RPD	Limit
Antimony	<0.69		<0.69		ug/L		NC	20
Arsenic	<0.75		<0.75		ug/L		NC	20
Barium	<0.88		<0.88		ug/L		NC	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Boron	<58		<58		ug/L		NC	20
Cadmium	<0.055		<0.055		ug/L		NC	20
Calcium	<0.19		<0.19		mg/L		NC	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	<0.19		<0.19		ug/L		NC	20
Lead	0.24 J		<0.24		ug/L		NC	20
Lithium	<2.5		<2.5		ug/L		NC	20
Molybdenum	<1.2		<1.2		ug/L		NC	20
Selenium	<0.96		<0.96		ug/L		NC	20
Thallium	<0.26		<0.26		ug/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-352126/1-A
Matrix: Water
Analysis Batch: 352309

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 352126

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:32	05/06/22 13:29	1

Lab Sample ID: LCS 310-352126/2-A
Matrix: Water
Analysis Batch: 352309

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 352126

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.59		ug/L		95	80 - 120

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QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 310-352132/1-A
Matrix: Water
Analysis Batch: 352309

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 352132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.11		0.20	0.11	ug/L		05/05/22 13:38	05/06/22 14:31	1

Lab Sample ID: LCS 310-352132/2-A
Matrix: Water
Analysis Batch: 352309

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 352132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.67	1.62		ug/L		97	80 - 120

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

Lab Sample ID: MB 310-351114/1
Matrix: Water
Analysis Batch: 351114

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			04/26/22 15:45	1

Lab Sample ID: LCS 310-351114/2
Matrix: Water
Analysis Batch: 351114

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	930		mg/L		93	90 - 110

Lab Sample ID: MB 310-351252/1
Matrix: Water
Analysis Batch: 351252

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			04/27/22 14:49	1

Lab Sample ID: LCS 310-351252/2
Matrix: Water
Analysis Batch: 351252

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	924		mg/L		92	90 - 110

Lab Sample ID: 310-229886-2 DU
Matrix: Water
Analysis Batch: 351252

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	<26		<26		mg/L		NC	20

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QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-351080/1
Matrix: Water
Analysis Batch: 351080

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	98 - 102

Lab Sample ID: 310-229886-2 DU
Matrix: Water
Analysis Batch: 351080

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.6	HF	6.6		SU		0.3	20

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

QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

HPLC/IC

Analysis Batch: 352419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	9056A	
310-229886-1	MW-306	Total/NA	Water	9056A	
310-229886-2	Field Blank	Total/NA	Water	9056A	
310-229886-3	MW-301	Total/NA	Water	9056A	
310-229886-4	MW-302	Total/NA	Water	9056A	
310-229886-5	MW-303	Total/NA	Water	9056A	
310-229886-6	MW-304	Total/NA	Water	9056A	
310-229886-7	MW-305	Total/NA	Water	9056A	
310-229886-8	MW-307	Total/NA	Water	9056A	
310-229886-9	MW-308	Total/NA	Water	9056A	
MB 310-352419/3	Method Blank	Total/NA	Water	9056A	
LCS 310-352419/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 351508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	3005A	
310-229886-2	Field Blank	Total/NA	Water	3005A	
310-229886-3	MW-301	Total/NA	Water	3005A	
310-229886-4	MW-302	Total/NA	Water	3005A	
310-229886-5	MW-303	Total/NA	Water	3005A	
310-229886-6	MW-304	Total/NA	Water	3005A	
310-229886-7	MW-305	Total/NA	Water	3005A	
310-229886-8	MW-307	Total/NA	Water	3005A	
310-229886-9	MW-308	Total/NA	Water	3005A	
MB 310-351508/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-351508/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-229886-2 DU	Field Blank	Total/NA	Water	3005A	

Prep Batch: 352126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-9	MW-308	Total/NA	Water	7470A	
MB 310-352126/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-352126/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 352132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	7470A	
310-229886-2	Field Blank	Total/NA	Water	7470A	
310-229886-3	MW-301	Total/NA	Water	7470A	
310-229886-4	MW-302	Total/NA	Water	7470A	
310-229886-5	MW-303	Total/NA	Water	7470A	
310-229886-6	MW-304	Total/NA	Water	7470A	
310-229886-7	MW-305	Total/NA	Water	7470A	
310-229886-8	MW-307	Total/NA	Water	7470A	
MB 310-352132/1-A	Method Blank	Total/NA	Water	7470A	
LCS 310-352132/2-A	Lab Control Sample	Total/NA	Water	7470A	

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QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Metals

Analysis Batch: 352309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	7470A	352132
310-229886-2	Field Blank	Total/NA	Water	7470A	352132
310-229886-3	MW-301	Total/NA	Water	7470A	352132
310-229886-4	MW-302	Total/NA	Water	7470A	352132
310-229886-5	MW-303	Total/NA	Water	7470A	352132
310-229886-6	MW-304	Total/NA	Water	7470A	352132
310-229886-7	MW-305	Total/NA	Water	7470A	352132
310-229886-8	MW-307	Total/NA	Water	7470A	352132
310-229886-9	MW-308	Total/NA	Water	7470A	352126
MB 310-352126/1-A	Method Blank	Total/NA	Water	7470A	352126
MB 310-352132/1-A	Method Blank	Total/NA	Water	7470A	352132
LCS 310-352126/2-A	Lab Control Sample	Total/NA	Water	7470A	352126
LCS 310-352132/2-A	Lab Control Sample	Total/NA	Water	7470A	352132

Analysis Batch: 353776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	6020A	351508
310-229886-2	Field Blank	Total/NA	Water	6020A	351508
310-229886-3	MW-301	Total/NA	Water	6020A	351508
310-229886-4	MW-302	Total/NA	Water	6020A	351508
310-229886-5	MW-303	Total/NA	Water	6020A	351508
310-229886-6	MW-304	Total/NA	Water	6020A	351508
310-229886-7	MW-305	Total/NA	Water	6020A	351508
310-229886-8	MW-307	Total/NA	Water	6020A	351508
310-229886-9	MW-308	Total/NA	Water	6020A	351508
MB 310-351508/1-A	Method Blank	Total/NA	Water	6020A	351508
LCS 310-351508/2-A	Lab Control Sample	Total/NA	Water	6020A	351508
310-229886-2 DU	Field Blank	Total/NA	Water	6020A	351508

Analysis Batch: 353878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	6020A	351508
310-229886-8	MW-307	Total/NA	Water	6020A	351508
310-229886-9	MW-308	Total/NA	Water	6020A	351508
LCS 310-351508/2-A	Lab Control Sample	Total/NA	Water	6020A	351508

General Chemistry

Analysis Batch: 351080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	SM 4500 H+ B	
310-229886-2	Field Blank	Total/NA	Water	SM 4500 H+ B	
310-229886-3	MW-301	Total/NA	Water	SM 4500 H+ B	
310-229886-4	MW-302	Total/NA	Water	SM 4500 H+ B	
310-229886-5	MW-303	Total/NA	Water	SM 4500 H+ B	
310-229886-6	MW-304	Total/NA	Water	SM 4500 H+ B	
310-229886-7	MW-305	Total/NA	Water	SM 4500 H+ B	
310-229886-8	MW-307	Total/NA	Water	SM 4500 H+ B	
310-229886-9	MW-308	Total/NA	Water	SM 4500 H+ B	
LCS 310-351080/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
310-229886-2 DU	Field Blank	Total/NA	Water	SM 4500 H+ B	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

General Chemistry

Analysis Batch: 351114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	SM 2540C	
310-229886-6	MW-304	Total/NA	Water	SM 2540C	
MB 310-351114/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-351114/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 351252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-2	Field Blank	Total/NA	Water	SM 2540C	
310-229886-3	MW-301	Total/NA	Water	SM 2540C	
310-229886-4	MW-302	Total/NA	Water	SM 2540C	
310-229886-5	MW-303	Total/NA	Water	SM 2540C	
310-229886-7	MW-305	Total/NA	Water	SM 2540C	
310-229886-8	MW-307	Total/NA	Water	SM 2540C	
310-229886-9	MW-308	Total/NA	Water	SM 2540C	
MB 310-351252/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-351252/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-229886-2 DU	Field Blank	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 352589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	Field Sampling	
310-229886-3	MW-301	Total/NA	Water	Field Sampling	
310-229886-4	MW-302	Total/NA	Water	Field Sampling	
310-229886-5	MW-303	Total/NA	Water	Field Sampling	
310-229886-6	MW-304	Total/NA	Water	Field Sampling	
310-229886-7	MW-305	Total/NA	Water	Field Sampling	
310-229886-8	MW-307	Total/NA	Water	Field Sampling	
310-229886-9	MW-308	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-306

Date Collected: 04/21/22 13:02

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/06/22 16:16	JNR	TAL CF
Total/NA	Analysis	9056A		20	352419	05/09/22 08:14	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		4	353878	05/20/22 18:31	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:04	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:09	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351114	04/26/22 15:45	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:11	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/21/22 13:02	SLD	TAL CF

Client Sample ID: Field Blank

Date Collected: 04/22/22 12:07

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	352419	05/06/22 17:03	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:07	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:11	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351252	04/27/22 14:49	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:09	JAJ	TAL CF

Client Sample ID: MW-301

Date Collected: 04/22/22 13:48

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/09/22 08:29	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:14	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:14	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351252	04/27/22 14:49	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:12	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/22/22 13:48	SLD	TAL CF

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-302

Date Collected: 04/22/22 12:28

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/09/22 08:45	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:17	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:16	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351252	04/27/22 14:49	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:13	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/22/22 12:28	SLD	TAL CF

Client Sample ID: MW-303

Date Collected: 04/22/22 11:13

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/09/22 09:01	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:20	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:18	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351252	04/27/22 14:49	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:25	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/22/22 11:13	SLD	TAL CF

Client Sample ID: MW-304

Date Collected: 04/21/22 09:54

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/09/22 09:16	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:24	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:20	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351114	04/26/22 15:45	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:24	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/21/22 09:54	SLD	TAL CF

Client Sample ID: MW-305

Date Collected: 04/21/22 11:26

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/09/22 09:32	JNR	TAL CF

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Client Sample ID: MW-305

Date Collected: 04/21/22 11:26

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:27	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:22	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351252	04/27/22 14:49	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:26	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/21/22 11:26	SLD	TAL CF

Client Sample ID: MW-307

Date Collected: 04/21/22 16:02

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/09/22 09:47	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353878	05/20/22 18:50	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:43	SAP	TAL CF
Total/NA	Prep	7470A			352132	05/05/22 13:38	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 15:24	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351252	04/27/22 14:49	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:27	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/21/22 16:02	SLD	TAL CF

Client Sample ID: MW-308

Date Collected: 04/21/22 08:35

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	352419	05/09/22 10:03	JNR	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353878	05/20/22 18:54	SAP	TAL CF
Total/NA	Prep	3005A			351508	05/02/22 09:15	ACM2	TAL CF
Total/NA	Analysis	6020A		1	353776	05/19/22 17:46	SAP	TAL CF
Total/NA	Prep	7470A			352126	05/05/22 13:32	EAM	TAL CF
Total/NA	Analysis	7470A		1	352309	05/06/22 13:46	EAM	TAL CF
Total/NA	Analysis	SM 2540C		1	351252	04/27/22 14:49	TGF	TAL CF
Total/NA	Analysis	SM 4500 H+ B		1	351080	04/26/22 12:18	JAJ	TAL CF
Total/NA	Analysis	Field Sampling		1	352589	04/21/22 08:35	SLD	TAL CF

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Laboratory: Eurofins Cedar Falls

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

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL CF
6020A	Metals (ICP/MS)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 H+ B	pH	SM	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

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- 14
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Environment Testing
America



310-229886 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4-25-22</u>	TIME <u>1700</u>	Received By: <u>ce</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>P</u>	Correction Factor (°C): <u>0.1</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.6</u>	Corrected Temp (°C): <u>2.5</u>		
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>304, 305, 306</u>			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<small>CITY</small> <u>Clive</u>	<small>STATE</small> <u>PA</u>	Project:
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>4-25-22</u>	<small>TIME</small> <u>1700</u>	Received By: <u>rc</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>D</u>	Correction Factor (°C):	<u>-0.1</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.6</u>	Corrected Temp (°C):	<u>1.5</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>Received 1L NT with no label, not bagged with anything</u>			
<u>Also received 3 250mL Nitric's, 1 500mL NT and 1 250mL NT empty</u>			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS			
City/State:	CITY Clive	STATE IA	Project:
Receipt Information			
Date/Time Received:	DATE 4-25-22	TIME 1700	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: N	Correction Factor (°C): 0		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 1.2	Corrected Temp (°C): 1.2		
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Chain of Custody Record

Client Information		Lab PM: Fredrick Sandie		Carrier Tracking No(s): 310-70418-192931	
Client Contact: Rosa Cruz		E-Mail: Sandra.Fredrick@et.eurofins.com		Page: Page 1 of 1	
Company: SCS Engineers		PWSID:		Job #:	
Address: 8450 Hickman Road Suite 27		Due Date Requested:		Preservation Codes:	
City: Clive		TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
State, Zip: IA, 50325		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone: 25222076		PO #:		Total Number of Containers: <input checked="" type="checkbox"/>	
Email: rcruz@scsengineers.com		WO #:		Special Instructions/Note:	
Project Name: Sutherland Generating Station 25222076		Project #:			
Site:		SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (14)	2540C, Calcd, 9056A_ORGFM_28D, SM4500_H+	Analysis Requested	Carrier Tracking No(s)	COC No:
MW-304	4-21-22	13:02	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			310-70418-192931
Field blank	4-22-22	12:07	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-301	4-22-22	13:47	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-302	4-22-22	12:28	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-303	4-22-22	11:13	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-304	4-21-22	9:54	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-305	4-21-22	11:24	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-307	4-21-22	16:07	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-308	4-21-22	8:35	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

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

Empty Kit Relinquished by: [Signature] Date: 4-25-22 8:00
 Relinquished by: [Signature] Date: 4-25-22 8:00
 Relinquished by: [Signature] Date: 4-25-22 8:00

Special Instructions/QC Requirements:
 Return To Client Disposal By Lab Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Date/Time: 4-25-22 8:00
 Date/Time: 4-25-22 1700
 Date/Time: 4-25-22 1700
 Company: GFA CF
 Cooler Temperature(s) °C and Other Remarks:



Table 1. Sampling Points and Parameters CCR Rule Sampling Program
Groundwater Monitoring Sutherland Generating Station/ SCS Engineers Project #25222076

Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	Field Blank	TOTAL
	(COC #1 for non-radium, COC #2 for radium)	X	X	X	X	X	X	X	X	X
Appendix III & IV Parameters	Boron	X	X	X	X	X	X	X	X	9
	Calcium	X	X	X	X	X	X	X	X	9
	Chloride	X	X	X	X	X	X	X	X	9
	Fluoride	X	X	X	X	X	X	X	X	9
	pH	X	X	X	X	X	X	X	X	9
	Sulfate	X	X	X	X	X	X	X	X	9
	TDS	X	X	X	X	X	X	X	X	9
	Antimony	X	X	X	X	X	X	X	X	9
	Arsenic	X	X	X	X	X	X	X	X	9
	Barium	X	X	X	X	X	X	X	X	9
	Beryllium	X	X	X	X	X	X	X	X	9
	Cadmium	X	X	X	X	X	X	X	X	9
	Chromium	X	X	X	X	X	X	X	X	9
	Cobalt	X	X	X	X	X	X	X	X	9
	Fluoride	X	X	X	X	X	X	X	X	9
	Lead	X	X	X	X	X	X	X	X	9
	Lithium	X	X	X	X	X	X	X	X	9
	Mercury	X	X	X	X	X	X	X	X	9
	Molybdenum	X	X	X	X	X	X	X	X	9
	Selenium	X	X	X	X	X	X	X	X	9
Thallium	X	X	X	X	X	X	X	X	9	
Radium	X	X	X	X	X	X	X	X	9	
Field Parameters	Groundwater Elevation	X	X	X	X	X	X	X	X	8
	pH (field)	X	X	X	X	X	X	X	X	8
	Specific Conductance	X	X	X	X	X	X	X	X	8
	Dissolved Oxygen	X	X	X	X	X	X	X	X	8
	ORP	X	X	X	X	X	X	X	X	8
	Temperature	X	X	X	X	X	X	X	X	8
	Turbidity	X	X	X	X	X	X	X	X	8
	Color	X	X	X	X	X	X	X	X	8
	Odor	X	X	X	X	X	X	X	X	8
	Alkalinity Carbonate	X	X	X	X	X	X	X	X	7
	Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	7
	Iron	X	X	X	X	X	X	X	X	7
	Magnesium	X	X	X	X	X	X	X	X	7
	Manganese	X	X	X	X	X	X	X	X	7
	Potassium	X	X	X	X	X	X	X	X	7
Sodium	X	X	X	X	X	X	X	X	7	
COC #3 - MNA Parameters	Iron	X	X	X	X	X	X	X	X	7
	Manganese	X	X	X	X	X	X	X	X	7
	Magnesium	X	X	X	X	X	X	X	X	7
	Lithium	X	X	X	X	X	X	X	X	2
COC #3 - MNA Parameters	Total (Unfiltered)	X	X	X	X	X	X	X	X	7
	Dissolved (Filtered)	X	X	X	X	X	X	X	X	7
Notes										
	Notes									
\\Mad-fs01\data\Projects\25221076.00\Data and Calculations\Field Work Requests\JIP_Sutherland Generating Station_CCR_Rule_Sampling_21112.xls]Sheet1										



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-229886-1

Login Number: 229886

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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	unlabeled 1L NT received
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	



Groundwater Monitoring Results - Field Parameters
Sutherland Generating Station / SCS Engineers Project #25222076.00
April 2022

Sample	Sample Date/Time	GW Elevation (feet amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-301	4/22/2022 1348	853.87	8.9	6.23	0.98	282.4	139.7	40.7
MW-302	4/22/2022 1228	855.04	8.2	7.11	3.76	538.8	123.3	16.3
MW-303	4/22/2022 1113	852.35	7.0	7.30	3.23	240.8	83.7	34.7
MW-304	4/21/2022 954	851.97	7.2	6.77	0.77	874	98.9	4.72
MW-305	4/21/2022 1126	851.91	10.0	6.99	0.14	938	120.5	11.1
MW-306	4/21/2022 1302	851.82	11.2	7.71	0.25	1100	110.2	4.60
MW-307	4/21/2022 1602	852.76	10.6	6.62	0.12	1104	81.3	26.3
MW-308	4/22/2022 835	853.08	8.9	7.12	0.15	726	105.7	26.9

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

Notes:

None

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

Date: 2/23/2021
 Date: 5/5/2022
 Date: 5/9/2022

C:\Users\fredricks\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\D8427408\[2204_Sutherland_CCR_Field.xlsx]GW Field Parameters

ANALYTICAL REPORT

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

Laboratory Job ID: 310-229886-2

Client Project/Site: Sutherland Generating Station 25222076

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
5/26/2022 7:44:29 AM

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

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Job ID: 310-229886-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-229886-2

Comments

No additional comments.

Receipt

The samples were received on 4/25/2022 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 1.5° C and 2.5° C.

RAD

Methods 903.0, 9315: Radium-226 prep batch 160-562611:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-306 (310-229886-1), Field Blank (310-229886-2), MW-301 (310-229886-3), MW-302 (310-229886-4), MW-303 (310-229886-5), MW-304 (310-229886-6), MW-305 (310-229886-7), MW-307 (310-229886-8), MW-308 (310-229886-9), (LCS 160-562611/1-A), (LCSD 160-562611/2-A) and (MB 160-562611/22-A)

Methods 904.0, 9320: Radium 228 batch 562616

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. MW-306 (310-229886-1), Field Blank (310-229886-2), MW-301 (310-229886-3), MW-302 (310-229886-4), MW-303 (310-229886-5), MW-304 (310-229886-6), MW-305 (310-229886-7), MW-307 (310-229886-8), MW-308 (310-229886-9), (LCS 160-562616/1-A), (LCSD 160-562616/2-A) and (MB 160-562616/22-A)

Method PrecSep_0: Radium-228 Prep Batch 160-562616

The following samples were prepared at a reduced aliquot due to Matrix: MW-301 (310-229886-3), MW-303 (310-229886-5), MW-307 (310-229886-8) and MW-308 (310-229886-9). 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 160-562611

The following samples were prepared at a reduced aliquot due to Matrix: MW-301 (310-229886-3), MW-303 (310-229886-5), MW-307 (310-229886-8) and MW-308 (310-229886-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Sample Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-229886-1	MW-306	Water	04/21/22 13:02	04/25/22 17:00
310-229886-2	Field Blank	Water	04/22/22 12:07	04/25/22 17:00
310-229886-3	MW-301	Water	04/22/22 13:48	04/25/22 17:00
310-229886-4	MW-302	Water	04/22/22 12:28	04/25/22 17:00
310-229886-5	MW-303	Water	04/22/22 11:13	04/25/22 17:00
310-229886-6	MW-304	Water	04/21/22 09:54	04/25/22 17:00
310-229886-7	MW-305	Water	04/21/22 11:26	04/25/22 17:00
310-229886-8	MW-307	Water	04/21/22 16:02	04/25/22 17:00
310-229886-9	MW-308	Water	04/21/22 08:35	04/25/22 17:00

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Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-306	Lab Sample ID: 310-229886-1
<input type="checkbox"/> No Detections.	
Client Sample ID: Field Blank	Lab Sample ID: 310-229886-2
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-301	Lab Sample ID: 310-229886-3
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-302	Lab Sample ID: 310-229886-4
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-303	Lab Sample ID: 310-229886-5
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-304	Lab Sample ID: 310-229886-6
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-305	Lab Sample ID: 310-229886-7
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-307	Lab Sample ID: 310-229886-8
<input type="checkbox"/> No Detections.	
Client Sample ID: MW-308	Lab Sample ID: 310-229886-9
<input type="checkbox"/> No Detections.	

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-306

Lab Sample ID: 310-229886-1

Date Collected: 04/21/22 13:02

Matrix: Water

Date Received: 04/25/22 17:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0542	U	0.0640	0.0642	1.00	0.104	pCi/L	04/28/22 10:11	05/25/22 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					04/28/22 10:11	05/25/22 09:36	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.139	U	0.216	0.216	1.00	0.363	pCi/L	04/28/22 10:54	05/16/22 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	92.0		40 - 110					04/28/22 10:54	05/16/22 12:19	1
Y Carrier	87.5		40 - 110					04/28/22 10:54	05/16/22 12:19	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.194	U	0.225	0.225	5.00	0.363	pCi/L		05/25/22 18:38	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: Field Blank

Lab Sample ID: 310-229886-2

Date Collected: 04/22/22 12:07

Matrix: Water

Date Received: 04/25/22 17:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0284	U	0.0586	0.0586	1.00	0.106	pCi/L	04/28/22 10:11	05/25/22 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.0		40 - 110					04/28/22 10:11	05/25/22 09:36	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.0289	U	0.232	0.232	1.00	0.408	pCi/L	04/28/22 10:54	05/16/22 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	94.0		40 - 110					04/28/22 10:54	05/16/22 12:19	1
Y Carrier	85.2		40 - 110					04/28/22 10:54	05/16/22 12:19	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.0573	U	0.239	0.239	5.00	0.408	pCi/L		05/25/22 18:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-301
 Date Collected: 04/22/22 13:48
 Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-3
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.136		0.0976	0.0984	1.00	0.132	pCi/L	04/28/22 10:11	05/25/22 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.1		40 - 110					04/28/22 10:11	05/25/22 09:37	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.107	U	0.355	0.355	1.00	0.615	pCi/L	04/28/22 10:54	05/16/22 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	83.1		40 - 110					04/28/22 10:54	05/16/22 12:19	1
Y Carrier	84.5		40 - 110					04/28/22 10:54	05/16/22 12:19	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.244	U	0.368	0.368	5.00	0.615	pCi/L		05/25/22 18:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-302

Lab Sample ID: 310-229886-4

Date Collected: 04/22/22 12:28

Matrix: Water

Date Received: 04/25/22 17:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.124		0.0770	0.0778	1.00	0.100	pCi/L	04/28/22 10:11	05/25/22 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.5		40 - 110					04/28/22 10:11	05/25/22 09:37	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.539		0.259	0.264	1.00	0.380	pCi/L	04/28/22 10:54	05/16/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	95.5		40 - 110					04/28/22 10:54	05/16/22 12:20	1
Y Carrier	84.9		40 - 110					04/28/22 10:54	05/16/22 12:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.663		0.270	0.275	5.00	0.380	pCi/L		05/25/22 18:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-303

Lab Sample ID: 310-229886-5

Date Collected: 04/22/22 11:13

Matrix: Water

Date Received: 04/25/22 17:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.574		0.210	0.217	1.00	0.189	pCi/L	04/28/22 10:11	05/25/22 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	51.2		40 - 110					04/28/22 10:11	05/25/22 09:37	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	1.47		0.626	0.640	1.00	0.882	pCi/L	04/28/22 10:54	05/16/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	51.2		40 - 110					04/28/22 10:54	05/16/22 12:20	1
Y Carrier	83.7		40 - 110					04/28/22 10:54	05/16/22 12:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	2.04		0.660	0.676	5.00	0.882	pCi/L		05/25/22 18:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-304

Lab Sample ID: 310-229886-6

Date Collected: 04/21/22 09:54

Matrix: Water

Date Received: 04/25/22 17:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0884		0.0650	0.0655	1.00	0.0866	pCi/L	04/28/22 10:11	05/25/22 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		40 - 110					04/28/22 10:11	05/25/22 09:37	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.261	U	0.237	0.238	1.00	0.380	pCi/L	04/28/22 10:54	05/16/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	89.8		40 - 110					04/28/22 10:54	05/16/22 12:20	1
Y Carrier	85.6		40 - 110					04/28/22 10:54	05/16/22 12:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.350	U	0.246	0.247	5.00	0.380	pCi/L		05/25/22 18:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-305

Lab Sample ID: 310-229886-7

Date Collected: 04/21/22 11:26

Matrix: Water

Date Received: 04/25/22 17:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.210		0.0918	0.0937	1.00	0.0960	pCi/L	04/28/22 10:11	05/25/22 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110					04/28/22 10:11	05/25/22 09:37	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.139	U	0.231	0.231	1.00	0.389	pCi/L	04/28/22 10:54	05/16/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	90.5		40 - 110					04/28/22 10:54	05/16/22 12:20	1
Y Carrier	90.5		40 - 110					04/28/22 10:54	05/16/22 12:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.349	U	0.249	0.249	5.00	0.389	pCi/L		05/25/22 18:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-307
Date Collected: 04/21/22 16:02
Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-8
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	0.0677	U	0.0885	0.0887	1.00	0.148	pCi/L	04/28/22 10:11	05/25/22 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		40 - 110					04/28/22 10:11	05/25/22 09:37	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.500	U	0.354	0.357	1.00	0.551	pCi/L	04/28/22 10:54	05/16/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	84.3		40 - 110					04/28/22 10:54	05/16/22 12:20	1
Y Carrier	86.4		40 - 110					04/28/22 10:54	05/16/22 12:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.568		0.365	0.368	5.00	0.551	pCi/L		05/25/22 18:38	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-308
 Date Collected: 04/21/22 08:35
 Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-9
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226	-0.0310	U	0.0509	0.0510	1.00	0.130	pCi/L	04/28/22 10:11	05/25/22 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.8		40 - 110					04/28/22 10:11	05/25/22 09:37	1

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 228	0.517		0.289	0.293	1.00	0.431	pCi/L	04/28/22 10:54	05/16/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	95.8		40 - 110					04/28/22 10:54	05/16/22 12:20	1
Y Carrier	87.9		40 - 110					04/28/22 10:54	05/16/22 12:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228	0.517		0.293	0.297	5.00	0.431	pCi/L		05/25/22 18:38	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-562611/22-A
Matrix: Water
Analysis Batch: 567255

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 562611

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 226	0.04378	U	0.0572	0.0574	1.00	0.0954	pCi/L	04/28/22 10:11	05/25/22 11:47	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110				04/28/22 10:11		05/25/22 11:47	1

Lab Sample ID: LCS 160-562611/1-A
Matrix: Water
Analysis Batch: 567255

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 562611

Analyte	LCS		Spike	LCS	Total	RL	MDC	Unit	%Rec	%Rec Limits
	%Yield	LCS Qualifier	Added	Result	Uncert. (2σ+/-)					
Radium 226			11.3	9.695	1.02	1.00	0.0916	pCi/L	86	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	92.8		40 - 110							

Lab Sample ID: LCSD 160-562611/2-A
Matrix: Water
Analysis Batch: 567255

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 562611

Analyte	LCSD		Spike	LCSD	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
	%Yield	LCSD Qualifier	Added	Result	Uncert. (2σ+/-)							
Radium 226			11.3	10.71	1.13	1.00	0.122	pCi/L	95	75 - 125	0.47	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits									
Ba Carrier	80.8		40 - 110									

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-562616/22-A
Matrix: Water
Analysis Batch: 565963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 562616

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 228	0.05265	U	0.178	0.178	1.00	0.312	pCi/L	04/28/22 10:54	05/16/22 12:24	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed	Dil Fac
Ba	95.0		40 - 110				04/28/22 10:54		05/16/22 12:24	1
Y Carrier	94.6		40 - 110				04/28/22 10:54		05/16/22 12:24	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

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

Lab Sample ID: LCS 160-562616/1-A
Matrix: Water
Analysis Batch: 565962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 562616

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
									75	125
Radium 228	8.62	9.354		1.09	1.00	0.392	pCi/L	109	75	125
LCS LCS										
Carrier	%Yield	Qualifier	Limits							
Ba	92.8		40 - 110							
Y Carrier	83.4		40 - 110							

Lab Sample ID: LCSD 160-562616/2-A
Matrix: Water
Analysis Batch: 565962

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 562616

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		RER	RER Limit
									75	125	0.22	1
Radium 228	8.62	8.883		1.09	1.00	0.390	pCi/L	103	75	125	0.22	1
LCSD LCSD												
Carrier	%Yield	Qualifier	Limits									
Ba	80.8		40 - 110									
Y Carrier	82.6		40 - 110									

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QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Rad

Prep Batch: 562611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	PrecSep-21	
310-229886-2	Field Blank	Total/NA	Water	PrecSep-21	
310-229886-3	MW-301	Total/NA	Water	PrecSep-21	
310-229886-4	MW-302	Total/NA	Water	PrecSep-21	
310-229886-5	MW-303	Total/NA	Water	PrecSep-21	
310-229886-6	MW-304	Total/NA	Water	PrecSep-21	
310-229886-7	MW-305	Total/NA	Water	PrecSep-21	
310-229886-8	MW-307	Total/NA	Water	PrecSep-21	
310-229886-9	MW-308	Total/NA	Water	PrecSep-21	
MB 160-562611/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-562611/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-562611/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 562616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-229886-1	MW-306	Total/NA	Water	PrecSep_0	
310-229886-2	Field Blank	Total/NA	Water	PrecSep_0	
310-229886-3	MW-301	Total/NA	Water	PrecSep_0	
310-229886-4	MW-302	Total/NA	Water	PrecSep_0	
310-229886-5	MW-303	Total/NA	Water	PrecSep_0	
310-229886-6	MW-304	Total/NA	Water	PrecSep_0	
310-229886-7	MW-305	Total/NA	Water	PrecSep_0	
310-229886-8	MW-307	Total/NA	Water	PrecSep_0	
310-229886-9	MW-308	Total/NA	Water	PrecSep_0	
MB 160-562616/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-562616/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-562616/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-306

Lab Sample ID: 310-229886-1

Date Collected: 04/21/22 13:02

Matrix: Water

Date Received: 04/25/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:36	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:19	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Client Sample ID: Field Blank

Lab Sample ID: 310-229886-2

Date Collected: 04/22/22 12:07

Matrix: Water

Date Received: 04/25/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:36	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:19	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Client Sample ID: MW-301

Lab Sample ID: 310-229886-3

Date Collected: 04/22/22 13:48

Matrix: Water

Date Received: 04/25/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:19	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Client Sample ID: MW-302

Lab Sample ID: 310-229886-4

Date Collected: 04/22/22 12:28

Matrix: Water

Date Received: 04/25/22 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:20	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

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Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-303

Date Collected: 04/22/22 11:13

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:20	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Client Sample ID: MW-304

Date Collected: 04/21/22 09:54

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:20	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Client Sample ID: MW-305

Date Collected: 04/21/22 11:26

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:20	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Client Sample ID: MW-307

Date Collected: 04/21/22 16:02

Date Received: 04/25/22 17:00

Lab Sample ID: 310-229886-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:20	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Client Sample ID: MW-308

Lab Sample ID: 310-229886-9

Date Collected: 04/21/22 08:35

Matrix: Water

Date Received: 04/25/22 17:00

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	PrecSep-21			562611	04/28/22 10:11	MS	TAL SL
Total/NA	Analysis	903.0		1	567255	05/25/22 09:37	SCB	TAL SL
Total/NA	Prep	PrecSep_0			562616	04/28/22 10:54	MS	TAL SL
Total/NA	Analysis	904.0		1	565962	05/16/22 12:20	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Pos		1	567283	05/25/22 18:38	FLC	TAL SL

Laboratory References:

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



Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

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	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	07-01-22
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22



Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

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

Laboratory References:

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





Environment Testing
America



310-229886 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>4-25-22</u>	TIME <u>1700</u>	Received By: <u>ce</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID: <u>P</u>	Correction Factor (°C): <u>0.1</u>		
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>2.6</u>	Corrected Temp (°C): <u>2.5</u>		
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>304, 305, 306</u>			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<small>CITY</small> <u>Clive</u>	<small>STATE</small> <u>PA</u>	Project:
Receipt Information			
Date/Time Received:	<small>DATE</small> <u>4-25-22</u>	<small>TIME</small> <u>1700</u>	Received By: <u>rc</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>D</u>	Correction Factor (°C):	<u>-0.1</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.6</u>	Corrected Temp (°C):	<u>1.5</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>Received 1L NT with no label, not bagged with anything</u>			
<u>Also received 3 250mL Nitric's, 1 500mL NT and 1 250mL NT empty</u>			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: SCS			
City/State:	CITY Clive	STATE IA	Project:
Receipt Information			
Date/Time Received:	DATE 4-25-22	TIME 1700	Received By: HED
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>3</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: N		Correction Factor (°C): 0	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 1.2		Corrected Temp (°C): 1.2	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Chain of Custody Record

Client Information		Lab PM: Fredrick Sandie		Carrier Tracking No(s): 310-70418-192931	
Client Contact: Rosa Cruz		E-Mail: Sandra.Fredrick@det.eurofins.com		Page: Page 1 of 1	
Company: SCS Engineers		PWSID:		Job #:	
Address: 8450 Hickman Road Suite 27		Due Date Requested:		Preservation Codes:	
City: Clive		TAT Requested (days):		A - HCL N - None B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
State, Zip: IA, 50325		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		M - Hexane O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone: 25222076		PO #:		Total Number of Containers: <input checked="" type="checkbox"/>	
Email: rcruz@scsengineers.com		WO #:		Special Instructions/Note:	
Project Name: Sutherland Generating Station 25222076		Project #:			
Site:		SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=tissue, AA=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Metals (14)	2540C, Calcd, 9056A_ORGFM_28D, SM4500_H+	Analysis Requested	Carrier Tracking No(s)	COC No:
MW-304	4-21-22	13:02	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			310-70418-192931
Field blank	4-22-22	12:07	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-301	4-22-22	13:47	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-302	4-22-22	12:28	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-303	4-22-22	11:13	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-304	4-21-22	9:54	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-305	4-21-22	11:24	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-307	4-21-22	10:07	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MW-308	4-21-22	8:35	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	
Deliverable Requested I II III IV Other (specify)	
Empty Kit Relinquished by:	Time:
Relinquished by: <i>[Signature]</i>	Date/Time: 4-25-22 8:00
Relinquished by:	Date/Time:
Relinquished by:	Date/Time:
Relinquished by:	Date/Time:
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Custody Seal No: 67A CF



Table 1. Sampling Points and Parameters CCR Rule Sampling Program
Groundwater Monitoring Sutherland Generating Station/ SCS Engineers Project #25222076

Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	Field Blank	TOTAL
	(COC #1 for non-radium, COC #2 for radium)	X	X	X	X	X	X	X	X	X
Appendix III & IV Parameters	Boron	X	X	X	X	X	X	X	X	9
	Calcium	X	X	X	X	X	X	X	X	9
Total (Unfiltered)	Chloride	X	X	X	X	X	X	X	X	9
	Fluoride	X	X	X	X	X	X	X	X	9
COC #3 - MNA Parameters	pH	X	X	X	X	X	X	X	X	9
	Sulfate	X	X	X	X	X	X	X	X	9
Field Parameters	TDS	X	X	X	X	X	X	X	X	9
	Antimony	X	X	X	X	X	X	X	X	9
Dissolved (Filtered)	Arsenic	X	X	X	X	X	X	X	X	9
	Barium	X	X	X	X	X	X	X	X	9
Notes	Beryllium	X	X	X	X	X	X	X	X	9
	Cadmium	X	X	X	X	X	X	X	X	9
\\Mad-fs01\data\Projects\25221076.00\Data and Calculations\Field Work Requests\JIP_Sutherland Generating Station_CCR_Rule_Sampling_21112.xls]Sheet1	Chromium	X	X	X	X	X	X	X	X	9
	Cobalt	X	X	X	X	X	X	X	X	9
Groundwater Elevation	Fluoride	X	X	X	X	X	X	X	X	9
	Lead	X	X	X	X	X	X	X	X	9
pH (field)	Lithium	X	X	X	X	X	X	X	X	9
	Mercury	X	X	X	X	X	X	X	X	9
Specific Conductance	Molybdenum	X	X	X	X	X	X	X	X	9
	Selenium	X	X	X	X	X	X	X	X	9
Dissolved Oxygen	Thallium	X	X	X	X	X	X	X	X	9
	Radium	X	X	X	X	X	X	X	X	9
ORP	Groundwater Elevation	X	X	X	X	X	X	X	X	8
	pH (field)	X	X	X	X	X	X	X	X	8
Temperature	Specific Conductance	X	X	X	X	X	X	X	X	8
	Dissolved Oxygen	X	X	X	X	X	X	X	X	8
Turbidity	ORP	X	X	X	X	X	X	X	X	8
	Temperature	X	X	X	X	X	X	X	X	8
Color	Temperature	X	X	X	X	X	X	X	X	8
	Turbidity	X	X	X	X	X	X	X	X	8
Alkalinity Carbonate	Color	X	X	X	X	X	X	X	X	8
	Odor	X	X	X	X	X	X	X	X	8
Alkalinity - Bicarbonate	Alkalinity Carbonate	X	X	X	X	X	X	X	X	7
	Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	7
Iron	Iron	X	X	X	X	X	X	X	X	7
	Magnesium	X	X	X	X	X	X	X	X	7
Manganese	Magnesium	X	X	X	X	X	X	X	X	7
	Potassium	X	X	X	X	X	X	X	X	7
Sodium	Sodium	X	X	X	X	X	X	X	X	7
	Iron	X	X	X	X	X	X	X	X	7
Manganese	Manganese	X	X	X	X	X	X	X	X	7
	Magnesium	X	X	X	X	X	X	X	X	7
Lithium	Lithium	X	X	X	X	X	X	X	X	2

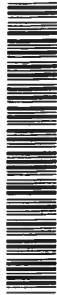
Notes
\\Mad-fs01\data\Projects\25221076.00\Data and Calculations\Field Work Requests\JIP_Sutherland Generating Station_CCR_Rule_Sampling_21112.xls]Sheet1



Chain of Custody Record



Environment Testing
America



Client Information (Sub Contract Lab)		Sampler Fredrick, Sandie	Lab PM Fredrick, Sandie	Carrier Tracking No(s)	COC No 310-49071.1
Client Contact Shipping/Receiving		Phone Sandra Fredrick@et.eurofins.com	E-Mail Sandra Fredrick@et.eurofins.com	State of Origin Iowa	Page Page 1 of 1
Company TestAmerica Laboratories, Inc.		Accreditations Required (See note) State Program - Iowa		Job # 310-229886-2	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
Address 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Due Date Requested: 5/24/2022 TAT Requested (days): PO #: WO #: Project #: 31011020 SSOW#:		Analysis Requested	
Project Name Sutherland Generating Station 25222076 Site:		Field Filtered Sample (Yes or No)		Total Number of Containers	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil, BT=issue, A=air)
MW-306 (310-229886-1)	4/21/22	13:02 Central	Water	903.0/Precep_21 Radium-226 (GFPC)	X
Field Blank (310-229886-2)	4/22/22	12:07 Central	Water	904.0/Precep_0 Radium-226 (GFPC)	X
MW-301 (310-229886-3)	4/22/22	13:48 Central	Water	Radium-228	X
MW-302 (310-229886-4)	4/22/22	12:28 Central	Water	904.0/Precep_P/ Combined Radium-226 and	X
MW-303 (310-229886-5)	4/22/22	11:13 Central	Water		X
MW-304 (310-229886-6)	4/21/22	09:54 Central	Water		X
MW-305 (310-229886-7)	4/21/22	11:26 Central	Water		X
MW-307 (310-229886-8)	4/21/22	16:02 Central	Water		X
MW-308 (310-229886-9)	4/21/22	08:35 Central	Water		X
<p>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/test/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.</p>					
Possible Hazard Identification					
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2 Empty Kit Relinquished by: _____ Date: _____ Relinquished by: _____ Date/Time: 4/26/22 13:55 Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Custody Seals Intact: _____ Custody Seal No.: _____ Δ Yes Δ No					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: _____ Received by: _____ Date/Time: _____ Received by: <i>Sara Worthington</i> Date/Time: APR 27 2022 09:10 Received by: _____ Date/Time: _____ Cooler Temperature(s) °C and Other Remarks: _____					



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-229886-2

Login Number: 229886

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-229886-2

Login Number: 229886

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

List Creation: 04/27/22 12:45 PM

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



Tracer/Carrier Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-229886-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
310-229886-1	MW-306	92.0	
310-229886-2	Field Blank	94.0	
310-229886-3	MW-301	83.1	
310-229886-4	MW-302	95.5	
310-229886-5	MW-303	51.2	
310-229886-6	MW-304	89.8	
310-229886-7	MW-305	90.5	
310-229886-8	MW-307	84.3	
310-229886-9	MW-308	95.8	
LCS 160-562611/1-A	Lab Control Sample	92.8	
LCSD 160-562611/2-A	Lab Control Sample Dup	80.8	
MB 160-562611/22-A	Method Blank	95.0	
Tracer/Carrier Legend			
Ba = Ba Carrier			

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-229886-1	MW-306	92.0	87.5
310-229886-2	Field Blank	94.0	85.2
310-229886-3	MW-301	83.1	84.5
310-229886-4	MW-302	95.5	84.9
310-229886-5	MW-303	51.2	83.7
310-229886-6	MW-304	89.8	85.6
310-229886-7	MW-305	90.5	90.5
310-229886-8	MW-307	84.3	86.4
310-229886-9	MW-308	95.8	87.9
LCS 160-562616/1-A	Lab Control Sample	92.8	83.4
LCSD 160-562616/2-A	Lab Control Sample Dup	80.8	82.6
MB 160-562616/22-A	Method Blank	95.0	94.6
Tracer/Carrier Legend			
Ba = Ba			
Y = Y Carrier			

C2 May 2022 Supplemental Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-231309-1

Client Project/Site: Sutherland Generating Station 25222076

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
6/1/2022 4:31:52 PM

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

LINKS

Review your project
results through



Have a Question?



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www.eurofinsus.com/Env

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Job ID: 310-231309-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-231309-1

Comments

Client cancelled all but Lithium / Field data reporting

Receipt

The samples were received on 5/12/2022 4:40 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 8.8° C.

Metals

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

- 1
- 2
- 3
- 4
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Sample Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-231309-1	MW-309	Water	05/12/22 14:10	05/12/22 16:40
310-231309-2	MW-310	Water	05/12/22 12:45	05/12/22 16:40
310-231309-3	MW-311	Water	05/12/22 10:50	05/12/22 16:40
310-231309-4	Field Blank	Water	05/12/22 10:50	05/12/22 16:40

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Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Client Sample ID: MW-309

Lab Sample ID: 310-231309-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	17		10	2.5	ug/L	1		6020A	Total/NA
Ground Water Elevation	853.95				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	191.4				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	7.66				mg/L	1		Field Sampling	Total/NA
pH, Field	7.42				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	937				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.5				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.08				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-231309-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	20		10	2.5	ug/L	1		6020A	Total/NA
Ground Water Elevation	853.71				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	190.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	4.81				mg/L	1		Field Sampling	Total/NA
pH, Field	7.44				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1044				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	9.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	2.91				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-311

Lab Sample ID: 310-231309-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	25		10	2.5	ug/L	1		6020A	Total/NA
Ground Water Elevation	853.56				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	199.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	5.15				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1017				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	7.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	0.67				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-231309-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Client Sample ID: MW-309

Lab Sample ID: 310-231309-1

Date Collected: 05/12/22 14:10

Matrix: Water

Date Received: 05/12/22 16:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	17		10	2.5	ug/L		05/23/22 10:30	05/26/22 15:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.95				ft			05/12/22 14:10	1
Oxidation Reduction Potential	191.4				millivolts			05/12/22 14:10	1
Oxygen, Dissolved, Client Supplied	7.66				mg/L			05/12/22 14:10	1
pH, Field	7.42				SU			05/12/22 14:10	1
Specific Conductance, Field	937				umhos/cm			05/12/22 14:10	1
Temperature, Field	9.5				Degrees C			05/12/22 14:10	1
Turbidity, Field	0.08				NTU			05/12/22 14:10	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Client Sample ID: MW-310
 Date Collected: 05/12/22 12:45
 Date Received: 05/12/22 16:40

Lab Sample ID: 310-231309-2
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	20		10	2.5	ug/L		05/23/22 10:30	05/26/22 15:12	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.71				ft			05/12/22 12:45	1
Oxidation Reduction Potential	190.7				millivolts			05/12/22 12:45	1
Oxygen, Dissolved, Client Supplied	4.81				mg/L			05/12/22 12:45	1
pH, Field	7.44				SU			05/12/22 12:45	1
Specific Conductance, Field	1044				umhos/cm			05/12/22 12:45	1
Temperature, Field	9.6				Degrees C			05/12/22 12:45	1
Turbidity, Field	2.91				NTU			05/12/22 12:45	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Client Sample ID: MW-311
 Date Collected: 05/12/22 10:50
 Date Received: 05/12/22 16:40

Lab Sample ID: 310-231309-3
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	25		10	2.5	ug/L		05/23/22 10:30	05/26/22 15:15	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	853.56				ft			05/12/22 10:50	1
Oxidation Reduction Potential	199.6				millivolts			05/12/22 10:50	1
Oxygen, Dissolved, Client Supplied	5.15				mg/L			05/12/22 10:50	1
pH, Field	7.17				SU			05/12/22 10:50	1
Specific Conductance, Field	1017				umhos/cm			05/12/22 10:50	1
Temperature, Field	7.9				Degrees C			05/12/22 10:50	1
Turbidity, Field	0.67				NTU			05/12/22 10:50	1



Client Sample Results

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Client Sample ID: Field Blank

Lab Sample ID: 310-231309-4

Date Collected: 05/12/22 10:50

Matrix: Water

Date Received: 05/12/22 16:40

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.5		10	2.5	ug/L		05/23/22 10:30	05/26/22 15:19	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-353961/1-A
Matrix: Water
Analysis Batch: 354347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 353961

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.5		10	2.5	ug/L		05/23/22 10:30	05/25/22 15:44	1

Lab Sample ID: LCS 310-353961/2-A
Matrix: Water
Analysis Batch: 354347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 353961

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	200	205		ug/L		103	80 - 120



QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Metals

Prep Batch: 353961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-231309-1	MW-309	Total/NA	Water	3005A	
310-231309-2	MW-310	Total/NA	Water	3005A	
310-231309-3	MW-311	Total/NA	Water	3005A	
310-231309-4	Field Blank	Total/NA	Water	3005A	
MB 310-353961/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-353961/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 354347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-353961/1-A	Method Blank	Total/NA	Water	6020A	353961
LCS 310-353961/2-A	Lab Control Sample	Total/NA	Water	6020A	353961

Analysis Batch: 354516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-231309-1	MW-309	Total/NA	Water	6020A	353961
310-231309-2	MW-310	Total/NA	Water	6020A	353961
310-231309-3	MW-311	Total/NA	Water	6020A	353961
310-231309-4	Field Blank	Total/NA	Water	6020A	353961

Field Service / Mobile Lab

Analysis Batch: 354944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-231309-1	MW-309	Total/NA	Water	Field Sampling	
310-231309-2	MW-310	Total/NA	Water	Field Sampling	
310-231309-3	MW-311	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Client Sample ID: MW-309

Date Collected: 05/12/22 14:10

Date Received: 05/12/22 16:40

Lab Sample ID: 310-231309-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			353961	05/23/22 10:30	ACM2	TAL CF
Total/NA	Analysis	6020A		1	354516	05/26/22 15:09	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	354944	05/12/22 14:10	SJF	TAL CF

Client Sample ID: MW-310

Date Collected: 05/12/22 12:45

Date Received: 05/12/22 16:40

Lab Sample ID: 310-231309-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			353961	05/23/22 10:30	ACM2	TAL CF
Total/NA	Analysis	6020A		1	354516	05/26/22 15:12	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	354944	05/12/22 12:45	SJF	TAL CF

Client Sample ID: MW-311

Date Collected: 05/12/22 10:50

Date Received: 05/12/22 16:40

Lab Sample ID: 310-231309-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			353961	05/23/22 10:30	ACM2	TAL CF
Total/NA	Analysis	6020A		1	354516	05/26/22 15:15	SAP	TAL CF
Total/NA	Analysis	Field Sampling		1	354944	05/12/22 10:50	SJF	TAL CF

Client Sample ID: Field Blank

Date Collected: 05/12/22 10:50

Date Received: 05/12/22 16:40

Lab Sample ID: 310-231309-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			353961	05/23/22 10:30	ACM2	TAL CF
Total/NA	Analysis	6020A		1	354516	05/26/22 15:19	SAP	TAL CF

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Laboratory: Eurofins Cedar Falls

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-231309-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CF
Field Sampling	Field Sampling	EPA	TAL CF
3005A	Preparation, Total Metals	SW846	TAL CF

Protocol References:

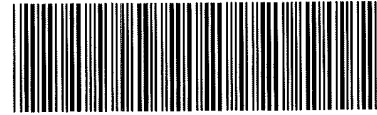
EPA = US Environmental Protection Agency

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

Laboratory References:

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





Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS Engineers</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project: <u>Sutherland</u>
Receipt Information			
Date/Time Received:	DATE <u>5/12/22</u>	TIME <u>1520</u>	Received By: <u>MEH</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <u>1690</u> <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input checked="" type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>N</u>		Correction Factor (°C): <u>0.0</u>	
• Temp Blank Temperature -- If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>8.8</u>		Corrected Temp (°C): <u>8.8</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Chain of Custody Record

Client Information		Sampler: <i>Adam Watton</i>		Lab PM: <i>Fredrick, Sandie</i>	Carrier Tracking No(s): 310-71087-20208 1
Client Contact: <i>Meghan Blodgett</i>		Phone: <i>608-250-9985</i>		E-Mail: <i>Sandra.Fredrick@et.eurofins.com</i>	Page: Page 1 of 1
Company: <i>SCS Engineers</i>		Address: <i>8450 Hickman Road Suite 27</i>		Job #: _____	
City: <i>Clive</i>		TAT Requested (days): _____		Analysis Requested	
State, Zip: <i>IA, 50325</i>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 R - Na2SO3 F - MeOH S - H2SO4 G - Amchlor T - TSP Dodecahydrate H - Ascorbic Acid U - Acetone I - Ice V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other _____	
Email: <i>rruz@scsengineers.com</i>		PO #: <i>25222076</i>		Special Instructions/Note:	
Project Name: <i>Sutherland Generating Station</i>		WO #: _____		Total Number of Containers: <input checked="" type="checkbox"/>	
Sutherland Generating Station 25222076		Project #: <i>31011020</i>			
Site: <i>Sutherland</i>		SSOW#: _____			
Sample Identification		Sample Date		Field Filtered Sample (Yes or No)	
MW-309	Sample Type: <i>G</i>	Sample Time: <i>5/12/2022</i>	Preservation Code: <i>G</i>	Matrix: <i>Water</i>	Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/>
MW-310	Sample Type: <i>G</i>	Sample Time: <i>1245</i>	Preservation Code: <i>G</i>	Matrix: <i>Water</i>	903.0, 904.0 <input checked="" type="checkbox"/>
MW-311	Sample Type: <i>G</i>	Sample Time: <i>1050</i>	Preservation Code: <i>G</i>	Matrix: <i>Water</i>	6020A - Metals (14) <input checked="" type="checkbox"/>
Field Blank	Sample Type: <i>G</i>	Sample Time: <i>1050</i>	Preservation Code: <i>G</i>	Matrix: <i>Water</i>	2540C - Calc'd, 9056A - ORGM_28D, SM4500_H+ <input checked="" type="checkbox"/>
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
	Sample Type: _____	Sample Time: _____	Preservation Code: _____	Matrix: _____	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III, IV, Other (specify) _____					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by _____ Date: _____					
Relinquished by: <i>Adam Watton</i>		Date/Time: <i>5/12/22 1630</i>		Received by: <i>[Signature]</i>	
Relinquished by: _____		Date/Time: _____		Received by: _____	
Relinquished by: _____		Date/Time: _____		Received by: _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No. _____		Cooler Temperature(s) °C and Other Remarks: _____	



Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-231309-1

Login Number: 231309

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Kizer, Preston V

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

Groundwater Monitoring Results - Field Parameters
Sutherland Generating Station / SCS Engineers Project #25222076.00
May 2022

Sample	Sample Date/Time	GW Elevation (feet amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-309	5.12.2022 / 1410	853.95	9.5	7.42	7.66	937	191.4	0.08
MW-310	5.12.2022 / 1245	853.71	9.6	7.44	4.81	1044	190.7	2.91
MW-311	5.12.2022 / 1050	853.56	7.9	7.17	5.15	1017	199.6	0.67

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

Notes:

None

Created by: NDK
 Last revision by: AJR
 Checked by: NDK

Date: 5/27/2022
 Date: 5/27/2022
 Date: 5/31/2022

C:\Users\fredricks\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\D8427408\[2205_Sutherland_CCR_Field.xlsx]GW Field Parameters

C3 August 2022 Supplemental Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-238005-1
Client Project/Site: Sutherland - 25222076 Li

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
8/19/2022 5:20:40 PM

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

LINKS

Review your project
results through



Have a Question?



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www.eurofinsus.com/Env

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Job ID: 310-238005-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-238005-1

Comments

No additional comments.

Receipt

The samples were received on 8/12/2022 4:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.1° C.

Metals

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

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Sample Summary

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-238005-1	MW-309	Water	08/11/22 11:50	08/12/22 16:25
310-238005-2	MW-310	Water	08/11/22 11:14	08/12/22 16:25
310-238005-3	MW-311	Water	08/11/22 10:33	08/12/22 16:25
310-238005-4	Field Blank	Water	08/11/22 13:15	08/12/22 16:25

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Detection Summary

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Client Sample ID: MW-309

Lab Sample ID: 310-238005-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	26		10	2.5	ug/L	1		6020A	Total/NA
Ground Water Elevation	849.47				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	22.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.25				mg/L	1		Field Sampling	Total/NA
pH, Field	7.40				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1065				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	36.6				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-238005-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	19		10	2.5	ug/L	1		6020A	Total/NA
Ground Water Elevation	849.49				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	29				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.14				mg/L	1		Field Sampling	Total/NA
pH, Field	7.37				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1001				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	36.4				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-311

Lab Sample ID: 310-238005-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	31		10	2.5	ug/L	1		6020A	Total/NA
Ground Water Elevation	849.46				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	39.7				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.71				mg/L	1		Field Sampling	Total/NA
pH, Field	7.27				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	952				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	32.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-238005-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Client Sample ID: MW-309
 Date Collected: 08/11/22 11:50
 Date Received: 08/12/22 16:25

Lab Sample ID: 310-238005-1
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	26		10	2.5	ug/L		08/17/22 09:30	08/19/22 15:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	849.47				ft			08/11/22 11:50	1
Oxidation Reduction Potential	22.3				millivolts			08/11/22 11:50	1
Oxygen, Dissolved, Client Supplied	0.25				mg/L			08/11/22 11:50	1
pH, Field	7.40				SU			08/11/22 11:50	1
Specific Conductance, Field	1065				umhos/cm			08/11/22 11:50	1
Temperature, Field	13.3				Degrees C			08/11/22 11:50	1
Turbidity, Field	36.6				NTU			08/11/22 11:50	1

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Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Client Sample ID: MW-310
 Date Collected: 08/11/22 11:14
 Date Received: 08/12/22 16:25

Lab Sample ID: 310-238005-2
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	19		10	2.5	ug/L		08/17/22 09:30	08/19/22 15:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	849.49				ft			08/11/22 11:14	1
Oxidation Reduction Potential	29				millivolts			08/11/22 11:14	1
Oxygen, Dissolved, Client Supplied	0.14				mg/L			08/11/22 11:14	1
pH, Field	7.37				SU			08/11/22 11:14	1
Specific Conductance, Field	1001				umhos/cm			08/11/22 11:14	1
Temperature, Field	13.3				Degrees C			08/11/22 11:14	1
Turbidity, Field	36.4				NTU			08/11/22 11:14	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Client Sample ID: MW-311
 Date Collected: 08/11/22 10:33
 Date Received: 08/12/22 16:25

Lab Sample ID: 310-238005-3
 Matrix: Water

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	31		10	2.5	ug/L		08/17/22 09:30	08/19/22 15:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	849.46				ft			08/11/22 10:33	1
Oxidation Reduction Potential	39.7				millivolts			08/11/22 10:33	1
Oxygen, Dissolved, Client Supplied	0.71				mg/L			08/11/22 10:33	1
pH, Field	7.27				SU			08/11/22 10:33	1
Specific Conductance, Field	952				umhos/cm			08/11/22 10:33	1
Temperature, Field	15.0				Degrees C			08/11/22 10:33	1
Turbidity, Field	32.0				NTU			08/11/22 10:33	1

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Client Sample Results

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Client Sample ID: Field Blank

Lab Sample ID: 310-238005-4

Date Collected: 08/11/22 13:15

Matrix: Water

Date Received: 08/12/22 16:25

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.5		10	2.5	ug/L		08/17/22 09:30	08/19/22 15:56	1

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Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-362826/1-A
Matrix: Water
Analysis Batch: 363228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 362826

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<2.5		10	2.5	ug/L		08/17/22 09:30	08/19/22 15:07	1

Lab Sample ID: LCS 310-362826/2-A
Matrix: Water
Analysis Batch: 363228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 362826

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	200	222		ug/L		111	80 - 120

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QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Metals

Prep Batch: 362826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-238005-1	MW-309	Total/NA	Water	3005A	
310-238005-2	MW-310	Total/NA	Water	3005A	
310-238005-3	MW-311	Total/NA	Water	3005A	
310-238005-4	Field Blank	Total/NA	Water	3005A	
MB 310-362826/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-362826/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 363228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-238005-1	MW-309	Total/NA	Water	6020A	362826
310-238005-2	MW-310	Total/NA	Water	6020A	362826
310-238005-3	MW-311	Total/NA	Water	6020A	362826
310-238005-4	Field Blank	Total/NA	Water	6020A	362826
MB 310-362826/1-A	Method Blank	Total/NA	Water	6020A	362826
LCS 310-362826/2-A	Lab Control Sample	Total/NA	Water	6020A	362826

Field Service / Mobile Lab

Analysis Batch: 363011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-238005-1	MW-309	Total/NA	Water	Field Sampling	
310-238005-2	MW-310	Total/NA	Water	Field Sampling	
310-238005-3	MW-311	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Client Sample ID: MW-309

Date Collected: 08/11/22 11:50

Date Received: 08/12/22 16:25

Lab Sample ID: 310-238005-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			362826	QTZ5	EET CF	08/17/22 09:30
Total/NA	Analysis	6020A		1	363228	A6US	EET CF	08/19/22 15:46
Total/NA	Analysis	Field Sampling		1	363011	SJF	EET CF	08/11/22 11:50

Client Sample ID: MW-310

Date Collected: 08/11/22 11:14

Date Received: 08/12/22 16:25

Lab Sample ID: 310-238005-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			362826	QTZ5	EET CF	08/17/22 09:30
Total/NA	Analysis	6020A		1	363228	A6US	EET CF	08/19/22 15:49
Total/NA	Analysis	Field Sampling		1	363011	SJF	EET CF	08/11/22 11:14

Client Sample ID: MW-311

Date Collected: 08/11/22 10:33

Date Received: 08/12/22 16:25

Lab Sample ID: 310-238005-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			362826	QTZ5	EET CF	08/17/22 09:30
Total/NA	Analysis	6020A		1	363228	A6US	EET CF	08/19/22 15:52
Total/NA	Analysis	Field Sampling		1	363011	SJF	EET CF	08/11/22 10:33

Client Sample ID: Field Blank

Date Collected: 08/11/22 13:15

Date Received: 08/12/22 16:25

Lab Sample ID: 310-238005-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3005A			362826	QTZ5	EET CF	08/17/22 09:30
Total/NA	Analysis	6020A		1	363228	A6US	EET CF	08/19/22 15:56

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Laboratory: Eurofins Cedar Falls

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

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

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

Method Summary

Client: SCS Engineers
Project/Site: Sutherland - 25222076 Li

Job ID: 310-238005-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	EET CF
Field Sampling	Field Sampling	EPA	EET CF
3005A	Preparation, Total Metals	SW846	EET CF

Protocol References:

EPA = US Environmental Protection Agency

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

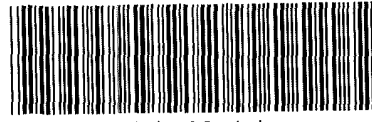
Laboratory References:

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





Environment Testing
America



310-238005 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client. <u>SCS</u>			
City/State	CITY <u>Madison</u>	STATE <u>WI</u>	Project.
Receipt Information			
Date/Time Received	DATE <u>8-12-22</u>	TIME <u>1625</u>	Received By. <u>PK</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID.	
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler # _____ of _____	
Cooler Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>0.1</u>	Corrected Temp (°C):	<u>0.1</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			
<u>* "Field Blank" not listed on COC</u>			
<u>* Received 1 empty PI 250 mL Nitric</u>			



Chain of Custody Record

TestAmerica Des Moines SC
214

Client Information Mr. Tom Karwowski SCS Engineers 2830 Dairy Drive Madison IA 53718 Phone: 53718 Email: tkarwowski@scsengineers.com Project Name: Allent Lansing 25222076 LI Site:		Sampler: Rosa C Phone: 515-864-9390 PWSID:		Lab PM: Fredrick Sandie E-Mail: Sandra.Fredrick@et.eurofins.com		COC No: 310-73444-20949 Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: 25222076 WC #: Project #: 3-011020 SOW#:		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 Other:		Total Number of Containers:	
Sample Identification: MW-30a MW-31a MW-311		Sample Date: 8-11-22 Sample Time: 11:50 Sample Type (C=Comp, G=grab): G Preservation Code: D		Matrix (W=water, S=sediment, O=soil/silt, B=biological, T=tissue, A=air): Water		Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> No Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> No 6020A Total Metals (I) LI: <input checked="" type="checkbox"/> No	
Possible Hazard Identification: <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV Other (specify):		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For: Months		Special Instructions/Note:	
Empty Kit Relinquished by:		Date:		Method of Shipment:		Special Instructions/QC Requirements:	
Relinquished by: <i>[Signature]</i>		Date/Time: 8-11-22 16:46		Received by: MC		Date/Time: 8-12-22 16:25	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Custody Seal Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No:		Cooler Temperature (s) °C and Other Remarks:		Company:	



Fredrick, Sandie

From: Matzuk, Ryan <RMatzuk@scsengineers.com>
Sent: Thursday, August 18, 2022 8:22 AM
To: Fredrick, Sandie; Blodgett, Meghan; Kron, Nicole
Subject: Re: Eurofins Environment Testing North Central, LLC Sample Login Confirmation files from 310-238005 Alliant Lansing, 25222076 Li

EXTERNAL EMAIL*

Hi Sandie,

We accidentally put the wrong site name on our COC. This is for Sutherland not Lansing. Project number is correct.

Thanks!

Ryan Matzuk
Hydrogeologist
2830 Dairy Drive
Madison, WI 53718-6751 USA
608-216-7326 (W)
608-400-9597 (C)
rmatzuk@scsengineers.com

Driven by Client Success
www.scsengineers.com

From: Sandie Fredrick <Sandra.Fredrick@et.eurofinsus.com>
Sent: Saturday, August 13, 2022 11:05 AM
To: Blodgett, Meghan <mblodgett@scsengineers.com>; Kron, Nicole <NKron@scsengineers.com>; Matzuk, Ryan <RMatzuk@scsengineers.com>; Clark, Sherren <SClark@scsengineers.com>; Karwoski, Thomas <TKarwoski@scsengineers.com>
Subject: Eurofins Environment Testing North Central, LLC Sample Login Confirmation files from 310-238005 Alliant Lansing, 25222076 Li

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello All,

Field blank not listed on COC - added for analysis.

Attached, please find the Sample Confirmation files for job 310-238005; Alliant Lansing, 25222076 Li

Please feel free to contact me if you have any questions.

Thank you.

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-238005-1

Login Number: 238005

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Costello, Mackenzie K

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



C4 October 2022 Assessment Monitoring

ANALYTICAL REPORT

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

Laboratory Job ID: 310-242242-3

Client Project/Site: Sutherland Generating Station 25222076
MNA

For:
SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:
10/31/2022 11:22:36 AM

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

LINKS

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results through



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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Job ID: 310-242242-3

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-242242-3

Comments

No additional comments.

Receipt

The samples were received on 10/12/2022 4:20 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 0.2° C, 1.0° C, 1.0° C and 1.3° C.

Metals

Method 3005A: The reference method requires samples to be preserved to a pH of <2. The following sample was received with insufficient preservation at a pH of >2: MW-309 (310-242242-9). The sample(s) was preserved to the appropriate pH in the laboratory.

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

General Chemistry

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



Sample Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-242242-1	MW-301	Water	10/12/22 11:10	10/12/22 16:20
310-242242-2	MW-302	Water	10/10/22 17:50	10/12/22 16:20
310-242242-3	MW-303	Water	10/10/22 11:50	10/12/22 16:20
310-242242-4	MW-304	Water	10/11/22 09:15	10/12/22 16:20
310-242242-5	MW-305	Water	10/11/22 17:05	10/12/22 16:20
310-242242-6	MW-306	Water	10/12/22 09:15	10/12/22 16:20
310-242242-7	MW-307	Water	10/10/22 13:50	10/12/22 16:20
310-242242-8	MW-308	Water	10/10/22 16:10	10/12/22 16:20
310-242242-9	MW-309	Water	10/11/22 14:45	10/12/22 16:20
310-242242-10	MW-310	Water	10/11/22 13:10	10/12/22 16:20
310-242242-11	MW-311	Water	10/11/22 11:50	10/12/22 16:20
310-242242-12	Field Blank	Water	10/12/22 12:05	10/12/22 16:20

- 1
- 2
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- 7
- 8
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- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-301

Lab Sample ID: 310-242242-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	150	F1	100	36	ug/L	1		6020A	Total/NA
Magnesium	15000		500	150	ug/L	1		6020A	Total/NA
Manganese	2400		10	3.6	ug/L	1		6020A	Total/NA
Potassium	1800		500	150	ug/L	1		6020A	Total/NA
Sodium	12000		1000	610	ug/L	1		6020A	Total/NA
Magnesium	16000		500	150	ug/L	1		6020A	Dissolved
Manganese	2200		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	190		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	190		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-242242-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	650		100	36	ug/L	1		6020A	Total/NA
Magnesium	20000		500	150	ug/L	1		6020A	Total/NA
Manganese	970		10	3.6	ug/L	1		6020A	Total/NA
Potassium	330	J	500	150	ug/L	1		6020A	Total/NA
Sodium	4300		1000	610	ug/L	1		6020A	Total/NA
Iron	270		100	36	ug/L	1		6020A	Dissolved
Magnesium	23000		500	150	ug/L	1		6020A	Dissolved
Manganese	910		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	380		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-242242-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	410		100	36	ug/L	1		6020A	Total/NA
Magnesium	20000		500	150	ug/L	1		6020A	Total/NA
Manganese	1500		10	3.6	ug/L	1		6020A	Total/NA
Potassium	4700		500	150	ug/L	1		6020A	Total/NA
Sodium	19000		1000	610	ug/L	1		6020A	Total/NA
Iron	62	J	100	36	ug/L	1		6020A	Dissolved
Magnesium	20000		500	150	ug/L	1		6020A	Dissolved
Manganese	1200		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	280		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	280		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-242242-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	61	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	29000		500	150	ug/L	1		6020A	Total/NA
Manganese	66		10	3.6	ug/L	1		6020A	Total/NA
Potassium	620		500	150	ug/L	1		6020A	Total/NA
Sodium	33000		1000	610	ug/L	1		6020A	Total/NA
Magnesium	29000		500	150	ug/L	1		6020A	Dissolved
Manganese	14		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	290		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	290		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-305

Lab Sample ID: 310-242242-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	240		100	36	ug/L	1		6020A	Total/NA
Magnesium	26000		500	150	ug/L	1		6020A	Total/NA
Manganese	620		10	3.6	ug/L	1		6020A	Total/NA
Potassium	5700		500	150	ug/L	1		6020A	Total/NA
Sodium	38000		1000	610	ug/L	1		6020A	Total/NA
Bicarbonate Alkalinity as CaCO3	230		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	230		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-242242-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	85	J	100	36	ug/L	1		6020A	Total/NA
Magnesium	25000		500	150	ug/L	1		6020A	Total/NA
Manganese	1800		10	3.6	ug/L	1		6020A	Total/NA
Potassium	7500		500	150	ug/L	1		6020A	Total/NA
Sodium	34000		1000	610	ug/L	1		6020A	Total/NA
Lithium	62		10	2.5	ug/L	1		6020A	Dissolved
Magnesium	25000		500	150	ug/L	1		6020A	Dissolved
Manganese	1900		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	150		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	150		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-242242-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2300		100	36	ug/L	1		6020A	Total/NA
Magnesium	40000		500	150	ug/L	1		6020A	Total/NA
Manganese	5500		40	14	ug/L	4		6020A	Total/NA
Potassium	5200		500	150	ug/L	1		6020A	Total/NA
Sodium	29000		1000	610	ug/L	1		6020A	Total/NA
Iron	560		100	36	ug/L	1		6020A	Dissolved
Lithium	21		10	2.5	ug/L	1		6020A	Dissolved
Magnesium	39000		500	150	ug/L	1		6020A	Dissolved
Manganese	5200		100	36	ug/L	10		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	350		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	350		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-308

Lab Sample ID: 310-242242-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	710		100	36	ug/L	1		6020A	Total/NA
Magnesium	29000		500	150	ug/L	1		6020A	Total/NA
Manganese	1700		10	3.6	ug/L	1		6020A	Total/NA
Potassium	4800		500	150	ug/L	1		6020A	Total/NA
Sodium	21000		1000	610	ug/L	1		6020A	Total/NA
Iron	660		100	36	ug/L	1		6020A	Dissolved
Magnesium	30000		500	150	ug/L	1		6020A	Dissolved
Manganese	1700		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	310		10	4.6	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-309

Lab Sample ID: 310-242242-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	4800		100	36	ug/L	1		6020A	Total/NA
Magnesium	51000		500	150	ug/L	1		6020A	Total/NA
Manganese	990		10	3.6	ug/L	1		6020A	Total/NA
Potassium	4900		500	150	ug/L	1		6020A	Total/NA
Sodium	42000		1000	610	ug/L	1		6020A	Total/NA
Iron	83	J	100	36	ug/L	1		6020A	Dissolved
Magnesium	44000		500	150	ug/L	1		6020A	Dissolved
Manganese	35		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	240		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	240		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-242242-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1900		100	36	ug/L	1		6020A	Total/NA
Magnesium	43000		500	150	ug/L	1		6020A	Total/NA
Manganese	600		10	3.6	ug/L	1		6020A	Total/NA
Potassium	4100		500	150	ug/L	1		6020A	Total/NA
Sodium	39000		1000	610	ug/L	1		6020A	Total/NA
Iron	250		100	36	ug/L	1		6020A	Dissolved
Magnesium	40000		500	150	ug/L	1		6020A	Dissolved
Manganese	240		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	260		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	260		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-311

Lab Sample ID: 310-242242-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1400		100	36	ug/L	1		6020A	Total/NA
Magnesium	37000		500	150	ug/L	1		6020A	Total/NA
Manganese	510		10	3.6	ug/L	1		6020A	Total/NA
Potassium	5200		500	150	ug/L	1		6020A	Total/NA
Sodium	45000		1000	610	ug/L	1		6020A	Total/NA
Magnesium	36000		500	150	ug/L	1		6020A	Dissolved
Manganese	100		10	3.6	ug/L	1		6020A	Dissolved
Bicarbonate Alkalinity as CaCO3	250		10	4.6	mg/L	1		SM 2320B	Total/NA
Total Alkalinity as CaCO3	250		10	4.6	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-242242-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-301

Lab Sample ID: 310-242242-1

Date Collected: 10/12/22 11:10

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	150	F1	100	36	ug/L		10/17/22 09:00	10/26/22 15:29	1
Magnesium	15000		500	150	ug/L		10/17/22 09:00	10/26/22 15:29	1
Manganese	2400		10	3.6	ug/L		10/17/22 09:00	10/26/22 15:29	1
Potassium	1800		500	150	ug/L		10/17/22 09:00	10/26/22 15:29	1
Sodium	12000		1000	610	ug/L		10/17/22 09:00	10/26/22 15:29	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/19/22 09:00	10/26/22 15:33	1
Magnesium	16000		500	150	ug/L		10/19/22 09:00	10/26/22 15:33	1
Manganese	2200		10	3.6	ug/L		10/19/22 09:00	10/26/22 15:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	190		10	4.6	mg/L			10/18/22 10:31	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 10:31	1
Total Alkalinity as CaCO3 (SM 2320B)	190		10	4.6	mg/L			10/18/22 10:31	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-302

Lab Sample ID: 310-242242-2

Date Collected: 10/10/22 17:50

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	650		100	36	ug/L		10/17/22 09:00	10/26/22 16:23	1
Magnesium	20000		500	150	ug/L		10/17/22 09:00	10/26/22 16:23	1
Manganese	970		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:23	1
Potassium	330	J	500	150	ug/L		10/17/22 09:00	10/26/22 16:23	1
Sodium	4300		1000	610	ug/L		10/17/22 09:00	10/26/22 16:23	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	270		100	36	ug/L		10/19/22 09:00	10/26/22 15:37	1
Magnesium	23000		500	150	ug/L		10/19/22 09:00	10/26/22 15:37	1
Manganese	910		10	3.6	ug/L		10/19/22 09:00	10/26/22 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	380		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	380		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-303

Lab Sample ID: 310-242242-3

Date Collected: 10/10/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	410		100	36	ug/L		10/17/22 09:00	10/26/22 16:27	1
Magnesium	20000		500	150	ug/L		10/17/22 09:00	10/26/22 16:27	1
Manganese	1500		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:27	1
Potassium	4700		500	150	ug/L		10/17/22 09:00	10/26/22 16:27	1
Sodium	19000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:27	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	62	J	100	36	ug/L		10/19/22 09:00	10/26/22 15:40	1
Magnesium	20000		500	150	ug/L		10/19/22 09:00	10/26/22 15:40	1
Manganese	1200		10	3.6	ug/L		10/19/22 09:00	10/26/22 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	280		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	280		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-304

Lab Sample ID: 310-242242-4

Date Collected: 10/11/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	61	J	100	36	ug/L		10/17/22 09:00	10/26/22 16:30	1
Magnesium	29000		500	150	ug/L		10/17/22 09:00	10/26/22 16:30	1
Manganese	66		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:30	1
Potassium	620		500	150	ug/L		10/17/22 09:00	10/26/22 16:30	1
Sodium	33000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:30	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/19/22 09:00	10/26/22 15:44	1
Magnesium	29000		500	150	ug/L		10/19/22 09:00	10/26/22 15:44	1
Manganese	14		10	3.6	ug/L		10/19/22 09:00	10/26/22 15:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	290		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	290		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-305

Lab Sample ID: 310-242242-5

Date Collected: 10/11/22 17:05

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	240		100	36	ug/L		10/17/22 09:00	10/26/22 16:33	1
Magnesium	26000		500	150	ug/L		10/17/22 09:00	10/26/22 16:33	1
Manganese	620		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:33	1
Potassium	5700		500	150	ug/L		10/17/22 09:00	10/26/22 16:33	1
Sodium	38000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:33	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/19/22 09:00	10/26/22 16:59	1
Magnesium	<150		500	150	ug/L		10/19/22 09:00	10/26/22 16:59	1
Manganese	<3.6		10	3.6	ug/L		10/19/22 09:00	10/26/22 16:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	230		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	230		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-306

Lab Sample ID: 310-242242-6

Date Collected: 10/12/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	85	J	100	36	ug/L		10/17/22 09:00	10/26/22 16:36	1
Magnesium	25000		500	150	ug/L		10/17/22 09:00	10/26/22 16:36	1
Manganese	1800		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:36	1
Potassium	7500		500	150	ug/L		10/17/22 09:00	10/26/22 16:36	1
Sodium	34000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:36	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/19/22 09:00	10/26/22 17:06	1
Lithium	62		10	2.5	ug/L		10/19/22 09:00	10/26/22 17:06	1
Magnesium	25000		500	150	ug/L		10/19/22 09:00	10/26/22 17:06	1
Manganese	1900		10	3.6	ug/L		10/19/22 09:00	10/26/22 17:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150		10	4.6	mg/L			10/18/22 10:31	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 10:31	1
Total Alkalinity as CaCO3 (SM 2320B)	150		10	4.6	mg/L			10/18/22 10:31	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-307

Lab Sample ID: 310-242242-7

Date Collected: 10/10/22 13:50

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2300		100	36	ug/L		10/17/22 09:00	10/26/22 16:39	1
Magnesium	40000		500	150	ug/L		10/17/22 09:00	10/26/22 16:39	1
Manganese	5500		40	14	ug/L		10/17/22 09:00	10/27/22 12:47	4
Potassium	5200		500	150	ug/L		10/17/22 09:00	10/26/22 16:39	1
Sodium	29000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:39	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	560		100	36	ug/L		10/19/22 09:00	10/26/22 17:10	1
Lithium	21		10	2.5	ug/L		10/19/22 09:00	10/26/22 17:10	1
Magnesium	39000		500	150	ug/L		10/19/22 09:00	10/26/22 17:10	1
Manganese	5200		100	36	ug/L		10/19/22 09:00	10/29/22 14:47	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	350		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	350		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-308

Lab Sample ID: 310-242242-8

Date Collected: 10/10/22 16:10

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	710		100	36	ug/L		10/17/22 09:00	10/26/22 16:42	1
Magnesium	29000		500	150	ug/L		10/17/22 09:00	10/26/22 16:42	1
Manganese	1700		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:42	1
Potassium	4800		500	150	ug/L		10/17/22 09:00	10/26/22 16:42	1
Sodium	21000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:42	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	660		100	36	ug/L		10/19/22 09:00	10/26/22 17:14	1
Magnesium	30000		500	150	ug/L		10/19/22 09:00	10/26/22 17:14	1
Manganese	1700		10	3.6	ug/L		10/19/22 09:00	10/26/22 17:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	310		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	310		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-309

Lab Sample ID: 310-242242-9

Date Collected: 10/11/22 14:45

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4800		100	36	ug/L		10/17/22 09:00	10/26/22 16:45	1
Magnesium	51000		500	150	ug/L		10/17/22 09:00	10/26/22 16:45	1
Manganese	990		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:45	1
Potassium	4900		500	150	ug/L		10/17/22 09:00	10/26/22 16:45	1
Sodium	42000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:45	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	83	J	100	36	ug/L		10/19/22 09:00	10/26/22 17:17	1
Magnesium	44000		500	150	ug/L		10/19/22 09:00	10/26/22 17:17	1
Manganese	35		10	3.6	ug/L		10/19/22 09:00	10/26/22 17:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	240		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	240		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-310

Lab Sample ID: 310-242242-10

Date Collected: 10/11/22 13:10

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1900		100	36	ug/L		10/17/22 09:00	10/26/22 16:48	1
Magnesium	43000		500	150	ug/L		10/17/22 09:00	10/26/22 16:48	1
Manganese	600		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:48	1
Potassium	4100		500	150	ug/L		10/17/22 09:00	10/26/22 16:48	1
Sodium	39000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:48	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	250		100	36	ug/L		10/19/22 09:00	10/26/22 17:22	1
Magnesium	40000		500	150	ug/L		10/19/22 09:00	10/26/22 17:22	1
Manganese	240		10	3.6	ug/L		10/19/22 09:00	10/26/22 17:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	260		10	4.6	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3 (SM 2320B)	260		10	4.6	mg/L			10/18/22 08:19	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-311

Lab Sample ID: 310-242242-11

Date Collected: 10/11/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1400		100	36	ug/L		10/17/22 09:00	10/26/22 16:51	1
Magnesium	37000		500	150	ug/L		10/17/22 09:00	10/26/22 16:51	1
Manganese	510		10	3.6	ug/L		10/17/22 09:00	10/26/22 16:51	1
Potassium	5200		500	150	ug/L		10/17/22 09:00	10/26/22 16:51	1
Sodium	45000		1000	610	ug/L		10/17/22 09:00	10/26/22 16:51	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/19/22 09:00	10/26/22 17:25	1
Magnesium	36000		500	150	ug/L		10/19/22 09:00	10/26/22 17:25	1
Manganese	100		10	3.6	ug/L		10/19/22 09:00	10/26/22 17:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	250		10	4.6	mg/L			10/18/22 10:31	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.6		10	4.6	mg/L			10/18/22 10:31	1
Total Alkalinity as CaCO3 (SM 2320B)	250		10	4.6	mg/L			10/18/22 10:31	1



Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: Field Blank

Lab Sample ID: 310-242242-12

Date Collected: 10/12/22 12:05

Matrix: Water

Date Received: 10/12/22 16:20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/17/22 09:00	10/26/22 17:16	1
Magnesium	<150		500	150	ug/L		10/17/22 09:00	10/26/22 17:16	1
Manganese	<3.6		10	3.6	ug/L		10/17/22 09:00	10/26/22 17:16	1
Potassium	<150		500	150	ug/L		10/17/22 09:00	10/26/22 17:16	1
Sodium	<610		1000	610	ug/L		10/17/22 09:00	10/26/22 17:16	1

Method: SW846 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/19/22 09:00	10/26/22 17:29	1
Magnesium	<150		500	150	ug/L		10/19/22 09:00	10/26/22 17:29	1
Manganese	<3.6		10	3.6	ug/L		10/19/22 09:00	10/26/22 17:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	<2.3		5.0	2.3	mg/L			10/22/22 13:07	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.3		5.0	2.3	mg/L			10/22/22 13:07	1
Total Alkalinity as CaCO3 (SM 2320B)	<2.3		5.0	2.3	mg/L			10/22/22 13:07	1



Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-368702/1-A
Matrix: Water
Analysis Batch: 369920

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 368702

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/17/22 09:00	10/26/22 15:23	1
Magnesium	<150		500	150	ug/L		10/17/22 09:00	10/26/22 15:23	1
Manganese	<3.6		10	3.6	ug/L		10/17/22 09:00	10/26/22 15:23	1
Potassium	<150		500	150	ug/L		10/17/22 09:00	10/26/22 15:23	1
Sodium	<610		1000	610	ug/L		10/17/22 09:00	10/26/22 15:23	1

Lab Sample ID: LCS 310-368702/2-A
Matrix: Water
Analysis Batch: 369920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	200	230		ug/L		115	80 - 120
Magnesium	2000	2080		ug/L		104	80 - 120
Manganese	100	96.3		ug/L		96	80 - 120
Potassium	2000	2210		ug/L		110	80 - 120
Sodium	2000	2130		ug/L		107	80 - 120

Lab Sample ID: 310-242242-1 MS
Matrix: Water
Analysis Batch: 369920

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	150	F1	200	403	F1	ug/L		129	75 - 125
Magnesium	15000		2000	17200	4	ug/L		94	75 - 125
Manganese	2400		100	2480	4	ug/L		111	75 - 125
Potassium	1800		2000	3850		ug/L		103	75 - 125
Sodium	12000		2000	14100	4	ug/L		108	75 - 125

Lab Sample ID: 310-242242-1 MSD
Matrix: Water
Analysis Batch: 369920

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	150	F1	200	454	F1	ug/L		154	75 - 125	12	20
Magnesium	15000		2000	17900	4	ug/L		129	75 - 125	4	20
Manganese	2400		100	2560	4	ug/L		190	75 - 125	3	20
Potassium	1800		2000	4070		ug/L		114	75 - 125	6	20
Sodium	12000		2000	14300	4	ug/L		118	75 - 125	1	20

Lab Sample ID: 310-242242-11 DU
Matrix: Water
Analysis Batch: 370000

Client Sample ID: MW-311
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	1400		1390		ug/L		0.6	20
Magnesium	37000		31100		ug/L		16	20
Manganese	510		541		ug/L		5	20
Potassium	5200		4500		ug/L		14	20
Sodium	45000		39100		ug/L		14	20

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

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

Lab Sample ID: MB 310-368977/1-A
Matrix: Water
Analysis Batch: 369927

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 368977

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<36		100	36	ug/L		10/19/22 09:00	10/26/22 14:54	1
Lithium	<2.5		10	2.5	ug/L		10/19/22 09:00	10/26/22 14:54	1
Magnesium	<150		500	150	ug/L		10/19/22 09:00	10/26/22 14:54	1
Manganese	<3.6		10	3.6	ug/L		10/19/22 09:00	10/26/22 14:54	1

Lab Sample ID: LCS 310-368977/2-A
Matrix: Water
Analysis Batch: 369927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368977

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	200	211		ug/L		106	80 - 120
Lithium	200	197		ug/L		98	80 - 120
Magnesium	2000	1960		ug/L		98	80 - 120
Manganese	100	102		ug/L		102	80 - 120

Lab Sample ID: 310-242242-5 DU
Matrix: Water
Analysis Batch: 369988

Client Sample ID: MW-305
Prep Type: Dissolved
Prep Batch: 368977

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	<36		56.4	J	ug/L		NC	20
Lithium	<2.5		35.4		ug/L		NC	20
Magnesium	<150		26300		ug/L		NC	20
Manganese	<3.6		616		ug/L		NC	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-369503/1
Matrix: Water
Analysis Batch: 369503

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/22/22 13:07	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/22/22 13:07	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/22/22 13:07	1

Lab Sample ID: LCS 310-369503/2
Matrix: Water
Analysis Batch: 369503

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	982		mg/L		98	90 - 110

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-368916/1
Matrix: Water
Analysis Batch: 368916

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/18/22 08:19	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/18/22 08:19	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/18/22 08:19	1

Lab Sample ID: LCS 310-368916/2
Matrix: Water
Analysis Batch: 368916

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	1000		mg/L		100	90 - 110

Lab Sample ID: MB 310-368944/1
Matrix: Water
Analysis Batch: 368944

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/18/22 10:31	1
Carbonate Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/18/22 10:31	1
Total Alkalinity as CaCO3	<2.3		5.0	2.3	mg/L			10/18/22 10:31	1

Lab Sample ID: LCS 310-368944/2
Matrix: Water
Analysis Batch: 368944

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	1020		mg/L		102	90 - 110

QC Association Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Metals

Prep Batch: 368702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	3005A	
310-242242-2	MW-302	Total/NA	Water	3005A	
310-242242-3	MW-303	Total/NA	Water	3005A	
310-242242-4	MW-304	Total/NA	Water	3005A	
310-242242-5	MW-305	Total/NA	Water	3005A	
310-242242-6	MW-306	Total/NA	Water	3005A	
310-242242-7	MW-307	Total/NA	Water	3005A	
310-242242-8	MW-308	Total/NA	Water	3005A	
310-242242-9	MW-309	Total/NA	Water	3005A	
310-242242-10	MW-310	Total/NA	Water	3005A	
310-242242-11	MW-311	Total/NA	Water	3005A	
310-242242-12	Field Blank	Total/NA	Water	3005A	
MB 310-368702/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-368702/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-242242-1 MS	MW-301	Total/NA	Water	3005A	
310-242242-1 MSD	MW-301	Total/NA	Water	3005A	
310-242242-11 DU	MW-311	Total/NA	Water	3005A	

Prep Batch: 368977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Dissolved	Water	3005A	
310-242242-2	MW-302	Dissolved	Water	3005A	
310-242242-3	MW-303	Dissolved	Water	3005A	
310-242242-4	MW-304	Dissolved	Water	3005A	
310-242242-5	MW-305	Dissolved	Water	3005A	
310-242242-6	MW-306	Dissolved	Water	3005A	
310-242242-7	MW-307	Dissolved	Water	3005A	
310-242242-8	MW-308	Dissolved	Water	3005A	
310-242242-9	MW-309	Dissolved	Water	3005A	
310-242242-10	MW-310	Dissolved	Water	3005A	
310-242242-11	MW-311	Dissolved	Water	3005A	
310-242242-12	Field Blank	Dissolved	Water	3005A	
MB 310-368977/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-368977/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-242242-5 DU	MW-305	Dissolved	Water	3005A	

Analysis Batch: 369920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	6020A	368702
MB 310-368702/1-A	Method Blank	Total/NA	Water	6020A	368702
LCS 310-368702/2-A	Lab Control Sample	Total/NA	Water	6020A	368702
310-242242-1 MS	MW-301	Total/NA	Water	6020A	368702
310-242242-1 MSD	MW-301	Total/NA	Water	6020A	368702

Analysis Batch: 369927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Dissolved	Water	6020A	368977
310-242242-2	MW-302	Dissolved	Water	6020A	368977
310-242242-3	MW-303	Dissolved	Water	6020A	368977
310-242242-4	MW-304	Dissolved	Water	6020A	368977
MB 310-368977/1-A	Method Blank	Total/NA	Water	6020A	368977

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Metals (Continued)

Analysis Batch: 369927 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-368977/2-A	Lab Control Sample	Total/NA	Water	6020A	368977

Analysis Batch: 369988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-5	MW-305	Dissolved	Water	6020A	368977
310-242242-6	MW-306	Dissolved	Water	6020A	368977
310-242242-7	MW-307	Dissolved	Water	6020A	368977
310-242242-8	MW-308	Dissolved	Water	6020A	368977
310-242242-9	MW-309	Dissolved	Water	6020A	368977
310-242242-10	MW-310	Dissolved	Water	6020A	368977
310-242242-11	MW-311	Dissolved	Water	6020A	368977
310-242242-12	Field Blank	Dissolved	Water	6020A	368977
310-242242-5 DU	MW-305	Dissolved	Water	6020A	368977

Analysis Batch: 370000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-2	MW-302	Total/NA	Water	6020A	368702
310-242242-3	MW-303	Total/NA	Water	6020A	368702
310-242242-4	MW-304	Total/NA	Water	6020A	368702
310-242242-5	MW-305	Total/NA	Water	6020A	368702
310-242242-6	MW-306	Total/NA	Water	6020A	368702
310-242242-7	MW-307	Total/NA	Water	6020A	368702
310-242242-8	MW-308	Total/NA	Water	6020A	368702
310-242242-9	MW-309	Total/NA	Water	6020A	368702
310-242242-10	MW-310	Total/NA	Water	6020A	368702
310-242242-11	MW-311	Total/NA	Water	6020A	368702
310-242242-12	Field Blank	Total/NA	Water	6020A	368702
310-242242-11 DU	MW-311	Total/NA	Water	6020A	368702

Analysis Batch: 370076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-7	MW-307	Total/NA	Water	6020A	368702

Analysis Batch: 370295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-7	MW-307	Dissolved	Water	6020A	368977

General Chemistry

Analysis Batch: 368916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-2	MW-302	Total/NA	Water	SM 2320B	
310-242242-3	MW-303	Total/NA	Water	SM 2320B	
310-242242-4	MW-304	Total/NA	Water	SM 2320B	
310-242242-5	MW-305	Total/NA	Water	SM 2320B	
310-242242-7	MW-307	Total/NA	Water	SM 2320B	
310-242242-8	MW-308	Total/NA	Water	SM 2320B	
310-242242-9	MW-309	Total/NA	Water	SM 2320B	
310-242242-10	MW-310	Total/NA	Water	SM 2320B	
MB 310-368916/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-368916/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Eurofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

General Chemistry

Analysis Batch: 368944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	SM 2320B	
310-242242-6	MW-306	Total/NA	Water	SM 2320B	
310-242242-11	MW-311	Total/NA	Water	SM 2320B	
MB 310-368944/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-368944/2	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 369503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-12	Field Blank	Total/NA	Water	2320B	
MB 310-369503/1	Method Blank	Total/NA	Water	2320B	
LCS 310-369503/2	Lab Control Sample	Total/NA	Water	2320B	

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Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-301

Date Collected: 10/12/22 11:10

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369927	A6US	EET CF	10/26/22 15:33
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	369920	A6US	EET CF	10/26/22 15:29
Total/NA	Analysis	SM 2320B		1	368944	MAQ3	EET CF	10/18/22 10:31

Client Sample ID: MW-302

Date Collected: 10/10/22 17:50

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369927	A6US	EET CF	10/26/22 15:37
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:23
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Client Sample ID: MW-303

Date Collected: 10/10/22 11:50

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369927	A6US	EET CF	10/26/22 15:40
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:27
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Client Sample ID: MW-304

Date Collected: 10/11/22 09:15

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369927	A6US	EET CF	10/26/22 15:44
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:30
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-305

Date Collected: 10/11/22 17:05

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 16:59
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:33
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Client Sample ID: MW-306

Date Collected: 10/12/22 09:15

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 17:06
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:36
Total/NA	Analysis	SM 2320B		1	368944	MAQ3	EET CF	10/18/22 10:31

Client Sample ID: MW-307

Date Collected: 10/10/22 13:50

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 17:10
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		10	370295	A6US	EET CF	10/29/22 14:47
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		4	370076	A6US	EET CF	10/27/22 12:47
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:39
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Client Sample ID: MW-308

Date Collected: 10/10/22 16:10

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 17:14
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:42
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Client Sample ID: MW-309

Date Collected: 10/11/22 14:45

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 17:17
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:45
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Client Sample ID: MW-310

Date Collected: 10/11/22 13:10

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 17:22
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:48
Total/NA	Analysis	SM 2320B		1	368916	MAQ3	EET CF	10/18/22 08:19

Client Sample ID: MW-311

Date Collected: 10/11/22 11:50

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 17:25
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:51
Total/NA	Analysis	SM 2320B		1	368944	MAQ3	EET CF	10/18/22 10:31

Client Sample ID: Field Blank

Date Collected: 10/12/22 12:05

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	3005A			368977	QTZ5	EET CF	10/19/22 09:00
Dissolved	Analysis	6020A		1	369988	A6US	EET CF	10/26/22 17:29
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 17:16
Total/NA	Analysis	2320B		1	369503	MAQ3	EET CF	10/22/22 13:07

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

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

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Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076 MNA

Job ID: 310-242242-3

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	EET CF
2320B	Alkalinity (Low Level)	SM	EET CF
SM 2320B	Alkalinity	SM	EET CF
3005A	Preparation, Total Metals	SW846	EET CF

Protocol References:

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

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

Laboratory References:

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

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Environment Testing
America



310-242242 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<u>Clive</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>10/12/22</u>	TIME: <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.0</u>	Corrected Temp (°C):	<u>1.0</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE. If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<u>Cine</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>10/12/22</u>	TIME: <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.3</u>	Corrected Temp (°C):	<u>1.3</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SUB</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/12/22</u>	TIME <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.2</u>		Corrected Temp (°C): <u>0.2</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			





Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SUS</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/12/22</u>	TIME <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.0</u>	Corrected Temp (°C):	<u>1.0</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Euofins Cedar Falls

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

Chain of Custody Record

TestAmerica Des Moines

214

Client Information			Sampler			Lab PM			Carrier Tracking No(s)			COC No		
8450 Hickman Road Suite 27 Cedar Falls IA, 50613 Phone: 319-277-2401 Fax: 319-277-2425			Tony Karwask Phone: 315 545-3880 E-Mail: Sandra.Fredrick@et.euofins.com			Fredrick, Sandie			214			310-74605-19292.1		
Company: SCS Eng neers			PWSID:			Lab PM: Fredrick, Sandie			Carrier Tracking No(s):			COC No: 310-74605-19292.1		
Address: 8450 Hickman Road Suite 27 City: Cedar Falls IA, 50613 State Zip: IA, 50613 Phone: 319-277-2401 Email: tkarwask@scsengneers.com			Due Date Requested: 10/2/22 TAT Requested (days): 5 Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: 25222076 WO #: 608957-1332			E-Mail: Sandra.Fredrick@et.euofins.com			State of Origin:			Page 1 of 2		
Project Name: Sutherland Generating Station 25222076			Project #: 31011020			Sample Date			Analysis Requested			Job #:		
Site			SSOW#:			Sample Time			6020A Metals (5)			Preservation Codes		
Matrix (Water, Seawater, Other)			Sample Type (C=Comp, G=grab)			Preservation Code			6020A D Metals (3-4)			A HCL		
			G						Field Filtered Sample (Yes or No)			B NaOH		
			G						Form MS/MSD (Yes or No)			C Zn Acetate		
			G						D N			D Nitric Acid		
			G						E D			E H2SO4		
			G						F D			F MeOH		
			G						G D			G Ascorbic Acid		
			G						H D			H Ascorbic Acid		
			G						I D			I Ice		
			G						J D			J DI Water		
			G						K D			K EDTA		
			G						L D			L EDA		
			G						M D			M Hexane		
			G						N D			N None		
			G						O D			O AsH2O2		
			G						P D			P Na2O4S		
			G						Q D			Q Na2SO3		
			G						R D			R Na2S2O3		
			G						S D			S H2SO4		
			G						T D			T TSP Dodecylhydrate		
			G						U D			U Acetone		
			G						V D			V MCAA		
			G						W D			W pH 4-5		
			G						X D			X Trizma		
			G						Y D			Y other (specify)		
			G						Z D			Z other (specify)		
			G						Other					



Client Information Client Contact: <u>Rosa Cruz</u> Company: <u>SCS Engineers</u> Address: <u>8450 Hickman Road Suite 27</u> City: <u>Clive</u> State Zip: <u>IA 50325</u> Phone: <u>609 374 302</u> Email: <u>rcruz@scsengineers.com</u> Project Name: <u>Sutherland Generating Station 25222076</u> Site:		Lab PM: <u>Fredrick, Sandie</u> E-Mail: <u>Sandra.Fredrick@et.eurofinsus.com</u> Carrier Tracking No(s): <u>310-74605-19292 2</u> State of Origin: <u>Page 2 of 2</u> Job #:	
Due Date Requested: _____ TAT Requested (days): _____ Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: <u>25222076</u> WO #: _____ Project #: <u>31011020</u> SOW#: _____		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 Anchlor S - H2SO4 H Ascorbic Acid T TSP Dodecahydrates I Ica U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Other: _____ Z alther (specify)	
Sample Identification: <u>Field Blank</u> Sample Date: <u>10 21 22 1205</u> Sample Time: _____ Sample Type (C=comp, G=grab): <u>G</u> Matrix (W=water, S=solid, O=soil, BT=filter, A=air): <u>Water</u> Preservation Code: <u>Water</u>		Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 6020A Metals (5): <u>D D N</u> 6020A Metals (3-4): <u>X X X</u> 7220B Alkalinity: _____ Total Number of Containers: _____	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV Other (specify): _____			
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <u>Rosa Cruz</u> Date: <u>10 23 22</u> Relinquished by: _____ Date: _____ Relinquished by: _____ Date: _____ Custody Seal Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No: _____			
Special Instructions/Note: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: _____			



Table 1 Sampling Points and Parameters CCR Rule Sampling Program
Groundwater Monitoring Sutherland Generating Station/SCS Engineers Project #25222076

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	Field Blank	TOTAL	
Appendix III & IV Parameters (COC #1 for non-radium, COC #2 for radium)	Total (Unfiltered)	Boron	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Calcium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Chloride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		pH	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Sulfate	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		TDS	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Antimony	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Arsenic	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Barium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Beryllium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Cadmium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Chromium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Cobalt	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Lead	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Lithium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Mercury	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Molybdenum	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Selenium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
Thallium	x	x	x	x	x	x	x	x	x	x	x	x	x	12		
Radium	x	x	x	x	x	x	x	x	x	x	x	x	x	12		
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Alkalinity Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Potassium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Sodium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
	Dissolved (Filtered)	Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
								X	X					2		
Field Parameters	Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x	x		11	
	pH (field)	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Specific Conductance	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x		11	
	ORP	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Temperature	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Turbidity	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Color	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Odor	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Notes															

I:\25222076 00\Data and Calculations\Field Work Requests\IPL_Sutherland Generating Station_CCR_Rule_Sampling_2210.xls]Sheet1

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-242242-3

SDG Number:

Login Number: 242242

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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



ANALYTICAL REPORT

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

Laboratory Job ID: 310-242242-1

Client Project/Site: Sutherland Generating Station 25222076

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:

11/1/2022 1:51:04 PM

Sandie Fredrick, Project Manager II
(920)261-1660

Sandra.Fredrick@et.eurofinsus.com

LINKS

Review your project
results through



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www.eurofinsus.com/Env

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

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



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Job ID: 310-242242-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-242242-1

Comments

No additional comments.

Receipt

The samples were received on 10/12/2022 4:20 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 0.2° C, 1.0° C, 1.0° C and 1.3° C.

HPLC/IC

Methods 300.0, 9056A: The following samples were diluted due to the nature of the sample matrix: MW-301 (310-242242-1), MW-302 (310-242242-2), MW-303 (310-242242-3), MW-304 (310-242242-4), MW-305 (310-242242-5), MW-306 (310-242242-6), MW-307 (310-242242-7), MW-308 (310-242242-8), MW-309 (310-242242-9), MW-310 (310-242242-10) and MW-311 (310-242242-11). Elevated reporting limits (RLs) are provided.

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

Metals

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

General Chemistry

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



Sample Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-242242-1	MW-301	Water	10/12/22 11:10	10/12/22 16:20
310-242242-2	MW-302	Water	10/10/22 17:50	10/12/22 16:20
310-242242-3	MW-303	Water	10/10/22 11:50	10/12/22 16:20
310-242242-4	MW-304	Water	10/11/22 09:15	10/12/22 16:20
310-242242-5	MW-305	Water	10/11/22 17:05	10/12/22 16:20
310-242242-6	MW-306	Water	10/12/22 09:15	10/12/22 16:20
310-242242-7	MW-307	Water	10/10/22 13:50	10/12/22 16:20
310-242242-8	MW-308	Water	10/10/22 16:10	10/12/22 16:20
310-242242-9	MW-309	Water	10/11/22 14:45	10/12/22 16:20
310-242242-10	MW-310	Water	10/11/22 13:10	10/12/22 16:20
310-242242-11	MW-311	Water	10/11/22 11:50	10/12/22 16:20
310-242242-12	Field Blank	Water	10/12/22 12:05	10/12/22 16:20

- 1
- 2
- 3
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- 11
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- 13
- 14
- 15

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-301

Lab Sample ID: 310-242242-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.9		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	22		5.0	2.0	mg/L	5		9056A	Total/NA
Barium	45		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	71	J	100	58	ug/L	1		6020A	Total/NA
Cadmium	0.081	J	0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	55		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.25	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	3.3	J	10	2.5	ug/L	1		6020A	Total/NA
Selenium	11		5.0	0.96	ug/L	1		6020A	Total/NA
Total Dissolved Solids	260		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	851.98				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	172.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	-0.04				mg/L	1		Field Sampling	Total/NA
pH, Field	6.50				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	388.3				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.6				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	-8.92				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-302

Lab Sample ID: 310-242242-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.8		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	16		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	4.5		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	88		2.0	0.88	ug/L	1		6020A	Total/NA
Calcium	68		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.8		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	2.8	J	10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	270		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	851.94				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	2.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	-0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	472.6				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	83.99				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-303

Lab Sample ID: 310-242242-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	55		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	2.5		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	48		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	410		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.062	J	0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	79		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.1		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.34	J	0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	19		10	2.5	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-303 (Continued)

Lab Sample ID: 310-242242-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	5.3		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	350		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	849.96				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-8.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.01				mg/L	1		Field Sampling	Total/NA
pH, Field	7.44				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	546.0				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	-2.5				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-304

Lab Sample ID: 310-242242-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.26	J	0.50	0.22	mg/L	5		9056A	Total/NA
Sulfate	160		5.0	2.0	mg/L	5		9056A	Total/NA
Barium	26		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	470		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.068	J	0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Lithium	6.8	J	10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	2.5		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	530		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	849.70				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	218.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.00				mg/L	1		Field Sampling	Total/NA
pH, Field	6.64				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	732				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	-9.82				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-305

Lab Sample ID: 310-242242-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	27		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.36	J	0.50	0.22	mg/L	5		9056A	Total/NA
Sulfate	200		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	8.4		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	41		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	1100		100	58	ug/L	1		6020A	Total/NA
Calcium	110		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.62		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	37		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	48		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	540		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.8	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	849.73				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	17.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	-0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	7.58				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-305 (Continued)

Lab Sample ID: 310-242242-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance, Field	786				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	-3.45				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-306

Lab Sample ID: 310-242242-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.25	J	0.50	0.22	mg/L	5		9056A	Total/NA
Sulfate	340		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	4.1		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	66		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	3400		100	58	ug/L	1		6020A	Total/NA
Calcium	140		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	0.42	J	0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	63		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	81		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	720		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	849.62				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	118.8				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	-0.08				mg/L	1		Field Sampling	Total/NA
pH, Field	7.68				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	915				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.2				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	-18.66				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-307

Lab Sample ID: 310-242242-7

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	270		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	5.9		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	44		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	420		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.24		0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	170		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	4.6		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.80		0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	22		10	2.5	ug/L	1		6020A	Total/NA
Molybdenum	5.8		2.0	1.2	ug/L	1		6020A	Total/NA
Total Dissolved Solids	760		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	850.79				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	22.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.00				mg/L	1		Field Sampling	Total/NA
pH, Field	6.64				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1025				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	17.3				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	44.77				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-308

Lab Sample ID: 310-242242-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.26	J	0.50	0.22	mg/L	5		9056A	Total/NA
Sulfate	130		5.0	2.0	mg/L	5		9056A	Total/NA
Barium	64		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	400		100	58	ug/L	1		6020A	Total/NA
Calcium	130		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	2.5		0.50	0.19	ug/L	1		6020A	Total/NA
Lithium	14		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	540		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	851.18				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	-23.9				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	-0.10				mg/L	1		Field Sampling	Total/NA
pH, Field	6.91				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	780				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	15.0				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	77.91				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-309

Lab Sample ID: 310-242242-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	17		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.22	J	0.50	0.22	mg/L	5		9056A	Total/NA
Sulfate	350		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	2.2		2.0	0.75	ug/L	1		6020A	Total/NA
Barium	170		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	1400		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.25		0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	170		0.50	0.19	mg/L	1		6020A	Total/NA
Chromium	2.5	J	5.0	1.1	ug/L	1		6020A	Total/NA
Cobalt	5.8		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	2.0		0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	24		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	800		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.6	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	848.44				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	193.6				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.09				mg/L	1		Field Sampling	Total/NA
pH, Field	7.17				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	1017				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	11.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	653.34				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-310

Lab Sample ID: 310-242242-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	20		5.0	2.3	mg/L	5		9056A	Total/NA
Sulfate	290		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	1.2	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	55		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	920		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.11		0.10	0.055	ug/L	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Detection Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-310 (Continued)

Lab Sample ID: 310-242242-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	140		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	2.7		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	2.6		0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	18		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	710		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	848.31				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	178.5				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	1.07				mg/L	1		Field Sampling	Total/NA
pH, Field	7.10				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	937				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	13.7				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	217.88				NTU	1		Field Sampling	Total/NA

Client Sample ID: MW-311

Lab Sample ID: 310-242242-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	19		5.0	2.3	mg/L	5		9056A	Total/NA
Fluoride	0.33	J	0.50	0.22	mg/L	5		9056A	Total/NA
Sulfate	310		5.0	2.0	mg/L	5		9056A	Total/NA
Arsenic	1.2	J	2.0	0.75	ug/L	1		6020A	Total/NA
Barium	120		2.0	0.88	ug/L	1		6020A	Total/NA
Boron	1400		100	58	ug/L	1		6020A	Total/NA
Cadmium	0.092	J	0.10	0.055	ug/L	1		6020A	Total/NA
Calcium	150		0.50	0.19	mg/L	1		6020A	Total/NA
Cobalt	1.1		0.50	0.19	ug/L	1		6020A	Total/NA
Lead	0.27	J	0.50	0.24	ug/L	1		6020A	Total/NA
Lithium	29		10	2.5	ug/L	1		6020A	Total/NA
Total Dissolved Solids	760		50	26	mg/L	1		SM 2540C	Total/NA
pH	7.5	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Ground Water Elevation	848.21				ft	1		Field Sampling	Total/NA
Oxidation Reduction Potential	160.3				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved, Client Supplied	0.16				mg/L	1		Field Sampling	Total/NA
pH, Field	7.05				SU	1		Field Sampling	Total/NA
Specific Conductance, Field	977				umhos/cm	1		Field Sampling	Total/NA
Temperature, Field	14.9				Degrees C	1		Field Sampling	Total/NA
Turbidity, Field	4.89				NTU	1		Field Sampling	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 310-242242-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.3	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-301

Lab Sample ID: 310-242242-1

Date Collected: 10/12/22 11:10

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.9		5.0	2.3	mg/L			10/26/22 20:33	5
Fluoride	<0.22		0.50	0.22	mg/L			10/26/22 20:33	5
Sulfate	22		5.0	2.0	mg/L			10/26/22 20:33	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 15:29	1
Arsenic	<0.75		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 15:29	1
Barium	45		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 15:29	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 15:29	1
Boron	71	J	100	58	ug/L		10/17/22 09:00	10/26/22 15:29	1
Cadmium	0.081	J	0.10	0.055	ug/L		10/17/22 09:00	10/26/22 15:29	1
Calcium	55		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 15:29	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 15:29	1
Cobalt	0.25	J	0.50	0.19	ug/L		10/17/22 09:00	10/26/22 15:29	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 15:29	1
Lithium	3.3	J	10	2.5	ug/L		10/17/22 09:00	10/26/22 15:29	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 15:29	1
Selenium	11		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 15:29	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	260		50	26	mg/L			10/14/22 12:09	1
pH (SM 4500 H+ B)	7.1	HF	0.1	0.1	SU			10/12/22 18:57	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	851.98				ft			10/12/22 11:10	1
Oxidation Reduction Potential	172.5				millivolts			10/12/22 11:10	1
Oxygen, Dissolved, Client Supplied	-0.04				mg/L			10/12/22 11:10	1
pH, Field	6.50				SU			10/12/22 11:10	1
Specific Conductance, Field	388.3				umhos/cm			10/12/22 11:10	1
Temperature, Field	15.6				Degrees C			10/12/22 11:10	1
Turbidity, Field	-8.92				NTU			10/12/22 11:10	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-302

Lab Sample ID: 310-242242-2

Date Collected: 10/10/22 17:50

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.8		5.0	2.3	mg/L			10/26/22 20:47	5
Fluoride	<0.22		0.50	0.22	mg/L			10/26/22 20:47	5
Sulfate	16		5.0	2.0	mg/L			10/26/22 20:47	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:23	1
Arsenic	4.5		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:23	1
Barium	88		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:23	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:23	1
Boron	<58		100	58	ug/L		10/17/22 09:00	10/26/22 16:23	1
Cadmium	<0.055		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:23	1
Calcium	68		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:23	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:23	1
Cobalt	1.8		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:23	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:23	1
Lithium	2.8 J		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:23	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:23	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:23	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	270		50	26	mg/L			10/13/22 14:38	1
pH (SM 4500 H+ B)	7.6	HF	0.1	0.1	SU			10/12/22 18:58	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	851.94				ft			10/10/22 17:50	1
Oxidation Reduction Potential	2.6				millivolts			10/10/22 17:50	1
Oxygen, Dissolved, Client Supplied	-0.10				mg/L			10/10/22 17:50	1
pH, Field	7.17				SU			10/10/22 17:50	1
Specific Conductance, Field	472.6				umhos/cm			10/10/22 17:50	1
Temperature, Field	13.2				Degrees C			10/10/22 17:50	1
Turbidity, Field	83.99				NTU			10/10/22 17:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-303

Lab Sample ID: 310-242242-3

Date Collected: 10/10/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.3	mg/L			10/26/22 21:01	5
Fluoride	<0.22		0.50	0.22	mg/L			10/26/22 21:01	5
Sulfate	55		5.0	2.0	mg/L			10/26/22 21:01	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:27	1
Arsenic	2.5		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:27	1
Barium	48		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:27	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:27	1
Boron	410		100	58	ug/L		10/17/22 09:00	10/26/22 16:27	1
Cadmium	0.062	J	0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:27	1
Calcium	79		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:27	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:27	1
Cobalt	1.1		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:27	1
Lead	0.34	J	0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:27	1
Lithium	19		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:27	1
Molybdenum	5.3		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:27	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:27	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	350		50	26	mg/L			10/13/22 14:38	1
pH (SM 4500 H+ B)	7.8	HF	0.1	0.1	SU			10/12/22 18:59	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	849.96				ft			10/10/22 11:50	1
Oxidation Reduction Potential	-8.5				millivolts			10/10/22 11:50	1
Oxygen, Dissolved, Client Supplied	0.01				mg/L			10/10/22 11:50	1
pH, Field	7.44				SU			10/10/22 11:50	1
Specific Conductance, Field	546.0				umhos/cm			10/10/22 11:50	1
Temperature, Field	15.7				Degrees C			10/10/22 11:50	1
Turbidity, Field	-2.5				NTU			10/10/22 11:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-304

Lab Sample ID: 310-242242-4

Date Collected: 10/11/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0	2.3	mg/L			10/26/22 21:44	5
Fluoride	0.26	J	0.50	0.22	mg/L			10/26/22 21:44	5
Sulfate	160		5.0	2.0	mg/L			10/26/22 21:44	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:30	1
Arsenic	<0.75		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:30	1
Barium	26		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:30	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:30	1
Boron	470		100	58	ug/L		10/17/22 09:00	10/26/22 16:30	1
Cadmium	0.068	J	0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:30	1
Calcium	110		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:30	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:30	1
Cobalt	<0.19		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:30	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:30	1
Lithium	6.8	J	10	2.5	ug/L		10/17/22 09:00	10/26/22 16:30	1
Molybdenum	2.5		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:30	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:30	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	530		50	26	mg/L			10/13/22 14:38	1
pH (SM 4500 H+ B)	7.3	HF	0.1	0.1	SU			10/12/22 19:00	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	849.70				ft			10/11/22 09:15	1
Oxidation Reduction Potential	218.8				millivolts			10/11/22 09:15	1
Oxygen, Dissolved, Client Supplied	0.00				mg/L			10/11/22 09:15	1
pH, Field	6.64				SU			10/11/22 09:15	1
Specific Conductance, Field	732				umhos/cm			10/11/22 09:15	1
Temperature, Field	13.0				Degrees C			10/11/22 09:15	1
Turbidity, Field	-9.82				NTU			10/11/22 09:15	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-305

Lab Sample ID: 310-242242-5

Date Collected: 10/11/22 17:05

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		5.0	2.3	mg/L			10/26/22 21:58	5
Fluoride	0.36	J	0.50	0.22	mg/L			10/26/22 21:58	5
Sulfate	200		5.0	2.0	mg/L			10/26/22 21:58	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:33	1
Arsenic	8.4		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:33	1
Barium	41		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:33	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:33	1
Boron	1100		100	58	ug/L		10/17/22 09:00	10/26/22 16:33	1
Cadmium	<0.055		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:33	1
Calcium	110		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:33	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:33	1
Cobalt	0.62		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:33	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:33	1
Lithium	37		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:33	1
Molybdenum	48		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:33	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:33	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	540		50	26	mg/L			10/14/22 12:09	1
pH (SM 4500 H+ B)	7.8	HF	0.1	0.1	SU			10/12/22 19:01	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	849.73				ft			10/11/22 17:05	1
Oxidation Reduction Potential	17.5				millivolts			10/11/22 17:05	1
Oxygen, Dissolved, Client Supplied	-0.10				mg/L			10/11/22 17:05	1
pH, Field	7.58				SU			10/11/22 17:05	1
Specific Conductance, Field	786				umhos/cm			10/11/22 17:05	1
Temperature, Field	14.7				Degrees C			10/11/22 17:05	1
Turbidity, Field	-3.45				NTU			10/11/22 17:05	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-306

Lab Sample ID: 310-242242-6

Date Collected: 10/12/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16		5.0	2.3	mg/L			10/26/22 22:12	5
Fluoride	0.25	J	0.50	0.22	mg/L			10/26/22 22:12	5
Sulfate	340		5.0	2.0	mg/L			10/26/22 22:12	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:36	1
Arsenic	4.1		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:36	1
Barium	66		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:36	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:36	1
Boron	3400		100	58	ug/L		10/17/22 09:00	10/26/22 16:36	1
Cadmium	<0.055		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:36	1
Calcium	140		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:36	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:36	1
Cobalt	0.42	J	0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:36	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:36	1
Lithium	63		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:36	1
Molybdenum	81		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:36	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:36	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	720		50	26	mg/L			10/14/22 12:09	1
pH (SM 4500 H+ B)	7.9	HF	0.1	0.1	SU			10/12/22 19:06	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	849.62				ft			10/12/22 09:15	1
Oxidation Reduction Potential	118.8				millivolts			10/12/22 09:15	1
Oxygen, Dissolved, Client Supplied	-0.08				mg/L			10/12/22 09:15	1
pH, Field	7.68				SU			10/12/22 09:15	1
Specific Conductance, Field	915				umhos/cm			10/12/22 09:15	1
Temperature, Field	14.2				Degrees C			10/12/22 09:15	1
Turbidity, Field	-18.66				NTU			10/12/22 09:15	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-307

Lab Sample ID: 310-242242-7

Date Collected: 10/10/22 13:50

Matrix: Water

Date Received: 10/12/22 16:20

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			10/26/22 22:26	5
Fluoride	<0.22		0.50	0.22	mg/L			10/26/22 22:26	5
Sulfate	270		5.0	2.0	mg/L			10/26/22 22:26	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:39	1
Arsenic	5.9		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:39	1
Barium	44		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:39	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:39	1
Boron	420		100	58	ug/L		10/17/22 09:00	10/26/22 16:39	1
Cadmium	0.24		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:39	1
Calcium	170		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:39	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:39	1
Cobalt	4.6		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:39	1
Lead	0.80		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:39	1
Lithium	22		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:39	1
Molybdenum	5.8		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:39	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:39	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	760		50	26	mg/L			10/13/22 14:38	1
pH (SM 4500 H+ B)	7.0	HF	0.1	0.1	SU			10/12/22 19:07	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	850.79				ft			10/10/22 13:50	1
Oxidation Reduction Potential	22.9				millivolts			10/10/22 13:50	1
Oxygen, Dissolved, Client Supplied	0.00				mg/L			10/10/22 13:50	1
pH, Field	6.64				SU			10/10/22 13:50	1
Specific Conductance, Field	1025				umhos/cm			10/10/22 13:50	1
Temperature, Field	17.3				Degrees C			10/10/22 13:50	1
Turbidity, Field	44.77				NTU			10/10/22 13:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-308

Lab Sample ID: 310-242242-8

Date Collected: 10/10/22 16:10

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		5.0	2.3	mg/L			10/26/22 22:41	5
Fluoride	0.26	J	0.50	0.22	mg/L			10/26/22 22:41	5
Sulfate	130		5.0	2.0	mg/L			10/26/22 22:41	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:42	1
Arsenic	<0.75		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:42	1
Barium	64		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:42	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:42	1
Boron	400		100	58	ug/L		10/17/22 09:00	10/26/22 16:42	1
Cadmium	<0.055		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:42	1
Calcium	130		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:42	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:42	1
Cobalt	2.5		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:42	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:42	1
Lithium	14		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:42	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:42	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:42	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	540		50	26	mg/L			10/13/22 14:38	1
pH (SM 4500 H+ B)	7.2	HF	0.1	0.1	SU			10/12/22 19:09	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	851.18				ft			10/10/22 16:10	1
Oxidation Reduction Potential	-23.9				millivolts			10/10/22 16:10	1
Oxygen, Dissolved, Client Supplied	-0.10				mg/L			10/10/22 16:10	1
pH, Field	6.91				SU			10/10/22 16:10	1
Specific Conductance, Field	780				umhos/cm			10/10/22 16:10	1
Temperature, Field	15.0				Degrees C			10/10/22 16:10	1
Turbidity, Field	77.91				NTU			10/10/22 16:10	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-309

Lab Sample ID: 310-242242-9

Date Collected: 10/11/22 14:45

Matrix: Water

Date Received: 10/12/22 16:20

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			10/26/22 22:56	5
Fluoride	0.22	J	0.50	0.22	mg/L			10/26/22 22:56	5
Sulfate	350		5.0	2.0	mg/L			10/26/22 22:56	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:45	1
Arsenic	2.2		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:45	1
Barium	170		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:45	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:45	1
Boron	1400		100	58	ug/L		10/17/22 09:00	10/26/22 16:45	1
Cadmium	0.25		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:45	1
Calcium	170		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:45	1
Chromium	2.5	J	5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:45	1
Cobalt	5.8		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:45	1
Lead	2.0		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:45	1
Lithium	24		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:45	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:45	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:45	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	800		50	26	mg/L			10/14/22 12:09	1
pH (SM 4500 H+ B)	7.6	HF	0.1	0.1	SU			10/12/22 19:10	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	848.44				ft			10/11/22 14:45	1
Oxidation Reduction Potential	193.6				millivolts			10/11/22 14:45	1
Oxygen, Dissolved, Client Supplied	0.09				mg/L			10/11/22 14:45	1
pH, Field	7.17				SU			10/11/22 14:45	1
Specific Conductance, Field	1017				umhos/cm			10/11/22 14:45	1
Temperature, Field	11.7				Degrees C			10/11/22 14:45	1
Turbidity, Field	653.34				NTU			10/11/22 14:45	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-310

Lab Sample ID: 310-242242-10

Date Collected: 10/11/22 13:10

Matrix: Water

Date Received: 10/12/22 16:20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		5.0	2.3	mg/L			10/26/22 23:11	5
Fluoride	<0.22		0.50	0.22	mg/L			10/26/22 23:11	5
Sulfate	290		5.0	2.0	mg/L			10/26/22 23:11	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:48	1
Arsenic	1.2	J	2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:48	1
Barium	55		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:48	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:48	1
Boron	920		100	58	ug/L		10/17/22 09:00	10/26/22 16:48	1
Cadmium	0.11		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:48	1
Calcium	140		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:48	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:48	1
Cobalt	2.7		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:48	1
Lead	2.6		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:48	1
Lithium	18		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:48	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:48	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:48	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	710		50	26	mg/L			10/14/22 12:09	1
pH (SM 4500 H+ B)	7.5	HF	0.1	0.1	SU			10/12/22 19:11	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	848.31				ft			10/11/22 13:10	1
Oxidation Reduction Potential	178.5				millivolts			10/11/22 13:10	1
Oxygen, Dissolved, Client Supplied	1.07				mg/L			10/11/22 13:10	1
pH, Field	7.10				SU			10/11/22 13:10	1
Specific Conductance, Field	937				umhos/cm			10/11/22 13:10	1
Temperature, Field	13.7				Degrees C			10/11/22 13:10	1
Turbidity, Field	217.88				NTU			10/11/22 13:10	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-311

Lab Sample ID: 310-242242-11

Date Collected: 10/11/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

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			10/26/22 23:26	5
Fluoride	0.33	J	0.50	0.22	mg/L			10/26/22 23:26	5
Sulfate	310		5.0	2.0	mg/L			10/26/22 23:26	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 16:51	1
Arsenic	1.2	J	2.0	0.75	ug/L		10/17/22 09:00	10/26/22 16:51	1
Barium	120		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 16:51	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 16:51	1
Boron	1400		100	58	ug/L		10/17/22 09:00	10/26/22 16:51	1
Cadmium	0.092	J	0.10	0.055	ug/L		10/17/22 09:00	10/26/22 16:51	1
Calcium	150		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 16:51	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 16:51	1
Cobalt	1.1		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 16:51	1
Lead	0.27	J	0.50	0.24	ug/L		10/17/22 09:00	10/26/22 16:51	1
Lithium	29		10	2.5	ug/L		10/17/22 09:00	10/26/22 16:51	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 16:51	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 16:51	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 16:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	760		50	26	mg/L			10/14/22 12:09	1
pH (SM 4500 H+ B)	7.5	HF	0.1	0.1	SU			10/12/22 19:12	1

Method: EPA Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ground Water Elevation	848.21				ft			10/11/22 11:50	1
Oxidation Reduction Potential	160.3				millivolts			10/11/22 11:50	1
Oxygen, Dissolved, Client Supplied	0.16				mg/L			10/11/22 11:50	1
pH, Field	7.05				SU			10/11/22 11:50	1
Specific Conductance, Field	977				umhos/cm			10/11/22 11:50	1
Temperature, Field	14.9				Degrees C			10/11/22 11:50	1
Turbidity, Field	4.89				NTU			10/11/22 11:50	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: Field Blank

Lab Sample ID: 310-242242-12

Date Collected: 10/12/22 12:05

Matrix: Water

Date Received: 10/12/22 16:20

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			10/26/22 23:41	1
Fluoride	<0.044		0.10	0.044	mg/L			10/26/22 23:41	1
Sulfate	<0.40		1.0	0.40	mg/L			10/26/22 23:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 17:16	1
Arsenic	<0.75		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 17:16	1
Barium	<0.88		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 17:16	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 17:16	1
Boron	<58		100	58	ug/L		10/17/22 09:00	10/26/22 17:16	1
Cadmium	<0.055		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 17:16	1
Calcium	<0.19		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 17:16	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 17:16	1
Cobalt	<0.19		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 17:16	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 17:16	1
Lithium	<2.5		10	2.5	ug/L		10/17/22 09:00	10/26/22 17:16	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 17:16	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 17:16	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 17:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	<26		50	26	mg/L			10/17/22 13:00	1
pH (SM 4500 H+ B)	6.3	HF	0.1	0.1	SU			10/12/22 19:13	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Qualifiers

HPLC/IC

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

Metals

Qualifier	Qualifier Description
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.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

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

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-370188/3
Matrix: Water
Analysis Batch: 370188

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			10/26/22 17:01	1
Fluoride	<0.044		0.10	0.044	mg/L			10/26/22 17:01	1
Sulfate	<0.40		1.0	0.40	mg/L			10/26/22 17:01	1

Lab Sample ID: LCS 310-370188/4
Matrix: Water
Analysis Batch: 370188

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.42		mg/L		94	90 - 110
Fluoride	2.00	1.91		mg/L		95	90 - 110
Sulfate	10.0	9.39		mg/L		94	90 - 110

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 310-368702/1-A
Matrix: Water
Analysis Batch: 369920

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 368702

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.69		2.0	0.69	ug/L		10/17/22 09:00	10/26/22 15:23	1
Arsenic	<0.75		2.0	0.75	ug/L		10/17/22 09:00	10/26/22 15:23	1
Barium	<0.88		2.0	0.88	ug/L		10/17/22 09:00	10/26/22 15:23	1
Beryllium	<0.27		1.0	0.27	ug/L		10/17/22 09:00	10/26/22 15:23	1
Boron	<58		100	58	ug/L		10/17/22 09:00	10/26/22 15:23	1
Cadmium	<0.055		0.10	0.055	ug/L		10/17/22 09:00	10/26/22 15:23	1
Calcium	<0.19		0.50	0.19	mg/L		10/17/22 09:00	10/26/22 15:23	1
Chromium	<1.1		5.0	1.1	ug/L		10/17/22 09:00	10/26/22 15:23	1
Cobalt	<0.19		0.50	0.19	ug/L		10/17/22 09:00	10/26/22 15:23	1
Lead	<0.24		0.50	0.24	ug/L		10/17/22 09:00	10/26/22 15:23	1
Lithium	<2.5		10	2.5	ug/L		10/17/22 09:00	10/26/22 15:23	1
Molybdenum	<1.2		2.0	1.2	ug/L		10/17/22 09:00	10/26/22 15:23	1
Selenium	<0.96		5.0	0.96	ug/L		10/17/22 09:00	10/26/22 15:23	1
Thallium	<0.26		1.0	0.26	ug/L		10/17/22 09:00	10/26/22 15:23	1

Lab Sample ID: LCS 310-368702/2-A
Matrix: Water
Analysis Batch: 369920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	200	212		ug/L		106	80 - 120
Arsenic	200	198		ug/L		99	80 - 120
Barium	100	98.8		ug/L		99	80 - 120
Beryllium	100	108		ug/L		108	80 - 120
Boron	200	198		ug/L		99	80 - 120
Cadmium	100	103		ug/L		103	80 - 120
Calcium	2.00	2.07		mg/L		104	80 - 120
Chromium	100	95.9		ug/L		96	80 - 120
Cobalt	100	105		ug/L		105	80 - 120

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QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

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

Lab Sample ID: LCS 310-368702/2-A
Matrix: Water
Analysis Batch: 369920

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	200	202		ug/L		101	80 - 120
Lithium	200	212		ug/L		106	80 - 120
Molybdenum	200	195		ug/L		97	80 - 120
Selenium	400	387		ug/L		97	80 - 120
Thallium	200	203		ug/L		101	80 - 120

Lab Sample ID: 310-242242-1 MS
Matrix: Water
Analysis Batch: 369920

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.69		200	218		ug/L		109	75 - 125
Arsenic	<0.75		200	201		ug/L		101	75 - 125
Barium	45		100	145		ug/L		100	75 - 125
Beryllium	<0.27		100	108		ug/L		108	75 - 125
Boron	71 J		200	271		ug/L		100	75 - 125
Cadmium	0.081 J		100	102		ug/L		102	75 - 125
Calcium	55		2.00	57.8	4	mg/L		155	75 - 125
Chromium	<1.1		100	94.8		ug/L		95	75 - 125
Cobalt	0.25 J		100	102		ug/L		101	75 - 125
Lead	<0.24		200	205		ug/L		102	75 - 125
Lithium	3.3 J		200	213		ug/L		105	75 - 125
Molybdenum	<1.2		200	198		ug/L		99	75 - 125
Selenium	11		400	413		ug/L		101	75 - 125
Thallium	<0.26		200	200		ug/L		100	75 - 125

Lab Sample ID: 310-242242-1 MSD
Matrix: Water
Analysis Batch: 369920

Client Sample ID: MW-301
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.69		200	223		ug/L		112	75 - 125	2	20
Arsenic	<0.75		200	208		ug/L		104	75 - 125	3	20
Barium	45		100	149		ug/L		104	75 - 125	3	20
Beryllium	<0.27		100	112		ug/L		112	75 - 125	3	20
Boron	71 J		200	285		ug/L		107	75 - 125	5	20
Cadmium	0.081 J		100	106		ug/L		106	75 - 125	4	20
Calcium	55		2.00	58.1	4	mg/L		170	75 - 125	1	20
Chromium	<1.1		100	98.1		ug/L		98	75 - 125	3	20
Cobalt	0.25 J		100	106		ug/L		105	75 - 125	4	20
Lead	<0.24		200	211		ug/L		106	75 - 125	3	20
Lithium	3.3 J		200	222		ug/L		109	75 - 125	4	20
Molybdenum	<1.2		200	205		ug/L		103	75 - 125	4	20
Selenium	11		400	431		ug/L		105	75 - 125	4	20
Thallium	<0.26		200	206		ug/L		103	75 - 125	3	20

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QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

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

Lab Sample ID: 310-242242-11 DU
Matrix: Water
Analysis Batch: 370000

Client Sample ID: MW-311
Prep Type: Total/NA
Prep Batch: 368702

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Antimony	<0.69		<0.69		ug/L		NC	20
Arsenic	1.2	J	1.20	J	ug/L		2	20
Barium	120		111		ug/L		9	20
Beryllium	<0.27		<0.27		ug/L		NC	20
Boron	1400		1190		ug/L		16	20
Cadmium	0.092	J	0.0840	J	ug/L		9	20
Calcium	150		127		mg/L		14	20
Chromium	<1.1		<1.1		ug/L		NC	20
Cobalt	1.1		1.18		ug/L		8	20
Lead	0.27	J	0.366	J F5	ug/L		31	20
Lithium	29		25.6		ug/L		14	20
Molybdenum	<1.2		<1.2		ug/L		NC	20
Selenium	<0.96		<0.96		ug/L		NC	20
Thallium	<0.26		<0.26		ug/L		NC	20

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

Lab Sample ID: MB 310-368570/1
Matrix: Water
Analysis Batch: 368570

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	<26		50	26	mg/L			10/13/22 14:38	1

Lab Sample ID: LCS 310-368570/2
Matrix: Water
Analysis Batch: 368570

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Lab Sample ID: 310-242242-8 DU
Matrix: Water
Analysis Batch: 368570

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

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	540		534		mg/L		2	20

Lab Sample ID: MB 310-368692/1
Matrix: Water
Analysis Batch: 368692

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	<26		50	26	mg/L			10/14/22 12:09	1

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

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

Lab Sample ID: LCS 310-368692/2
Matrix: Water
Analysis Batch: 368692

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	960		mg/L		96	90 - 110

Lab Sample ID: 310-242242-1 DU
Matrix: Water
Analysis Batch: 368692

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	260		268		mg/L		4	20

Lab Sample ID: MB 310-368843/1
Matrix: Water
Analysis Batch: 368843

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<26		50	26	mg/L			10/17/22 13:00	1

Lab Sample ID: LCS 310-368843/2
Matrix: Water
Analysis Batch: 368843

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	972		mg/L		97	90 - 110

Lab Sample ID: 310-242242-12 DU
Matrix: Water
Analysis Batch: 368843

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	<26		<26		mg/L		NC	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 310-368417/1
Matrix: Water
Analysis Batch: 368417

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		101	98 - 102

QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

HPLC/IC

Analysis Batch: 370188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	9056A	
310-242242-2	MW-302	Total/NA	Water	9056A	
310-242242-3	MW-303	Total/NA	Water	9056A	
310-242242-4	MW-304	Total/NA	Water	9056A	
310-242242-5	MW-305	Total/NA	Water	9056A	
310-242242-6	MW-306	Total/NA	Water	9056A	
310-242242-7	MW-307	Total/NA	Water	9056A	
310-242242-8	MW-308	Total/NA	Water	9056A	
310-242242-9	MW-309	Total/NA	Water	9056A	
310-242242-10	MW-310	Total/NA	Water	9056A	
310-242242-11	MW-311	Total/NA	Water	9056A	
310-242242-12	Field Blank	Total/NA	Water	9056A	
MB 310-370188/3	Method Blank	Total/NA	Water	9056A	
LCS 310-370188/4	Lab Control Sample	Total/NA	Water	9056A	

Metals

Prep Batch: 368702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	3005A	
310-242242-2	MW-302	Total/NA	Water	3005A	
310-242242-3	MW-303	Total/NA	Water	3005A	
310-242242-4	MW-304	Total/NA	Water	3005A	
310-242242-5	MW-305	Total/NA	Water	3005A	
310-242242-6	MW-306	Total/NA	Water	3005A	
310-242242-7	MW-307	Total/NA	Water	3005A	
310-242242-8	MW-308	Total/NA	Water	3005A	
310-242242-9	MW-309	Total/NA	Water	3005A	
310-242242-10	MW-310	Total/NA	Water	3005A	
310-242242-11	MW-311	Total/NA	Water	3005A	
310-242242-12	Field Blank	Total/NA	Water	3005A	
MB 310-368702/1-A	Method Blank	Total/NA	Water	3005A	
LCS 310-368702/2-A	Lab Control Sample	Total/NA	Water	3005A	
310-242242-1 MS	MW-301	Total/NA	Water	3005A	
310-242242-1 MSD	MW-301	Total/NA	Water	3005A	
310-242242-11 DU	MW-311	Total/NA	Water	3005A	

Analysis Batch: 369920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	6020A	368702
MB 310-368702/1-A	Method Blank	Total/NA	Water	6020A	368702
LCS 310-368702/2-A	Lab Control Sample	Total/NA	Water	6020A	368702
310-242242-1 MS	MW-301	Total/NA	Water	6020A	368702
310-242242-1 MSD	MW-301	Total/NA	Water	6020A	368702

Analysis Batch: 370000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-2	MW-302	Total/NA	Water	6020A	368702
310-242242-3	MW-303	Total/NA	Water	6020A	368702
310-242242-4	MW-304	Total/NA	Water	6020A	368702
310-242242-5	MW-305	Total/NA	Water	6020A	368702

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QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Metals (Continued)

Analysis Batch: 370000 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-6	MW-306	Total/NA	Water	6020A	368702
310-242242-7	MW-307	Total/NA	Water	6020A	368702
310-242242-8	MW-308	Total/NA	Water	6020A	368702
310-242242-9	MW-309	Total/NA	Water	6020A	368702
310-242242-10	MW-310	Total/NA	Water	6020A	368702
310-242242-11	MW-311	Total/NA	Water	6020A	368702
310-242242-12	Field Blank	Total/NA	Water	6020A	368702
310-242242-11 DU	MW-311	Total/NA	Water	6020A	368702

General Chemistry

Analysis Batch: 368417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	SM 4500 H+ B	
310-242242-2	MW-302	Total/NA	Water	SM 4500 H+ B	
310-242242-3	MW-303	Total/NA	Water	SM 4500 H+ B	
310-242242-4	MW-304	Total/NA	Water	SM 4500 H+ B	
310-242242-5	MW-305	Total/NA	Water	SM 4500 H+ B	
310-242242-6	MW-306	Total/NA	Water	SM 4500 H+ B	
310-242242-7	MW-307	Total/NA	Water	SM 4500 H+ B	
310-242242-8	MW-308	Total/NA	Water	SM 4500 H+ B	
310-242242-9	MW-309	Total/NA	Water	SM 4500 H+ B	
310-242242-10	MW-310	Total/NA	Water	SM 4500 H+ B	
310-242242-11	MW-311	Total/NA	Water	SM 4500 H+ B	
310-242242-12	Field Blank	Total/NA	Water	SM 4500 H+ B	
LCS 310-368417/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 368570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-2	MW-302	Total/NA	Water	SM 2540C	
310-242242-3	MW-303	Total/NA	Water	SM 2540C	
310-242242-4	MW-304	Total/NA	Water	SM 2540C	
310-242242-7	MW-307	Total/NA	Water	SM 2540C	
310-242242-8	MW-308	Total/NA	Water	SM 2540C	
MB 310-368570/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-368570/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-242242-8 DU	MW-308	Total/NA	Water	SM 2540C	

Analysis Batch: 368692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	SM 2540C	
310-242242-5	MW-305	Total/NA	Water	SM 2540C	
310-242242-6	MW-306	Total/NA	Water	SM 2540C	
310-242242-9	MW-309	Total/NA	Water	SM 2540C	
310-242242-10	MW-310	Total/NA	Water	SM 2540C	
310-242242-11	MW-311	Total/NA	Water	SM 2540C	
MB 310-368692/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-368692/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-242242-1 DU	MW-301	Total/NA	Water	SM 2540C	

Euofins Cedar Falls

QC Association Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

General Chemistry

Analysis Batch: 368843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-12	Field Blank	Total/NA	Water	SM 2540C	
MB 310-368843/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-368843/2	Lab Control Sample	Total/NA	Water	SM 2540C	
310-242242-12 DU	Field Blank	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 370474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	Field Sampling	
310-242242-2	MW-302	Total/NA	Water	Field Sampling	
310-242242-3	MW-303	Total/NA	Water	Field Sampling	
310-242242-4	MW-304	Total/NA	Water	Field Sampling	
310-242242-5	MW-305	Total/NA	Water	Field Sampling	
310-242242-6	MW-306	Total/NA	Water	Field Sampling	
310-242242-7	MW-307	Total/NA	Water	Field Sampling	
310-242242-8	MW-308	Total/NA	Water	Field Sampling	
310-242242-9	MW-309	Total/NA	Water	Field Sampling	
310-242242-10	MW-310	Total/NA	Water	Field Sampling	
310-242242-11	MW-311	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-301

Date Collected: 10/12/22 11:10

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 20:33
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	369920	A6US	EET CF	10/26/22 15:29
Total/NA	Analysis	SM 2540C		1	368692	ENB7	EET CF	10/14/22 12:09
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 18:57
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/12/22 11:10

Client Sample ID: MW-302

Date Collected: 10/10/22 17:50

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 20:47
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:23
Total/NA	Analysis	SM 2540C		1	368570	ENB7	EET CF	10/13/22 14:38
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 18:58
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/10/22 17:50

Client Sample ID: MW-303

Date Collected: 10/10/22 11:50

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 21:01
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:27
Total/NA	Analysis	SM 2540C		1	368570	ENB7	EET CF	10/13/22 14:38
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 18:59
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/10/22 11:50

Client Sample ID: MW-304

Date Collected: 10/11/22 09:15

Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 21:44
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:30
Total/NA	Analysis	SM 2540C		1	368570	ENB7	EET CF	10/13/22 14:38
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:00
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/11/22 09:15

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-305
Date Collected: 10/11/22 17:05
Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 21:58
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:33
Total/NA	Analysis	SM 2540C		1	368692	ENB7	EET CF	10/14/22 12:09
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:01
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/11/22 17:05

Client Sample ID: MW-306
Date Collected: 10/12/22 09:15
Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 22:12
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:36
Total/NA	Analysis	SM 2540C		1	368692	ENB7	EET CF	10/14/22 12:09
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:06
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/12/22 09:15

Client Sample ID: MW-307
Date Collected: 10/10/22 13:50
Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 22:26
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:39
Total/NA	Analysis	SM 2540C		1	368570	ENB7	EET CF	10/13/22 14:38
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:07
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/10/22 13:50

Client Sample ID: MW-308
Date Collected: 10/10/22 16:10
Date Received: 10/12/22 16:20

Lab Sample ID: 310-242242-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 22:41
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:42
Total/NA	Analysis	SM 2540C		1	368570	ENB7	EET CF	10/13/22 14:38
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:09
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/10/22 16:10

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Client Sample ID: MW-309

Lab Sample ID: 310-242242-9

Date Collected: 10/11/22 14:45

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 22:56
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:45
Total/NA	Analysis	SM 2540C		1	368692	ENB7	EET CF	10/14/22 12:09
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:10
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/11/22 14:45

Client Sample ID: MW-310

Lab Sample ID: 310-242242-10

Date Collected: 10/11/22 13:10

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 23:11
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:48
Total/NA	Analysis	SM 2540C		1	368692	ENB7	EET CF	10/14/22 12:09
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:11
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/11/22 13:10

Client Sample ID: MW-311

Lab Sample ID: 310-242242-11

Date Collected: 10/11/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		5	370188	J7CK	EET CF	10/26/22 23:26
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 16:51
Total/NA	Analysis	SM 2540C		1	368692	ENB7	EET CF	10/14/22 12:09
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:12
Total/NA	Analysis	Field Sampling		1	370474	BJ0R	EET CF	10/11/22 11:50

Client Sample ID: Field Blank

Lab Sample ID: 310-242242-12

Date Collected: 10/12/22 12:05

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9056A		1	370188	J7CK	EET CF	10/26/22 23:41
Total/NA	Prep	3005A			368702	QTZ5	EET CF	10/17/22 09:00
Total/NA	Analysis	6020A		1	370000	A6US	EET CF	10/26/22 17:16
Total/NA	Analysis	SM 2540C		1	368843	ENB7	EET CF	10/17/22 13:00
Total/NA	Analysis	SM 4500 H+ B		1	368417	DN3P	EET CF	10/12/22 19:13

Laboratory References:

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

Eurofins Cedar Falls

Accreditation/Certification Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Laboratory: Eurofins Cedar Falls

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

Authority	Program	Identification Number	Expiration Date
Iowa	State	007	12-01-23

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

Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	EET CF
6020A	Metals (ICP/MS)	SW846	EET CF
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CF
SM 4500 H+ B	pH	SM	EET CF
Field Sampling	Field Sampling	EPA	EET CF
3005A	Preparation, Total Metals	SW846	EET CF

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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





Environment Testing
America



310-242242 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<u>Clive</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>10/12/22</u>	TIME: <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.0</u>	Corrected Temp (°C):	<u>1.0</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE. If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<u>Cine</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>10/12/22</u>	TIME: <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.3</u>	Corrected Temp (°C):	<u>1.3</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SUB</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/12/22</u>	TIME <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.2</u>		Corrected Temp (°C): <u>0.2</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SUS</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/12/22</u>	TIME <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.0</u>	Corrected Temp (°C):	<u>1.0</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Sampler: <u>Cody Crute</u>		Lab P/N: <u>Frederick, Sandie</u>		COC No: <u>310-74604-19293 1</u>	
Client Contact: <u>Rose-Cruz Tom K rmosk</u>		Phone: <u>815 545 3080</u>		E-Mail: <u>Sandra.Fredrick@et.eurofins.com</u>		Page: <u>Page 1 of 2</u>	
Company: <u>SCS Eng neers</u>		PWSID: _____		Carrier Tracking No(s): _____		Job #:	
Address: <u>8450 Hickman Road Suite 27</u>		Due Date Requested: <u>Start Ar TAT</u>		Analysis Requested		Preservation Codes	
City: _____		TAT Requested (days): _____		Perform MS/MSD (Yes or No)		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other: _____	
State/Zip: <u>IA, 50325</u>		Compliance Project: <u>Δ Yes Δ No</u>		Field Filtered Sample (Yes or No)		M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2SO4 S H2SO4 T TSP Dodecylhydrate U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)	
Phone: <u>608457-9332</u>		PC #: <u>25222076</u>		9030, 9040		Total Number of Containers	
Email: <u>tom@scsengneers.com</u>		WO #: _____		6020A Metals (14)		Special Instructions/Note	
Project Name: <u>PK WORK @ SCS JMS</u>		Sample Date		Sample Time		_____	
Superfund Generating Station 25222076		Sample Date		Sample Time		_____	
Site: _____		Sample Date		Sample Time		_____	
Sample Identification		Sample Date		Sample Time		_____	
MW-30		10/2/22		1110		Water	
MW-302		10/10/22		1750		Water	
MW-303		10/10/22		1150		Water	
MW-304		10/11/22		0905		Water	
MW-305		0/11/22		1705		Water	
MW-306		2/22		0015		Water	
MW-307		0/10/22		1350		Water	
MW-308		0/10/22		1610		Water	
MW-309		10/11/22		1445		Water	
MW-310		10/11/22		310		Water	
MW-311		10/12/22		1150		Water	
Possible Hazard Identification		Sample Date		Sample Time		_____	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Date		Time		_____	
Deliverable Requested <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV Other (specify)		Date/Time		Date/Time		Company	
Empty Kit Relinquished by		Date/Time		Date/Time		Company	
Relinquished by <u>Cody Crute</u>		10/00/22		10/12/22		Company	
Relinquished by		Date/Time		Date/Time		Company	
Relinquished by		Date/Time		Date/Time		Company	
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Date/Time		Date/Time		Company	
Custody Seal No		Date/Time		Date/Time		Company	



Chain of Custody Record

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

Client Information		Sampler: <u>Col, Crater</u>	Lab P/N: <u>Fredrick Sandie</u>	Carrier Tracking No(s): <u>310-74604-19293 2</u>
Client Contact: <u>Rosa Cruz - on Karwos</u>		Phone: <u>815545-3490</u>	E-Mail: <u>Sandra.Fredrick@eurofins.com</u>	State of Origin: _____
Company: <u>SCS Eng neers</u>		PWSID: _____		
Address: <u>8450 Hickman Road Sure 27</u>		Due Date Requested: _____		
City: _____		TAT Requested (days): _____		
State, Zip: <u>IA 50325</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Phone: <u>607 057-3322</u>		PO #: <u>2522076</u>		
Email: <u>rcruz@scsengneers.com</u>		WO #: _____		
Project Name: <u>Sutherland Generating Station 2522076</u>		Project #: <u>31011020</u>		
Site: _____		SSOW#: _____		
Sample Identification		Sample Date: <u>10/12/22</u>	Sample Time: <u>12:05</u>	Sample Type (C=Comp, G=grab): <u>G</u>
<u>Field Blank</u>		Preservation Code: <u>Water</u>		Matrix (W=water, S=solid, O=oil, D=drinking water): <u>Water</u>
Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/>		Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/>		6020A Metals (14): <u>X X X X</u>
2550C Calcd, 9056A, ORGFM 280 SM4500 H+		6020A Metals (14): <u>X X X X</u>		2550C Calcd, 9056A, ORGFM 280 SM4500 H+
Total Number of containers: <u>X</u>		Special Instructions/Note: _____		
Analysis Requested		Preservation Codes:		
A HCL		M Hexane		
B NaOH		N None		
C Zn Acetate		O ASNSO2		
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		Y Trizma		
Other: _____		Z other (specify)		
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
Special Instructions/QC Requirements: <u>Repa + R d am o separate repo + for a omp us</u>		Method of Shipment: _____		
Empty Kit Relinquished by		Date: _____		
Relinquished by: <u>Cruz</u>		Company: <u>SCS Eng neers</u>		
Relinquished by: _____		Date/Time: _____		
Relinquished by: _____		Date/Time: _____		
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No: _____		
Cooler Temperature(s) °C and Other Remarks: _____		Received by: _____		
_____		Date/Time: _____		
_____		Date/Time: _____		
_____		Date/Time: <u>10-12-22</u>		
_____		Company: _____		
_____		Company: _____		
_____		Company: _____		

Table 1 Sampling Points and Parameters CCR Rule Sampling Program
 Groundwater Monitoring Sutherland Generating Station/SCS Engineers Project #25222076

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	Field Blank	TOTAL	
Appendix III & IV Parameters (COC #1 for non-radium, COC #2 for radium)	Total (Unfiltered)	Boron	x	x	x	x	x	x	x	x	x	x	x	x	12	
		Calcium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Chloride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		pH	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Sulfate	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		TDS	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Antimony	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Arsenic	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Barium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Beryllium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Cadmium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Chromium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Cobalt	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Lead	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Lithium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Mercury	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Molybdenum	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Selenium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
Thallium	x	x	x	x	x	x	x	x	x	x	x	x	x	12		
Radium	x	x	x	x	x	x	x	x	x	x	x	x	x	12		
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	7	
		Alkalinity Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Potassium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Sodium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
	Dissolved (Filtered)	Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
								X	X					2		
Field Parameters	Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x	x		11	
	pH (field)	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Specific Conductance	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x		11	
	ORP	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Temperature	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Turbidity	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Color	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Odor	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Notes															

I:\25222076 00\Data and Calculations\Field Work Requests\IPL_Sutherland Generating Station_CCR_Rule_Sampling_2210.xls]Sheet1

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-242242-1

SDG Number:

Login Number: 242242

List Number: 1

Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

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



Groundwater Monitoring Results - Field Parameters
Sutherland Generating Station / SCS Engineers Project #25222076.00
October 2022

Sample	Sample Date/Time	GW Elevation (feet amsl)	Temperature (Deg. C)	pH (Std. Units)	Dissolved Oxygen (mg/L)	Specific Conductivity (µs/cm)	ORP (mV)	Turbidity
MW-301	10/12/2022 11:10	851.98	15.6	6.50	-0.04	388.3	172.5	-8.92
MW-302	10/10/2022 17:50	851.94	13.2	7.17	-0.10	472.6	2.6	83.99
MW-303	10/10/2022 11:50	849.96	15.7	7.44	0.01	546.0	-8.5	-2.5
MW-304	10/11/2022 9:15	849.70	13.0	6.64	0.00	732	218.8	-9.82
MW-305	10/11/2022 17:05	849.73	14.7	7.58	-0.10	786	17.5	-3.45
MW-306	10/12/2022 9:15	849.62	14.2	7.68	-0.08	915	118.8	-18.66
MW-307	10/10/2022 13:50	850.79	17.3	6.64	0.00	1025	22.9	44.77
MW-308	10/10/2022 16:10	851.18	15.0	6.91	-0.10	780	-23.9	77.91
MW-309	10/11/2022 14:45	848.44	11.7	7.17	0.09	1017	193.6	653.34
MW-310	10/11/2022 13:10	848.31	13.7	7.10	1.07	937	178.5	217.88
MW-311	10/10/2022 11:50	848.21	14.9	7.05	0.16	977	160.3	4.89

Abbreviations:

mg/L = milligrams per liter

mV = millivolts

amsl = above mean sea level

NM - Not Measured

Notes:

None

Created by: NDK
 Last revision by: LMH
 Checked by: NDK

Date: 10/13/2022
 Date: 10/14/2022
 Date: 10/17/2022

C:\Users\hld0\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\USG3GGGC\[2210_Sutherland_CCR_Field.xlsx]GW Field Parameters

ANALYTICAL REPORT

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

Laboratory Job ID: 310-242242-2

Client Project/Site: Sutherland Generating Station 25222076

For:

SCS Engineers
2830 Dairy Drive
Madison, Wisconsin 53718

Attn: Meghan Blodgett



Authorized for release by:

11/11/2022 6:32:49 PM

Sandie Fredrick, Project Manager II
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Results relate only to the items tested and the sample(s) as received by the laboratory.

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 {0} Project Manager.



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Case Narrative

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Job ID: 310-242242-2

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative 310-242242-2

Comments

No additional comments.

Receipt

The samples were received on 10/12/2022 4:20 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 0.2° C, 1.0° C, 1.0° C and 1.3° C.

RAD

Methods 903.0, 9315: Radium 226 batch 586490

The LCS recovered at (73%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-125) per method requirements. The LCS passes, no further action is required (LCS 160-586490/2-A)

Methods 903.0, 9315: Radium 226 batch 586490

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 (310-242242-1), MW-302 (310-242242-2), MW-303 (310-242242-3), MW-304 (310-242242-4), MW-305 (310-242242-5), MW-306 (310-242242-6), MW-307 (310-242242-7), MW-308 (310-242242-8), MW-309 (310-242242-9), MW-310 (310-242242-10), MW-311 (310-242242-11), Field Blank (310-242242-12), (LCS 160-586490/2-A), (MB 160-586490/1-A) and (310-242242-E-8-A DU)

Methods 904.0, 9320: Radium-228 batch 586492

The detection goal was not met for the following sample(s). Samples were prepped at a reduced volume due to the presence of matrix interferences: MW-309 (310-242242-9) and MW-310 (310-242242-10). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium-228 batch 586492

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 (310-242242-1), MW-302 (310-242242-2), MW-303 (310-242242-3), MW-304 (310-242242-4), MW-305 (310-242242-5), MW-306 (310-242242-6), MW-307 (310-242242-7), MW-308 (310-242242-8), MW-309 (310-242242-9), MW-310 (310-242242-10), MW-311 (310-242242-11), Field Blank (310-242242-12), (LCS 160-586492/2-A), (MB 160-586492/1-A) and (310-242242-E-8-B DU)

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

Sample Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-242242-1	MW-301	Water	10/12/22 11:10	10/12/22 16:20
310-242242-2	MW-302	Water	10/10/22 17:50	10/12/22 16:20
310-242242-3	MW-303	Water	10/10/22 11:50	10/12/22 16:20
310-242242-4	MW-304	Water	10/11/22 09:15	10/12/22 16:20
310-242242-5	MW-305	Water	10/11/22 17:05	10/12/22 16:20
310-242242-6	MW-306	Water	10/12/22 09:15	10/12/22 16:20
310-242242-7	MW-307	Water	10/10/22 13:50	10/12/22 16:20
310-242242-8	MW-308	Water	10/10/22 16:10	10/12/22 16:20
310-242242-9	MW-309	Water	10/11/22 14:45	10/12/22 16:20
310-242242-10	MW-310	Water	10/11/22 13:10	10/12/22 16:20
310-242242-11	MW-311	Water	10/11/22 11:50	10/12/22 16:20
310-242242-12	Field Blank	Water	10/12/22 12:05	10/12/22 16:20

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- 14
- 15

Detection Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-301	Lab Sample ID: 310-242242-1
No Detections.	
Client Sample ID: MW-302	Lab Sample ID: 310-242242-2
No Detections.	
Client Sample ID: MW-303	Lab Sample ID: 310-242242-3
No Detections.	
Client Sample ID: MW-304	Lab Sample ID: 310-242242-4
No Detections.	
Client Sample ID: MW-305	Lab Sample ID: 310-242242-5
No Detections.	
Client Sample ID: MW-306	Lab Sample ID: 310-242242-6
No Detections.	
Client Sample ID: MW-307	Lab Sample ID: 310-242242-7
No Detections.	
Client Sample ID: MW-308	Lab Sample ID: 310-242242-8
No Detections.	
Client Sample ID: MW-309	Lab Sample ID: 310-242242-9
No Detections.	
Client Sample ID: MW-310	Lab Sample ID: 310-242242-10
No Detections.	
Client Sample ID: MW-311	Lab Sample ID: 310-242242-11
No Detections.	
Client Sample ID: Field Blank	Lab Sample ID: 310-242242-12
No Detections.	

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-301

Lab Sample ID: 310-242242-1

Date Collected: 10/12/22 11:10

Matrix: Water

Date Received: 10/12/22 16:20

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	-0.00272	U	0.229	0.229	1.00	0.459	pCi/L	10/19/22 12:29	11/10/22 20:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	87.7		40 - 110					10/19/22 12:29	11/10/22 20:07	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	0.739		0.476	0.480	1.00	0.697	pCi/L	10/19/22 12:54	11/10/22 13:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	87.7		40 - 110					10/19/22 12:54	11/10/22 13:39	1
Y Carrier	81.9		40 - 110					10/19/22 12:54	11/10/22 13:39	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	0.739		0.528	0.532	5.00	0.697	pCi/L		11/11/22 17:01	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-302

Lab Sample ID: 310-242242-2

Date Collected: 10/10/22 17:50

Matrix: Water

Date Received: 10/12/22 16:20

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	0.194	U	0.212	0.213	1.00	0.343	pCi/L	10/19/22 12:29	11/10/22 20:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	101		40 - 110					10/19/22 12:29	11/10/22 20:07	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	0.945		0.388	0.398	1.00	0.510	pCi/L	10/19/22 12:54	11/10/22 13:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	101		40 - 110					10/19/22 12:54	11/10/22 13:39	1
Y Carrier	83.7		40 - 110					10/19/22 12:54	11/10/22 13:39	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	1.14		0.442	0.451	5.00	0.510	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-303

Lab Sample ID: 310-242242-3

Date Collected: 10/10/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

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	0.0805	U	0.258	0.258	1.00	0.484	pCi/L	10/19/22 12:29	11/10/22 20:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	83.1		40 - 110					10/19/22 12:29	11/10/22 20:07	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	0.543	U	0.490	0.492	1.00	0.776	pCi/L	10/19/22 12:54	11/10/22 13:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	83.1		40 - 110					10/19/22 12:54	11/10/22 13:40	1
Y Carrier	84.5		40 - 110					10/19/22 12:54	11/10/22 13:40	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	0.623	U	0.554	0.556	5.00	0.776	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-304

Lab Sample ID: 310-242242-4

Date Collected: 10/11/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

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	0.0641	U	0.185	0.185	1.00	0.347	pCi/L	10/19/22 12:29	11/10/22 20:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	82.6		40 - 110					10/19/22 12:29	11/10/22 20:07	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	0.708		0.429	0.434	1.00	0.622	pCi/L	10/19/22 12:54	11/10/22 13:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	82.6		40 - 110					10/19/22 12:54	11/10/22 13:40	1
Y Carrier	77.4		40 - 110					10/19/22 12:54	11/10/22 13:40	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	0.772		0.467	0.472	5.00	0.622	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-305

Lab Sample ID: 310-242242-5

Date Collected: 10/11/22 17:05

Matrix: Water

Date Received: 10/12/22 16:20

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	0.240	U	0.202	0.203	1.00	0.307	pCi/L	10/19/22 12:29	11/11/22 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	87.3		40 - 110					10/19/22 12:29	11/11/22 09:35	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	0.464	U	0.338	0.340	1.00	0.507	pCi/L	10/19/22 12:54	11/10/22 13:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	87.3		40 - 110					10/19/22 12:54	11/10/22 13:40	1
Y Carrier	81.9		40 - 110					10/19/22 12:54	11/10/22 13:40	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	0.703		0.394	0.396	5.00	0.507	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-306

Lab Sample ID: 310-242242-6

Date Collected: 10/12/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

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	-0.0579	U	0.129	0.129	1.00	0.290	pCi/L	10/19/22 12:29	11/11/22 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	88.2		40 - 110					10/19/22 12:29	11/11/22 09:35	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	0.750		0.403	0.408	1.00	0.573	pCi/L	10/19/22 12:54	11/10/22 13:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	88.2		40 - 110					10/19/22 12:54	11/10/22 13:40	1
Y Carrier	83.7		40 - 110					10/19/22 12:54	11/10/22 13:40	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	0.750		0.423	0.428	5.00	0.573	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-307

Lab Sample ID: 310-242242-7

Date Collected: 10/10/22 13:50

Matrix: Water

Date Received: 10/12/22 16:20

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	0.109	U	0.188	0.188	1.00	0.331	pCi/L	10/19/22 12:29	11/11/22 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	94.9		40 - 110					10/19/22 12:29	11/11/22 09:35	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		0.501	0.506	1.00	0.749	pCi/L	10/19/22 12:54	11/10/22 13:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	94.9		40 - 110					10/19/22 12:54	11/10/22 13:40	1
Y Carrier	84.1		40 - 110					10/19/22 12:54	11/10/22 13:40	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	0.873		0.535	0.540	5.00	0.749	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-308

Lab Sample ID: 310-242242-8

Date Collected: 10/10/22 16:10

Matrix: Water

Date Received: 10/12/22 16:20

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	0.172	U	0.179	0.180	1.00	0.285	pCi/L	10/19/22 12:29	11/11/22 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	90.9		40 - 110					10/19/22 12:29	11/11/22 09:35	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	0.591		0.361	0.365	1.00	0.525	pCi/L	10/19/22 12:54	11/10/22 13:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	90.9		40 - 110					10/19/22 12:54	11/10/22 13:40	1
Y Carrier	83.0		40 - 110					10/19/22 12:54	11/10/22 13:40	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	0.763		0.403	0.407	5.00	0.525	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-309

Lab Sample ID: 310-242242-9

Date Collected: 10/11/22 14:45

Matrix: Water

Date Received: 10/12/22 16:20

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	0.107	U	0.241	0.241	1.00	0.449	pCi/L	10/19/22 12:29	11/11/22 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	82.6		40 - 110					10/19/22 12:29	11/11/22 09:36	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	2.28	G	1.07	1.09	1.00	1.52	pCi/L	10/19/22 12:54	11/10/22 13:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	82.6		40 - 110					10/19/22 12:54	11/10/22 13:40	1
Y Carrier	84.5		40 - 110					10/19/22 12:54	11/10/22 13:40	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	2.39		1.10	1.12	5.00	1.52	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-310

Lab Sample ID: 310-242242-10

Date Collected: 10/11/22 13:10

Matrix: Water

Date Received: 10/12/22 16:20

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	0.499	U	0.370	0.373	1.00	0.526	pCi/L	10/19/22 12:29	11/11/22 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	86.5		40 - 110					10/19/22 12:29	11/11/22 09:36	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	1.49	G	0.772	0.784	1.00	1.06	pCi/L	10/19/22 12:54	11/10/22 13:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	86.5		40 - 110					10/19/22 12:54	11/10/22 13:41	1
Y Carrier	84.9		40 - 110					10/19/22 12:54	11/10/22 13:41	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	1.99		0.856	0.868	5.00	1.06	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-311

Lab Sample ID: 310-242242-11

Date Collected: 10/11/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

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	-0.0307	U	0.153	0.153	1.00	0.332	pCi/L	10/19/22 12:29	11/11/22 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	99.3		40 - 110					10/19/22 12:29	11/11/22 09:36	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	0.541	U	0.491	0.494	1.00	0.783	pCi/L	10/19/22 12:54	11/10/22 13:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	99.3		40 - 110					10/19/22 12:54	11/10/22 13:41	1
Y Carrier	82.6		40 - 110					10/19/22 12:54	11/10/22 13:41	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	0.541	U	0.514	0.517	5.00	0.783	pCi/L		11/11/22 17:02	1

Client Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: Field Blank

Lab Sample ID: 310-242242-12

Date Collected: 10/12/22 12:05

Matrix: Water

Date Received: 10/12/22 16:20

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	-0.00154	U	0.129	0.129	1.00	0.259	pCi/L	10/19/22 12:29	11/11/22 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	97.5		40 - 110					10/19/22 12:29	11/11/22 09:36	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	0.324	U	0.305	0.307	1.00	0.486	pCi/L	10/19/22 12:54	11/10/22 13:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba	97.5		40 - 110					10/19/22 12:54	11/10/22 13:41	1
Y Carrier	84.1		40 - 110					10/19/22 12:54	11/10/22 13:41	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	0.324	U	0.331	0.333	5.00	0.486	pCi/L		11/11/22 17:02	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Qualifiers

Rad

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

Glossary

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

QC Sample Results

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-586490/1-A
Matrix: Water
Analysis Batch: 589641

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586490

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 226	-0.04274	U	0.124	0.124	1.00	0.283	pCi/L	10/19/22 12:29	11/10/22 20:06	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba	105		40 - 110		10/19/22 12:29	11/10/22 20:06	1			

Lab Sample ID: LCS 160-586490/2-A
Matrix: Water
Analysis Batch: 589641

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586490

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium 226	11.3	8.305		1.10	1.00	0.286	pCi/L	73	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba	109		40 - 110						

Lab Sample ID: 310-242242-8 DU
Matrix: Water
Analysis Batch: 589759

Client Sample ID: MW-308
Prep Type: Total/NA
Prep Batch: 586490

Analyte	Sample		DU		Total	RL	MDC	Unit	RER	Limit
	Result	Sample Qual	Result	DU Qual	Uncert. (2σ+/-)					
Radium 226	0.172	U	0.1297	U	0.128	1.00	0.193	pCi/L	0.14	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba	96.8		40 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-586492/1-A
Matrix: Water
Analysis Batch: 589595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586492

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium 228	0.2379	U	0.315	0.315	1.00	0.526	pCi/L	10/19/22 12:54	11/10/22 13:39	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba	105		40 - 110		10/19/22 12:54	11/10/22 13:39	1			
Y Carrier	76.6		40 - 110		10/19/22 12:54	11/10/22 13:39	1			

Eurofins Cedar Falls

QC Sample Results

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

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

Lab Sample ID: LCS 160-586492/2-A
Matrix: Water
Analysis Batch: 589595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586492

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

Carrier	LCS		Limits
	%Yield	Qualifier	
Ba	109		40 - 110
Y Carrier	81.5		40 - 110

Lab Sample ID: 310-242242-8 DU
Matrix: Water
Analysis Batch: 589595

Client Sample ID: MW-308
Prep Type: Total/NA
Prep Batch: 586492

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit

Carrier	DU		Limits
	%Yield	Qualifier	
Ba	96.8		40 - 110
Y Carrier	86.4		40 - 110

QC Association Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Rad

Prep Batch: 586490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	PrecSep-21	
310-242242-2	MW-302	Total/NA	Water	PrecSep-21	
310-242242-3	MW-303	Total/NA	Water	PrecSep-21	
310-242242-4	MW-304	Total/NA	Water	PrecSep-21	
310-242242-5	MW-305	Total/NA	Water	PrecSep-21	
310-242242-6	MW-306	Total/NA	Water	PrecSep-21	
310-242242-7	MW-307	Total/NA	Water	PrecSep-21	
310-242242-8	MW-308	Total/NA	Water	PrecSep-21	
310-242242-9	MW-309	Total/NA	Water	PrecSep-21	
310-242242-10	MW-310	Total/NA	Water	PrecSep-21	
310-242242-11	MW-311	Total/NA	Water	PrecSep-21	
310-242242-12	Field Blank	Total/NA	Water	PrecSep-21	
MB 160-586490/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-586490/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
310-242242-8 DU	MW-308	Total/NA	Water	PrecSep-21	

Prep Batch: 586492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-242242-1	MW-301	Total/NA	Water	PrecSep_0	
310-242242-2	MW-302	Total/NA	Water	PrecSep_0	
310-242242-3	MW-303	Total/NA	Water	PrecSep_0	
310-242242-4	MW-304	Total/NA	Water	PrecSep_0	
310-242242-5	MW-305	Total/NA	Water	PrecSep_0	
310-242242-6	MW-306	Total/NA	Water	PrecSep_0	
310-242242-7	MW-307	Total/NA	Water	PrecSep_0	
310-242242-8	MW-308	Total/NA	Water	PrecSep_0	
310-242242-9	MW-309	Total/NA	Water	PrecSep_0	
310-242242-10	MW-310	Total/NA	Water	PrecSep_0	
310-242242-11	MW-311	Total/NA	Water	PrecSep_0	
310-242242-12	Field Blank	Total/NA	Water	PrecSep_0	
MB 160-586492/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-586492/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
310-242242-8 DU	MW-308	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-301

Lab Sample ID: 310-242242-1

Date Collected: 10/12/22 11:10

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589641	FLC	EET SL	11/10/22 20:07
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:39
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:01

Client Sample ID: MW-302

Lab Sample ID: 310-242242-2

Date Collected: 10/10/22 17:50

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589641	FLC	EET SL	11/10/22 20:07
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:39
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: MW-303

Lab Sample ID: 310-242242-3

Date Collected: 10/10/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589641	FLC	EET SL	11/10/22 20:07
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:40
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: MW-304

Lab Sample ID: 310-242242-4

Date Collected: 10/11/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589641	FLC	EET SL	11/10/22 20:07
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:40
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Lab Chronicle

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-305

Lab Sample ID: 310-242242-5

Date Collected: 10/11/22 17:05

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:35
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:40
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: MW-306

Lab Sample ID: 310-242242-6

Date Collected: 10/12/22 09:15

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:35
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:40
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: MW-307

Lab Sample ID: 310-242242-7

Date Collected: 10/10/22 13:50

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:35
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:40
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: MW-308

Lab Sample ID: 310-242242-8

Date Collected: 10/10/22 16:10

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:35
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:40
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Lab Chronicle

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Client Sample ID: MW-309

Lab Sample ID: 310-242242-9

Date Collected: 10/11/22 14:45

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:36
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:40
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: MW-310

Lab Sample ID: 310-242242-10

Date Collected: 10/11/22 13:10

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:36
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: MW-311

Lab Sample ID: 310-242242-11

Date Collected: 10/11/22 11:50

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:36
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Client Sample ID: Field Blank

Lab Sample ID: 310-242242-12

Date Collected: 10/12/22 12:05

Matrix: Water

Date Received: 10/12/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	PrecSep-21			586490	BMP	EET SL	10/19/22 12:29
Total/NA	Analysis	903.0		1	589759	FLC	EET SL	11/11/22 09:36
Total/NA	Prep	PrecSep_0			586492	BMP	EET SL	10/19/22 12:54
Total/NA	Analysis	904.0		1	589595	FLC	EET SL	11/10/22 13:41
Total/NA	Analysis	Ra226_Ra228 Pos		1	589769	MLK	EET SL	11/11/22 17:02

Laboratory References:

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

Accreditation/Certification Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

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	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	07-01-22 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22 *
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-22
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	04-01-23
North Dakota	State	R-207	06-30-23
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
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	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	12-31-22

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

Method Summary

Client: SCS Engineers
Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Method	Method Description	Protocol	Laboratory
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			
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
- TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

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





Environment Testing
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310-242242 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<u>Clive</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>10/12/22</u>	TIME: <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID:	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>1</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.0</u>	Corrected Temp (°C):	<u>1.0</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE. If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



Environment Testing
America

Place COC scanning label
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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SCS</u>			
City/State:	<u>Cine</u>	STATE: <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE: <u>10/12/22</u>	TIME: <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>2</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>1.3</u>		Corrected Temp (°C): <u>1.3</u>	
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SUB</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/12/22</u>	TIME <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>3</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE			
Thermometer ID: <u>P</u>		Correction Factor (°C): <u>0</u>	
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): <u>0.2</u>		Corrected Temp (°C): <u>0.2</u>	
• Sample Container Temperature			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			



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Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: <u>SUS</u>			
City/State:	CITY <u>Clive</u>	STATE <u>IA</u>	Project:
Receipt Information			
Date/Time Received:	DATE <u>10/12/22</u>	TIME <u>1620</u>	Received By: <u>AM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler ID: _____	
Multiple Coolers?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler # <u>4</u> of <u>4</u>	
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes: Cooler custody seals intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes: Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant:	<input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE		
Thermometer ID:	<u>P</u>	Correction Factor (°C):	<u>0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C):	<u>1.0</u>	Corrected Temp (°C):	<u>1.0</u>
• Sample Container Temperature			
Container(s) used:	<u>CONTAINER 1</u>	<u>CONTAINER 2</u>	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g , bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No			
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Chain of Custody Record

Client Information		Sampler: <u>Cody Crute</u>		Lab P/N: <u>Frederick, Sandie</u>		COC No: <u>310-74604-19293 1</u>	
Client Contact: <u>Rose-Cruz Tom K rmosk</u>		Phone: <u>815 545 3080</u>		E-Mail: <u>Sandra.Fredrick@et.eurofins.com</u>		Page: <u>Page 1 of 2</u>	
Company: <u>SCS Eng neers</u>		PWSID: _____		Analysis Requested: _____		Job #: _____	
Address: <u>8450 Hickman Road Suite 27</u>		Due Date Requested: <u>Start Ar TAT</u>		Field Filtered Sample (Yes or No): <u>5903.0, 9040</u>		Preservation Codes: A HCL M Hexane B NaOH N None C Zn Acetate O As ₂ O ₃ D Nitric Acid P Na ₂ O ₄ S E NaHSO ₄ Q Na ₂ SO ₃ F MeOH R Na ₂ SO ₃ G Ascorbic Acid S H ₂ SO ₄ H Ascorbic Acid T-TSP Dodecylhydrate I-Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z other (specify)	
City: _____		TAT Requested (days): _____		Perform MS/MSD (Yes or No): <u>5903.0, 9040</u>		Special Instructions/Note: _____	
State Zip: <u>IA, 50325</u>		Compliance Project: <u>Δ Yes Δ No</u>		Total Number of Containers: <u>X</u>		Special Instructions/Note: _____	
Phone: <u>608457-9332</u>		PC #: <u>25222076</u>		Field Filtered Sample (Yes or No): <u>5903.0, 9040</u>		Special Instructions/Note: _____	
Email: <u>tomk@scsengneers.com</u>		WO #: _____		Field Filtered Sample (Yes or No): <u>5903.0, 9040</u>		Special Instructions/Note: _____	
Project Name: <u>PK WORK @ SCS Eng neers</u>		Sample Date: _____		Field Filtered Sample (Yes or No): <u>5903.0, 9040</u>		Special Instructions/Note: _____	
Superfund Generating Station 25222076		Sample Time: _____		Field Filtered Sample (Yes or No): <u>5903.0, 9040</u>		Special Instructions/Note: _____	
Site: _____		Sample Time: _____		Field Filtered Sample (Yes or No): <u>5903.0, 9040</u>		Special Instructions/Note: _____	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
MW-30		10/2/22		1110		Water	
MW-302		10/10/22		1750		Water	
MW-303		10/10/22		1150		Water	
MW-304		10/11/22		0905		Water	
MW-305		0/11/22		1705		Water	
MW-306		2/22		0015		Water	
MW-307		0/10/22		1350		Water	
MW-308		0/10/22		1610		Water	
MW-309		10/11/22		1445		Water	
MW-310		10/11/22		310		Water	
MW-311		10/12/22		1150		Water	
Possible Hazard Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Date		Time		Matrix (Inorganic, Organic, Semimetal, Other)	
Deliverable Requested II III IV Other (specify)		Date/Time		Date/Time		Matrix	
Empty Kit Relinquished by		Date/Time		Date/Time		Matrix	
Relinquished by <u>Cody Crute</u>		1400		01/22		Company	
Relinquished by		Date/Time		Date/Time		Company	
Relinquished by		Date/Time		Date/Time		Company	
Custody Seals Intact <u>Δ Yes Δ No</u>		Date/Time		Date/Time		Company	
Custody Seal No		Date/Time		Date/Time		Company	



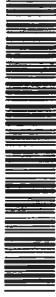
Client Information		Sampler: <u>Col, Crater</u>		Lab P/N: <u>Fredrick Sandie</u>	Carrier Tracking No(s): <u>310-74604-19293 2</u>
Client Contact: <u>Rosa Cruz - on Karwows</u>		Phone: <u>815545-3490</u>		E-Mail: <u>Sandra.Fredrick@et.eurofins.com</u>	State of Origin: _____
Company: <u>SCS Eng neers</u>		PWSID: _____		Page 2 of 2	
Address: <u>8450 Hickman Road Sure 27</u>		Due Date Requested: _____		Job #: _____	
City: _____		TAT Requested (days): _____		Preservation Codes	
State, Zip: <u>IA 50325</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other: _____	
Phone: <u>609 057-3322</u>		PO #: <u>2522076</u>		M Hexane N None O ASNSO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T-TSP Dodecahydrate U Acetone V MCAA W pH 4.5 Y Trizma Z other (specify)	
Email: <u>rcruz@scsengineers.com</u>		WO #: _____		Total Number of containers: _____	
Project Name: <u>Sutherland Generating Station 2522076</u>		Project #: <u>31011020</u>		Special Instructions/Note	
Site: _____		SSOW#: _____		_____	
Sample Identification		Sample Date: <u>10/12/22</u>		_____	
Sample ID: <u>Field Blank</u>		Sample Time: <u>12:05</u>		_____	
Sample Type: <u>G</u>		Matrix: <u>Water</u>		_____	
Sample (C=Comp, G=grab)		Preservation Code: <u>Water</u>		_____	
Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		_____	
6020A Metals (14) <input checked="" type="checkbox"/>		9030 9040 <input checked="" type="checkbox"/>		_____	
2550C Calc'd, 9056A, ORGFM 260 SM4500 H+ <input checked="" type="checkbox"/>		2550C Calc'd, 9056A, ORGFM 260 SM4500 H+ <input checked="" type="checkbox"/>		_____	
Analysis Requested		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		_____	
_____		Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		_____	
_____		Special Instructions/QC Requirements: <u>Repa + 2 d am o separate repo + for a emp us</u>		_____	
Empty Kit Relinquished by _____		Date: _____		Method of Shipment: _____	
Relinquished by: <u>Cruz</u>		Date/Time: <u>4/11/22</u>		Company: _____	
Relinquished by: _____		Date/Time: _____		Company: _____	
Relinquished by: _____		Date/Time: _____		Company: _____	
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No: _____		Cooler Temperature(s) °C and Other Remarks: _____	

Table 1 Sampling Points and Parameters CCR Rule Sampling Program
 Groundwater Monitoring Sutherland Generating Station/SCS Engineers Project #25222076

		Parameter	MW-301	MW-302	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	Field Blank	TOTAL	
Appendix III & IV Parameters (COC #1 for non-radium, COC #2 for radium)	Total (Unfiltered)	Boron	x	x	x	x	x	x	x	x	x	x	x	x	12	
		Calcium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Chloride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		pH	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Sulfate	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		TDS	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Antimony	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Arsenic	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Barium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Beryllium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Cadmium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Chromium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Cobalt	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Fluoride	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Lead	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Lithium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Mercury	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Molybdenum	x	x	x	x	x	x	x	x	x	x	x	x	x	12
		Selenium	x	x	x	x	x	x	x	x	x	x	x	x	x	12
Thallium	x	x	x	x	x	x	x	x	x	x	x	x	x	12		
Radium	x	x	x	x	x	x	x	x	x	x	x	x	x	12		
COC #3 - MNA Parameters	Total (Unfiltered)	Alkalinity Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	7	
		Alkalinity Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Potassium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Sodium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
	Dissolved (Filtered)	Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Manganese	X	X	X	X	X	X	X	X	X	X	X	X	X	7
		Magnesium	X	X	X	X	X	X	X	X	X	X	X	X	X	7
								X	X					2		
Field Parameters	Groundwater Elevation	x	x	x	x	x	x	x	x	x	x	x	x		11	
	pH (field)	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Specific Conductance	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Dissolved Oxygen	x	x	x	x	x	x	x	x	x	x	x	x		11	
	ORP	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Temperature	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Turbidity	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Color	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Odor	x	x	x	x	x	x	x	x	x	x	x	x		11	
	Notes															

I:\25222076 00\Data and Calculations\Field Work Requests\IPL_Sutherland Generating Station_CCR_Rule_Sampling_2210.xls]Sheet1

Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM	Carrier Tracking No(s)		COC No.						
Shipping/Receiving		Frederick, Sandie			310-54746.1						
Company		E-Mail: Sandra.Fredrick@et.eurofins.com	State of Origin: Iowa		Page 1 of 2						
TestAmerica Laboratories, Inc.		Accreditations Required (See note) State Program - Iowa		Job #	310-242242-2						
Address 13715 Rider Trail North, City Earth City State, Zip MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email		Due Date Requested: 11/10/2022 TAT Requested (days):		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2OAS D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:							
Project Name Sutherland Generating Station 25222076 Site		PO # WO # Project # 31011020 SSOW#		Analysis Requested							
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=wasteoil, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PreSep_21 Radium-226 (GFC)	904.0/PreSep_0 Radium-228 (GFC)	Ra226_228GFC_P/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
MW-301 (310-242242-1)	10/12/22	11:10 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-302 (310-242242-2)	10/10/22	17:50 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-303 (310-242242-3)	10/10/22	11:50 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-304 (310-242242-4)	10/11/22	09:15 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-305 (310-242242-5)	10/11/22	17:05 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-306 (310-242242-6)	10/12/22	09:15 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-307 (310-242242-7)	10/10/22	13:50 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-308 (310-242242-8)	10/10/22	16:10 Central	Water	Water	X	X	X	X		2	DO NOT SHIP ON ICE TO ST. LOUIS
MW-309 (310-242242-9)	10/11/22	14:45 Central	Water	Water	X	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/less/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
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Primary Deliverable Rank: 2
 Date: _____
 Method of Shipment: _____

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

Relinquished by	Date/Time	Company	Method of Shipment
Relinquished by: <i>FED EX</i>	10/12/22 12:55	Company	Date/Time
Relinquished by: <i>FED EX</i>		Company	Date/Time
Relinquished by: <i>FED EX</i>		Company	Date/Time

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

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-242242-2

SDG Number:

Login Number: 242242

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.	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: 310-242242-2

SDG Number:

Login Number: 242242

List Number: 2

Creator: Booker, Autumn R

List Source: Eurofins St. Louis

List Creation: 10/14/22 11:49 AM

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



Tracer/Carrier Summary

Client: SCS Engineers
 Project/Site: Sutherland Generating Station 25222076

Job ID: 310-242242-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	
310-242242-1	MW-301	87.7	
310-242242-2	MW-302	101	
310-242242-3	MW-303	83.1	
310-242242-4	MW-304	82.6	
310-242242-5	MW-305	87.3	
310-242242-6	MW-306	88.2	
310-242242-7	MW-307	94.9	
310-242242-8	MW-308	90.9	
310-242242-8 DU	MW-308	96.8	
310-242242-9	MW-309	82.6	
310-242242-10	MW-310	86.5	
310-242242-11	MW-311	99.3	
310-242242-12	Field Blank	97.5	
LCS 160-586490/2-A	Lab Control Sample	109	
MB 160-586490/1-A	Method Blank	105	

Tracer/Carrier Legend
 Ba = Ba

Method: 904.0 - Radium-228 (GFPC)


Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits)	
		Ba (40-110)	Y (40-110)
310-242242-1	MW-301	87.7	81.9
310-242242-2	MW-302	101	83.7
310-242242-3	MW-303	83.1	84.5
310-242242-4	MW-304	82.6	77.4
310-242242-5	MW-305	87.3	81.9
310-242242-6	MW-306	88.2	83.7
310-242242-7	MW-307	94.9	84.1
310-242242-8	MW-308	90.9	83.0
310-242242-8 DU	MW-308	96.8	86.4
310-242242-9	MW-309	82.6	84.5
310-242242-10	MW-310	86.5	84.9
310-242242-11	MW-311	99.3	82.6
310-242242-12	Field Blank	97.5	84.1
LCS 160-586492/2-A	Lab Control Sample	109	81.5
MB 160-586492/1-A	Method Blank	105	76.6

Tracer/Carrier Legend
 Ba = Ba
 Y = Y Carrier

Eurofins Cedar Falls



Appendix D

Historical Monitoring Results

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-301																			
Number of Sampling Dates: 18																			
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
Boron	ug/L	246	189	274	212	234	188	82.7	97.3	<110	170	<110	120	<100	370	76	62	<58	71
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
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
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
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
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
Total Dissolved Solids	mg/L	399	489	326	433	439	426	418	420	400	340	360	380	330	540	260	200	150	260
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
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
Barium	ug/L	98	254	137	324	1110	140	135	132	--	--	130	120	240	110	59	130	86	45
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
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
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
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
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
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
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	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-302																			
Number of Sampling Dates: 18																			
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
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
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
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
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
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
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
Total Dissolved Solids	mg/L	309	322	352	360	356	272	255	256	270	200	240	250	250	260	300	270	320	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
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
Barium	ug/L	93.6	105	124	132	117	112	108	83.7	--	--	81	100	97	100	130	140	170	88
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
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
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
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
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
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
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	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-303																			
Number of Sampling Dates: 18																			
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
Boron	ug/L	619	799	989	852	597	696	609	737	730	740	570	440	530	710	360	400	130	410
Calcium	mg/L	265	116	106	113	109	134	206	160	140	120	130	160	110	120	80	87	28	79
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
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
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
Sulfate	mg/L	745	208	185	474	195	348	482	377	330	310	270	350	210	190	250	160	33	55
Total Dissolved Solids	mg/L	1360	658	658	597	628	797	1080	852	800	660	740	830	570	610	340	300	100	350
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
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
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
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
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
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
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
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
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
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	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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-304		Number of Sampling Dates: 18																	
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
Boron	ug/L	575	604	736	795	715	751	665	649	590	840	660	560	580	830	570	480	630	470
Calcium	mg/L	155	145	121	138	151	149	164	174	180	170	150	150	150	150	130	110	130	110
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
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
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
Sulfate	mg/L	371	366	339	363	405	375	372	442	450	400	360	360	350	330	430	170	310	160
Total Dissolved Solids	mg/L	820	785	782	791	860	853	841	902	910	840	840	800	750	800	600	450	580	530
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
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
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
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
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
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
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
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
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
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	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
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
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
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
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
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
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
Field Specific Conductance	umhos/cm	1166	1084	1076	1131	1175	731	690	1057	1170	1158	1083	1149	1016	1033	957	831	874	732
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
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
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
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
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
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
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

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-305																				
Number of Sampling Dates: 19																				
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
Boron	ug/L	815	741	1110	1200	992	920	847	809	660	1100	760	930	850	--	1400	1400	1800	1100	1100
Calcium	mg/L	173	124	96.4	108	124	152	166	139	160	140	160	140	170	--	140	150	110	140	110
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
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
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
Sulfate	mg/L	495	365	317	315	407	445	482	387	490	410	450	440	450	--	410	470	240	280	200
Total Dissolved Solids	mg/L	893	742	667	647	734	935	965	777	990	790	960	850	900	--	790	800	500	590	540
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
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
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
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
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
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
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
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
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
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	25.8	32.5	29.3	38	35.3	21.5	23.8	27.3	--	--	24	18	20	--	36	41	55	42	48
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
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
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
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
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
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
Field Specific Conductance	umhos/cm	1262	1012	939	935	1029	773	817	939	1168	1061	1178	1200	1198	1215	1029	1171	807	938	786
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
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
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
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
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
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
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

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-306		Number of Sampling Dates: 21																				
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	10/12/2022
Boron	ug/L	1100	1790	2090	2120	2160	2990	3260	3350	3200	2500	2400	2500	2500	--	3800	--	3400	--	4400	4400	3400
Calcium	mg/L	213	201	172	199	201	166	194	183	130	200	210	220	220	--	230	--	210	--	150	170	140
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	16
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	7.68
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	0.25
Sulfate	mg/L	622	709	639	824	736	87.4	533	597	220	460	480	550	560	--	400	--	710	--	440	470	340
Total Dissolved Solids	mg/L	1160	1160	1110	1160	1170	955	1090	1020	750	1000	1100	1100	1100	--	1200	--	1200	--	690	780	720
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	<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	4.1
Barium	ug/L	91.7	93.4	88.6	95.9	87.4	78.3	88	75	--	--	98	100	99	--	110	--	110	--	74	80	66
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	<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	<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	<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	0.42
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	<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	63
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	81
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	<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	<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	0.75
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	-0.0579
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	0.75
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	7.9
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	915
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	14.2
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	-0.08
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	118.8
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	849.62
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	0
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170	--	100	--	150
Carbonate Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<4.2	--	<4.6	--	<4.6
Iron, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	61	--	220	--	85
Magnesium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55000	--	26000	--	25000
Potassium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7000	--	7400	--	7500
Sodium, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46000	--	41000	--	34000
Total Alkalinity as CaCO3	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170	--	100	--	150
Manganese, total	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3400	--	1900	--	1800
Iron, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<36
Lithium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	62
Magnesium, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25000
Manganese, dissolved	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1900

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-307				
Number of Sampling Dates: 3				
Parameter Name	Units	12/9/2021	4/21/2022	10/10/2022
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
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
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
Field Temperature	deg C	14.3	10.6	17.3
Oxygen, Dissolved	mg/L	2.37	0.12	0
Field Oxidation Potential	millivolts	52.5	81.3	22.9
Groundwater Elevation	ft	--	852.76	850.79
Turbidity	NTU	13	26.3	44.77
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	350
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6
Iron, total	ug/L	--	--	2300
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

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-308		Number of Sampling Dates: 3		
Parameter Name	Units	12/9/2021	4/21/2022	10/10/2022
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
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
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
Field Temperature	deg C	13.3	8.9	15
Oxygen, Dissolved	mg/L	6.33	0.15	-0.1
Field Oxidation Potential	millivolts	-37.3	105.7	-23.9
Groundwater Elevation	ft	--	853.08	851.18
Turbidity	NTU	14	26.9	77.91
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	310
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6
Iron, total	ug/L	--	--	710
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

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-309				
Number of Sampling Dates: 3				
Parameter Name	Units	5/12/2022	8/11/2022	10/11/2022
Boron	ug/L	--	--	1400
Calcium	mg/L	--	--	170
Chloride	mg/L	--	--	17
Field pH	Std. Units	7.42	7.4	7.17
Fluoride	mg/L	--	--	0.22
Sulfate	mg/L	--	--	350
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
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
Field Temperature	deg C	9.5	13.3	11.7
Oxygen, Dissolved	mg/L	7.66	0.25	0.09
Field Oxidation Potential	millivolts	191.4	22.3	193.6
Groundwater Elevation	ft	853.95	849.47	848.44
Turbidity	NTU	0.08	36.6	653.34
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	240
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6
Iron, total	ug/L	--	--	4800
Magnesium, total	ug/L	--	--	51000
Potassium, total	ug/L	--	--	4900
Sodium, total	ug/L	--	--	42000
Total Alkalinity as CaCO3	mg/L	--	--	240
Manganese, total	ug/L	--	--	990
Iron, dissolved	ug/L	--	--	83
Magnesium, dissolved	ug/L	--	--	44000
Manganese, dissolved	ug/L	--	--	35

Single Location


Name: IPL - Sutherland Generating Station

Location ID: MW-310				
Number of Sampling Dates: 3				
Parameter Name	Units	5/12/2022	8/11/2022	10/11/2022
Boron	ug/L	--	--	920
Calcium	mg/L	--	--	140
Chloride	mg/L	--	--	20
Field pH	Std. Units	7.44	7.37	7.1
Fluoride	mg/L	--	--	<0.22
Sulfate	mg/L	--	--	290
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
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
Field Temperature	deg C	9.6	13.3	13.7
Oxygen, Dissolved	mg/L	4.81	0.14	1.07
Field Oxidation Potential	millivolts	190.7	29	178.5
Groundwater Elevation	ft	853.71	849.49	848.31
Turbidity	NTU	2.91	36.4	217.88
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	260
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6
Iron, total	ug/L	--	--	1900
Magnesium, total	ug/L	--	--	43000
Potassium, total	ug/L	--	--	4100
Sodium, total	ug/L	--	--	39000
Total Alkalinity as CaCO3	mg/L	--	--	260
Manganese, total	ug/L	--	--	600
Iron, dissolved	ug/L	--	--	250
Magnesium, dissolved	ug/L	--	--	40000
Manganese, dissolved	ug/L	--	--	240

Single Location

Name: IPL - Sutherland Generating Station

Location ID: MW-311				
Number of Sampling Dates: 3				
Parameter Name	Units	5/12/2022	8/11/2022	10/11/2022
Boron	ug/L	--	--	1400
Calcium	mg/L	--	--	150
Chloride	mg/L	--	--	19
Field pH	Std. Units	7.17	7.27	7.05
Fluoride	mg/L	--	--	0.33
Sulfate	mg/L	--	--	310
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
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
Field Temperature	deg C	7.9	15	14.9
Oxygen, Dissolved	mg/L	5.15	0.71	0.16
Field Oxidation Potential	millivolts	199.6	39.7	160.3
Groundwater Elevation	ft	853.56	849.46	848.21
Turbidity	NTU	0.67	32	4.89
Bicarbonate Alkalinity as CaCO3	mg/L	--	--	250
Carbonate Alkalinity as CaCO3	mg/L	--	--	<4.6
Iron, total	ug/L	--	--	1400
Magnesium, total	ug/L	--	--	37000
Potassium, total	ug/L	--	--	5200
Sodium, total	ug/L	--	--	45000
Total Alkalinity as CaCO3	mg/L	--	--	250
Manganese, total	ug/L	--	--	510
Iron, dissolved	ug/L	--	--	<36
Magnesium, dissolved	ug/L	--	--	36000
Manganese, dissolved	ug/L	--	--	100



Appendix E

Statistical Evaluation

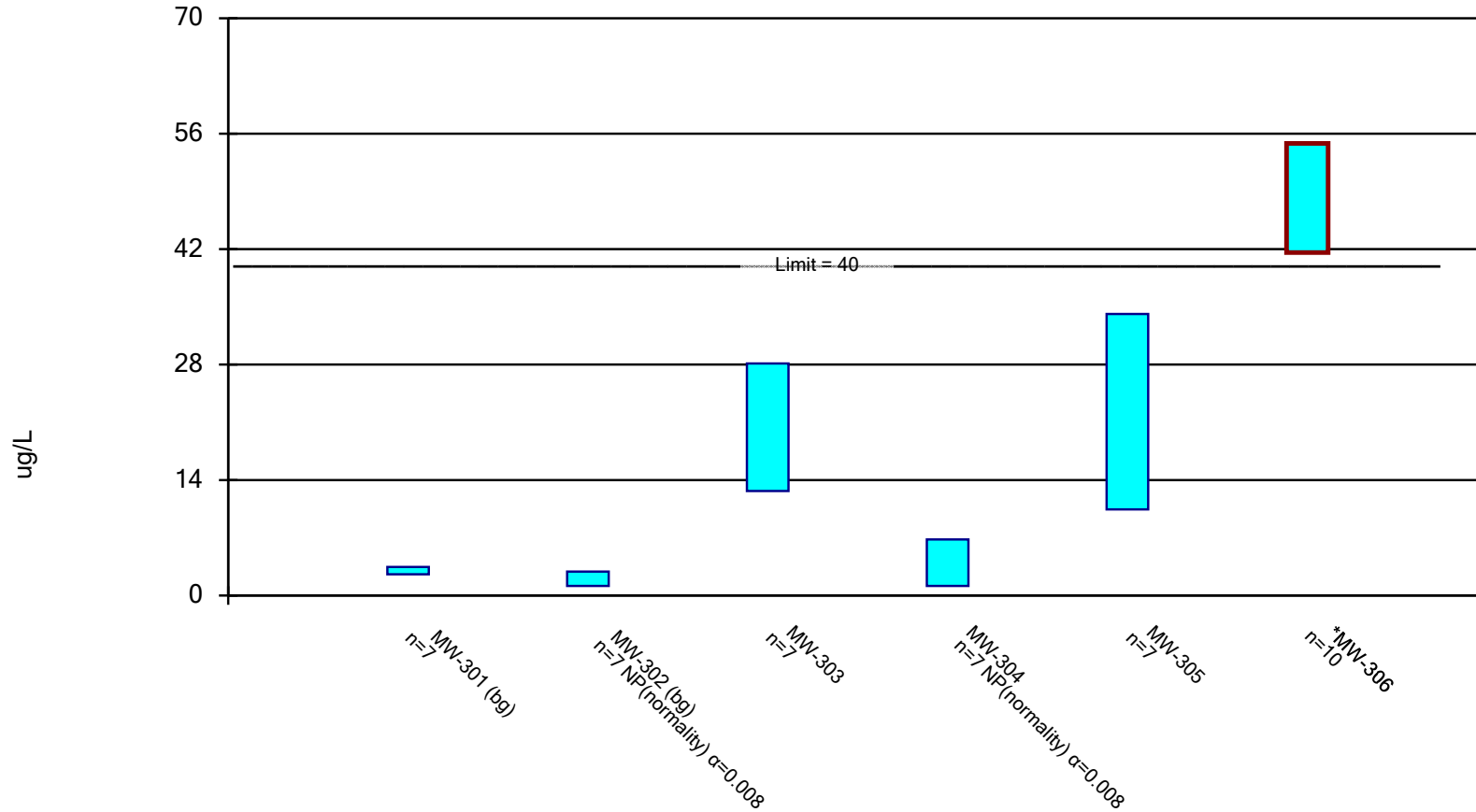
Confidence Interval

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 6/6/2022, 2:46 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Lithium (ug/L)	MW-301 (bg)	3.456	2.573	40	No	7	0	No	0.01	Param.
Lithium (ug/L)	MW-302 (bg)	2.9	1.15	40	No	7	28.57	No	0.008	NP (normality)
Lithium (ug/L)	MW-303	28.14	12.66	40	No	7	0	No	0.01	Param.
Lithium (ug/L)	MW-304	6.8	1.15	40	No	7	57.14	No	0.008	NP (normality)
Lithium (ug/L)	MW-305	34.14	10.43	40	No	7	0	No	0.01	Param.
Lithium (ug/L)	MW-306	54.82	41.58	40	Yes	10	0	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 6/6/2022 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 6/6/2022 2:46 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
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)			
Mean	3.014	2.3	20.4	2.471	22.29	48.2
Std. Dev.	0.3716	0.7953	6.516	2.062	9.979	7.421
Upper Lim.	3.456	2.9	28.14	6.8	34.14	54.82
Lower Lim.	2.573	1.15	12.66	1.15	10.43	41.58

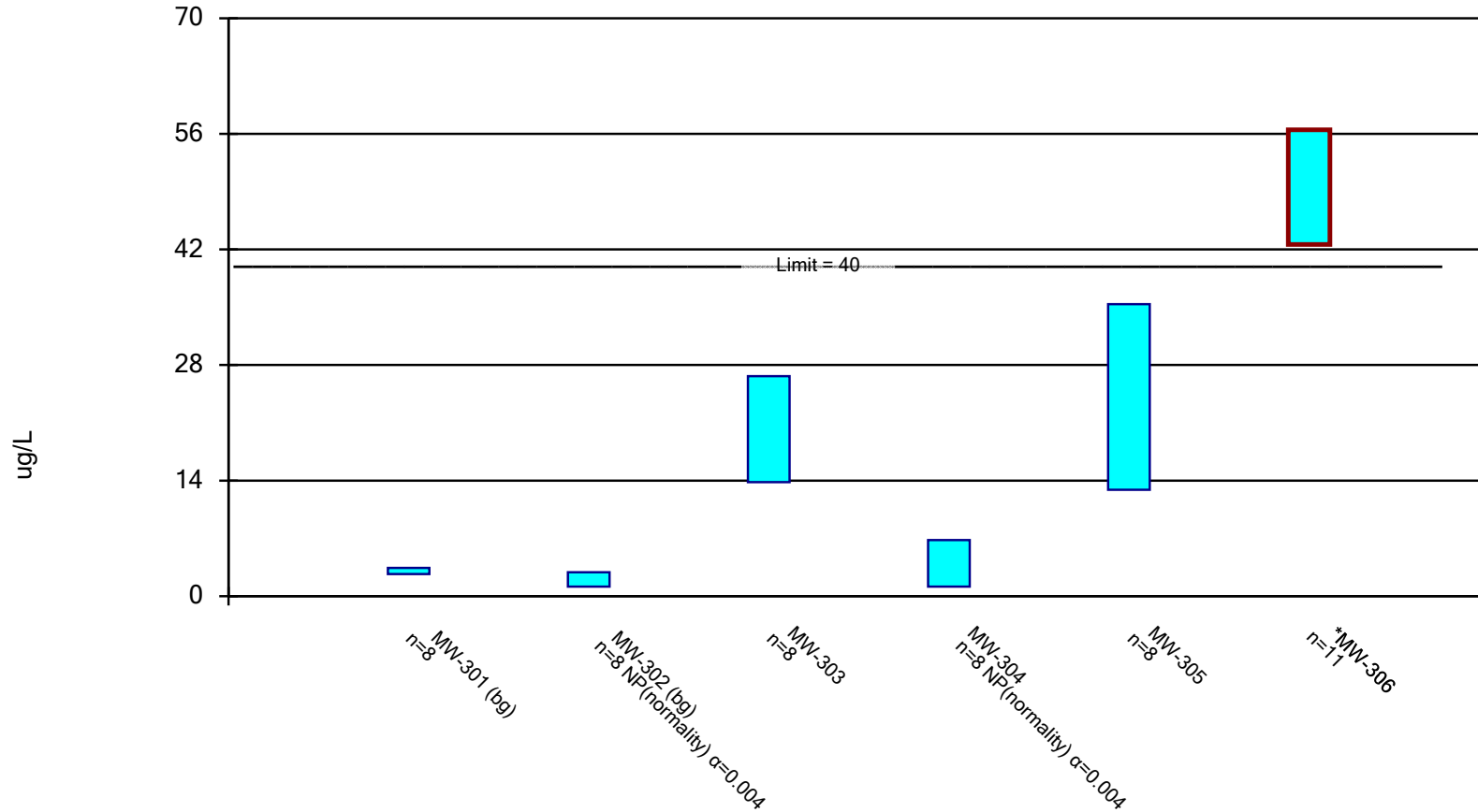
Confidence Interval

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 11/21/2022, 2:12 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Lithium (ug/L)	MW-301 (bg)	3.43	2.67	40	No	8	0	No	0.01	Param.
Lithium (ug/L)	MW-302 (bg)	2.9	1.15	40	No	8	25	No	0.004	NP (normality)
Lithium (ug/L)	MW-303	26.64	13.81	40	No	8	0	No	0.01	Param.
Lithium (ug/L)	MW-304	6.8	1.15	40	No	8	50	No	0.004	NP (normality)
Lithium (ug/L)	MW-305	35.36	12.89	40	No	8	0	No	0.01	Param.
Lithium (ug/L)	MW-306	56.49	42.6	40	Yes	11	0	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 11/21/2022 2:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Confidence Interval

Constituent: Lithium (ug/L) Analysis Run 11/21/2022 2:12 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
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
Mean	3.05	2.362	20.23	3.012	24.13	49.55
Std. Dev.	0.3586	0.7572	6.053	2.447	10.6	8.335
Upper Lim.	3.43	2.9	26.64	6.8	35.36	56.49
Lower Lim.	2.67	1.15	13.81	1.15	12.89	42.6

Confidence Interval

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 11/21/2022, 2:12 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Lithium (ug/L)	MW-301 (bg)	3.43	2.67	40	No	8	0	No	0.01	Param.
Lithium (ug/L)	MW-302 (bg)	2.9	1.15	40	No	8	25	No	0.004	NP (normality)
Lithium (ug/L)	MW-303	26.64	13.81	40	No	8	0	No	0.01	Param.
Lithium (ug/L)	MW-304	6.8	1.15	40	No	8	50	No	0.004	NP (normality)
Lithium (ug/L)	MW-305	35.36	12.89	40	No	8	0	No	0.01	Param.
Lithium (ug/L)	MW-306	56.49	42.6	40	Yes	11	0	No	0.01	Param.

January 6, 2023
File No. 25222076.00

TECHNICAL MEMORANDUM

SUBJECT: Statistical Evaluation of Groundwater Monitoring Results – UPL Update and Tolerance Limit Calculation
Sutherland Generating Station (SGS) Ash Ponds (Closed)

PREPARED BY: Nicole Kron

CHECKED BY: Sherren Clark

STATISTICAL METHOD

For comparison to background, groundwater monitoring data for the multiunit system at the Sutherland Generating Station (SGS) are evaluated in accordance with 40 CFR 257.93(f)(3), using a prediction interval or tolerance interval procedure, in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper prediction limit (UPL).

For assessment monitoring parameters, groundwater monitoring data is also evaluated by comparing the lower confidence limit (LCL) for the arithmetic mean of the monitoring results to the Groundwater Protection Standard (GPS) established in accordance with 40 CFR 257.95(h).

Statistical evaluation is performed using commercially available software (*Sanitas for Groundwater*® or similar) in general accordance with the U. S. Environmental Protection Agency's (U. S. EPA's) *Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities* dated March 2009 (Unified Guidance) (U. S. EPA, 2009) and generally accepted procedures.

Under the interwell approach for comparison to background, monitoring results are compared to UPLs and upper tolerance limits (UTLs) calculated based on background monitoring results from the background wells: MW-301 and MW-302.

Compliance wells for the former ash pond include MW-303, MW-304, MW-305, and MW-306. Delineation wells for the former ash pond were installed to support the assessment of corrective measures at SGS: MW-307, MW-308, MW-309, MW-310, and MW-311.

The initial UPLs were calculated based on eight rounds of background monitoring performed prior to the initiation of compliance monitoring for the SGS, from March 2018 through February 2019. Since then, additional rounds of monitoring for Appendix III and IV parameters have been performed at the background wells. As part of the evaluation of the 2022 monitoring results, the background data set for the UPL and UTL calculations is being updated to include data from the background well collected through October 2022. This memo addresses updated UPLs for Appendix III parameters and UTLs for Appendix IV parameters.



TIME SERIES PLOTS

Time series plots are prepared for the monitoring parameters to show concentration variations over time. Time series graphs are included in **Attachment 1**. In the graphs, non-detect values are shown with hollow symbols, while detected values have solid symbols. For some Appendix IV parameters, many or all background results are non-detect, but detection limits may have increased or decreased since the earliest data were collected.

OUTLIER ANALYSIS - INTERWELL

For interwell analysis, an outlier evaluation is performed for background monitoring results at the upgradient wells. A statistical outlier is a value that is extremely different from the other values in the data set. The Sanitas outlier tests identify data points that do not appear to fit the distribution of the rest of the data set and determine if they differ significantly from the rest of the data. The outlier analysis performed in Sanitas includes the following steps:

- 1) Run normality test (Shapiro Wilk/Francia).
- 2) If normally distributed, run U. S. EPA's 1989 Outlier Test to identify suspected outliers.
 - a) If number of background samples is less than or equal to 25, run Dixon's test for suspected outliers.
 - b) If number of background samples is more than 25, run Rosner's test for suspected outliers.
- 3) If not normally distributed, run Tukey's test for outliers.
- 4) Review data flagged as possible outliers to evaluate whether they should be removed from the background data set. Also review time series plots for possible outliers that were not picked up in the statistical evaluation (e.g., outlier test may not identify outliers when two values are similar to each other, but very different from all other data).

Results identified as statistical outliers are checked for possible lab instrument failure, field collection problems, or data entry errors; however, outliers may exist naturally in the data if there is an extremely wide inherent or temporal variability in the data. The Unified Guidance states that unless a likely error can be identified, the outlier should not be removed.

Data listed with an X flag on the data page of the Sanitas output were previously excluded as outliers, but were included in the outlier analysis to reevaluate whether they should continue to be excluded from UPL and UTL calculations. After the outlier analysis is complete, data selected to be excluded from the UPL and UTL calculations, as described below, are flagged with an X for exclusion.

For the evaluation of interwell background data collected through the October 2022 sampling event, the following background values were identified by Sanitas as potential outliers and handled as described:

- **Arsenic (MW-301):** One high arsenic result from September 2018 was flagged as a statistical outlier. For the same event, several other metals were also flagged as outliers for MW-301, including barium, beryllium, cadmium, chromium, cobalt, and lead. Although a cause for the elevated results could not be determined, these results were removed

from the database for UTL calculations because they were on the order of 10 times the typical values and may reflect a laboratory or sampling error.

- **Barium (MW-301):** One high barium result from the September 2018 sampling event was flagged as a statistical outlier and was removed as described above for arsenic.
- **Beryllium (MW-301):** One high beryllium result from the September 2018 sampling event were flagged by as a statistical outlier and was removed as described above for arsenic.
- **Cadmium (MW-301):** One high cadmium result from the September 2018 sampling event was flagged as a statistical outlier and was removed as described above for arsenic.
- **Chloride (MW-302):** One high chloride result from the April 2021 sampling event was flagged as a statistical outlier. The result was kept in the dataset because it didn't appear to represent lab or sampling error and it appears to fall within the possible range for this parameter.
- **Chromium (MW-301):** One high chromium result from the September 2018 sampling event was flagged as a statistical outlier and was removed as described above for arsenic.
- **Cobalt (MW-301):** One high cobalt result from the September 2018 sampling event was flagged as a statistical outlier and was removed as described above for arsenic.
- **Fluoride (MW-301) and (MW-302):** Three high fluoride results from the April 2019, April 2020, and April 2021 sampling events were flagged as statistical outliers. The April 2021 results for both wells were removed from the dataset because the results were significantly higher than the remaining results and the simultaneous upward shift for both wells suggests a possible laboratory error. The April 2021 results for both wells (2.5 ug/L) were on the order of 10 times the remaining parameter results for the background wells. The April 2019 and April 2020 results were kept in each dataset because they didn't appear to represent lab or sampling errors and the results appear to fall within the possible range for this parameter.
- **Lead (MW-301):** One high lead result from the September 2018 sampling event was flagged as a statistical outlier and was removed as described above for arsenic.
- **Mercury (MW-301) and (MW-302):** One low and two high mercury results from the February 2019, April 2021, and October 2021 sampling events, respectfully, were flagged as statistical outliers. The results were kept in the dataset because they were all non-detect results with slightly varying detection limits.
- **Molybdenum (MW-302):** Three low molybdenum results from the June 2018, November 2018, and February 2019 sampling events were flagged as statistical outliers. All three results were kept in the dataset because they did not appear to represent lab or sampling errors and appear to fall within a possible range for this parameter.

- **Selenium (MW-302):** Four high selenium results from March 2018, June 2018, April 2021, and April 2022 sampling events were flagged as statistical outliers. All four results were kept in the dataset for UTL calculations because there was no indication of a sampling or laboratory error. Selenium concentrations from both upgradient wells have shown variability since monitoring began.

Outlier analysis results are included in **Attachment 2**.

BACKGROUND UPDATE

The background data pool was updated in accordance with the Unified Guidance, which recommends updating background every 2 to 3 years for semiannual sampling. Prior to expanding the data pool, the original background data set (March 2018 through February 2019) and the data to be added (April 2019 through October 2022) were compared. The Unified Guidance states that recently collected measurements from the background wells can be added to the existing pool if a Student's t-test or Wilcoxon rank-sum test finds no significant difference between the two groups at the 1 percent level of significance.

The Sanitas background group comparison for the SGS background data sets, included in **Attachment 3**, indicated no significant difference at the 1 percent level, except for antimony, beryllium, boron, chromium, mercury, and thallium where most results were non-detect and the shift reflected a change in detection limits. Based on these results, the more recent data can be added to the background pool. The comparison uses Welch's t-test for normally distributed data and the Mann-Whitney test for non-normal data.

INTERWELL PREDICTION LIMITS

Interwell prediction limits for Appendix III parameters are calculated using background data from the upgradient monitoring wells (MW-301 and MW-302) for each monitored constituent, with outliers removed as noted above. During this evaluation of compliance monitoring, groundwater results from March 2018 through October 2022 were included to calculate the interwell prediction limits. The prediction limit analysis performed in Sanitas includes the following steps:

- 1) If 100 percent of the background values are non-detect, the Double Quantification rule applies and no prediction limit is calculated.
- 2) If more than 50 percent of results are non-detect, then a non-parametric prediction limit is calculated.
- 3) If 50 percent or fewer of the results are non-detect, run normality test (Shapiro Wilk/Francia) to assess whether the data fit a normal distribution or can be transformed to fit a normal distribution (e.g., lognormal).
- 4) If normal or transformed normal, calculate parametric prediction limit.
- 5) If not normal or transformed normal, calculate non-parametric prediction limit.

Consistent with the Unified Guidance, parametric prediction limits are calculated based on a 1-of-2 retesting protocol and a 10 percent site-wide false positive rate. Sanitas establishes the

per-test significance level based on user inputs of the number of events per year, number of constituents being evaluated, and number of compliance wells. For this update, the following values were used:

Parameter	Value	Comments
Evaluations per year	2	April and October events
Constituents analyzed	7	Total of 7 Appendix III constituents
Compliance wells	4	Four compliance wells at the waste boundary

Non-parametric prediction limits are also based on a 1-of-2 retesting protocol.

For results with 100 percent non-detects in the background data, evaluation under the Double Quantification Rule means that a statistically significant increase (SSI) has not occurred for a compliance well unless two sample results from the well exceed the laboratory’s reporting limit or quantification limit. All of the Appendix III constituents were detected at least one in the background wells; therefore, UPLs were calculated for all. Although UPLs were calculated for all constituents, a future result will not be identified as an SSI unless two sample results exceed both the UPL and the reporting limit or quantification limit.

For evaluation of parameters with less than 100 percent non-detects in the background sampling, the non-detects were adjusted using the Kaplan-Meier technique, unless the non-detects represent less than 15 percent of the total samples, in which case one-half of the detection limit was used.

Interwell prediction limit analysis Appendix III results are included in **Attachment 4**.

INTERWELL TOLERANCE LIMITS

Interwell tolerance limits for Appendix IV parameters were calculated using background data from the upgradient monitoring wells (MW-301 and MW-302) for each monitored constituent, with outliers removed as noted above. During this evaluation of compliance monitoring, groundwater results from March 2018 through October 2022 were included to calculate the interwell tolerance limits. The tolerance limit analysis was performed in Sanitas, including the same five steps listed above. Management of non-detect results in the background data was also the same as described above for prediction limits. As recommended in the Unified Guidance, the UTL was calculated with 95 percent confidence and 95 percent coverage.

Interwell tolerance limits analysis results are included in **Attachment 5**.

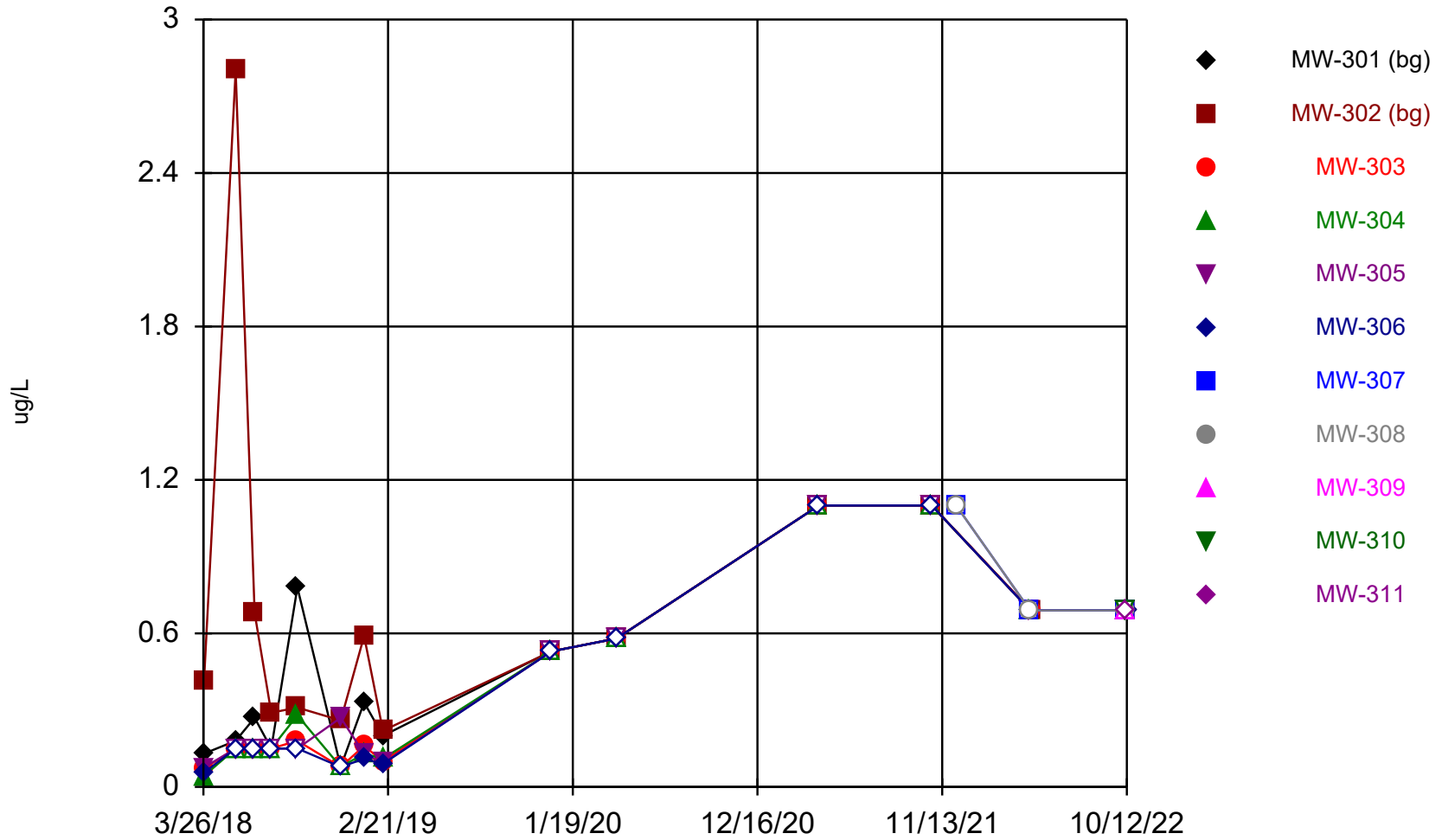
NDK/AJR/SCC

I:\25222076.00\Data and Calculations\Sanitas\2301_SGS Stats Updates\2301_SGS_AppIII_IV_Background UPLs.docx

Attachment 1

Time Series Plots

Antimony



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Antimony (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				0.041 (J)	0.075 (J)				
3/27/2018	0.13 (J)	0.41 (J)	0.072 (J)			0.056 (J)			
5/23/2018	0.18 (J)	2.8	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)			
6/26/2018	0.27 (J)	0.68 (J)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)			
7/26/2018	<0.15 (U)	0.29 (J)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)			
9/11/2018	0.78 (J)	0.31 (J)	0.18 (J)	0.28 (J)	<0.15 (U)	<0.15 (U)			
11/28/2018	<0.078 (U)	0.26 (J)	<0.078 (U)	<0.078 (U)	0.27 (J)	<0.078 (U)			
1/9/2019	0.33 (J)	0.59 (J)	0.16 (J)	0.13 (J)	0.13 (J)	0.11 (J)			
2/12/2019	0.2 (J)	0.22 (J)	0.1 (J)	0.11 (J)	0.092 (J)	0.09 (J)			
12/11/2019	<0.53 (U)								
12/12/2019		<0.53 (U)	<0.53 (U)	<0.53 (U)	<0.53 (U)	<0.53 (U)			
4/7/2020	<0.58 (U)	<0.58 (U)	<0.58 (U)	<0.58 (U)	<0.58 (U)	<0.58 (U)			
4/6/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)			
10/26/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)			
12/9/2021							<1.1 (U)	<1.1 (U)	
4/21/2022				<0.69 (U)	<0.69 (U)	<0.69 (U)	<0.69 (U)	<0.69 (U)	
4/22/2022	<0.69 (U)	0.69 (J)	<0.69 (U)						
10/10/2022		<0.69 (U)	<0.69 (U)				<0.69 (U)	<0.69 (U)	
10/11/2022				<0.69 (U)	<0.69 (U)				<0.69 (U)
10/12/2022	<0.69 (U)					<0.69 (U)			

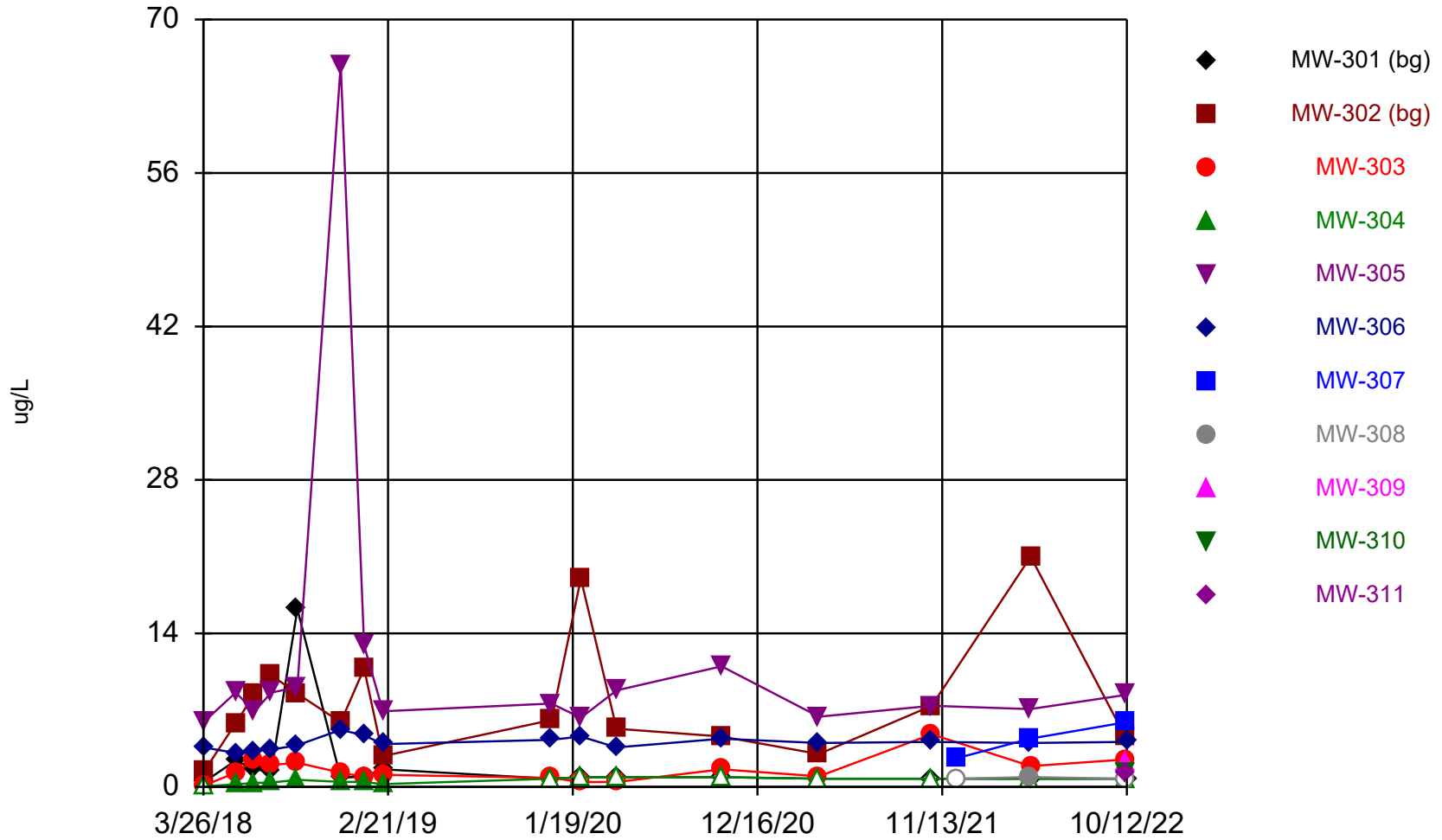
Time Series

Constituent: Antimony (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
4/7/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	<0.69 (U)	<0.69 (U)
10/12/2022		

Arsenic



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Arsenic (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				<0.052 (U)	5.9				
3/27/2018	0.45 (J)	1.4	0.11 (J)			3.6			
5/23/2018	2.4	5.8	1.3	0.23 (J)	8.6	3.1			
6/26/2018	1.6	8.5	2.5	0.37 (J)	6.9	3.3			
7/26/2018	1.4	10.2	2	0.39 (J)	8.6	3.4			
9/11/2018	16.2	8.5	2.2	0.64 (J)	9.1	3.8			
11/28/2018	0.84 (J)	5.9	1.3	0.46 (J)	65.9	5.2			
1/9/2019	0.95 (J)	10.8	0.91 (J)	0.45 (J)	12.9	4.7			
2/12/2019	1.6	2.8	1.1	0.26 (J)	6.9	3.9			
12/11/2019	<0.75 (U)								
12/12/2019		6.1	0.82 (J)	<0.75 (U)	7.6	4.3			
2/3/2020	<0.88 (U)	19	<0.88 (U)	<0.88 (U)	6.3	4.6			
4/7/2020	<0.88 (U)	5.3	<0.88 (U)	<0.88 (U)	8.8	3.6			
10/13/2020	<0.88 (U)	4.6	1.6 (J)	<0.88 (U)	11	4.4			
4/6/2021	<0.75 (U)	3	0.96 (J)	<0.75 (U)	6.4	4			
10/26/2021	<0.75 (U)	7.4	4.8	<0.75 (U)	7.4	4.1			
12/9/2021							2.6	<0.75 (U)	
4/21/2022				<0.75 (U)	7.1	4	4.4	0.9 (J)	
4/22/2022	<0.75 (U)	21	1.9 (J)						
10/10/2022		4.5	2.5				5.9	<0.75 (U)	
10/11/2022				<0.75 (U)	8.4				2.2
10/12/2022	<0.75 (U)					4.1			

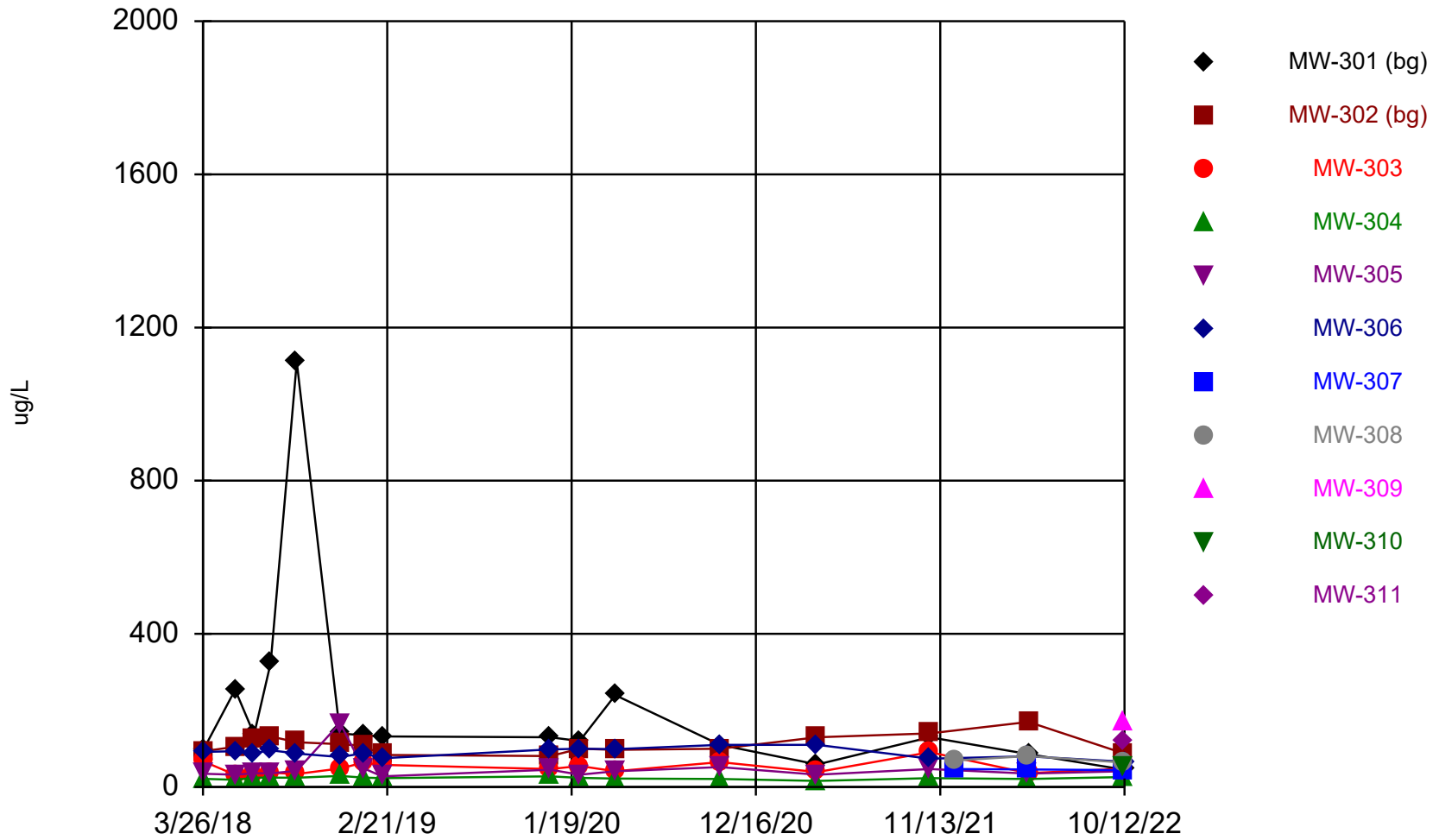
Time Series

Constituent: Arsenic (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	1.2 (J)	1.2 (J)
10/12/2022		

Barium



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Barium (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				21.3	34.8				
3/27/2018	98	93.6	66.9			91.7			
5/23/2018	254	105	31.7	18.7	32.2	93.4			
6/26/2018	137	124	32.6	24.3	36.1	88.6			
7/26/2018	324	132	37.4	24.5	35.7	95.9			
9/11/2018	1110	117	33.9	24.1	42.2	87.4			
11/28/2018	140	112	48.4	29	167	78.3			
1/9/2019	135	108	63.4	24.6	49	88			
2/12/2019	132	83.7	57.7	23	27.9	75			
12/11/2019	130								
12/12/2019		81	47	28	45	98			
2/3/2020	120	100	55	24	32	100			
4/7/2020	240	97	41	22	41	99			
10/13/2020	110	100	65	21	52	110			
4/6/2021	59	130	39	16	32	110			
10/26/2021	130	140	91	23	47	74			
12/9/2021							47	69	
4/21/2022				21	35	80	46	81	
4/22/2022	86	170	36						
10/10/2022		88	48				44	64	
10/11/2022				26	41				170
10/12/2022	45					66			

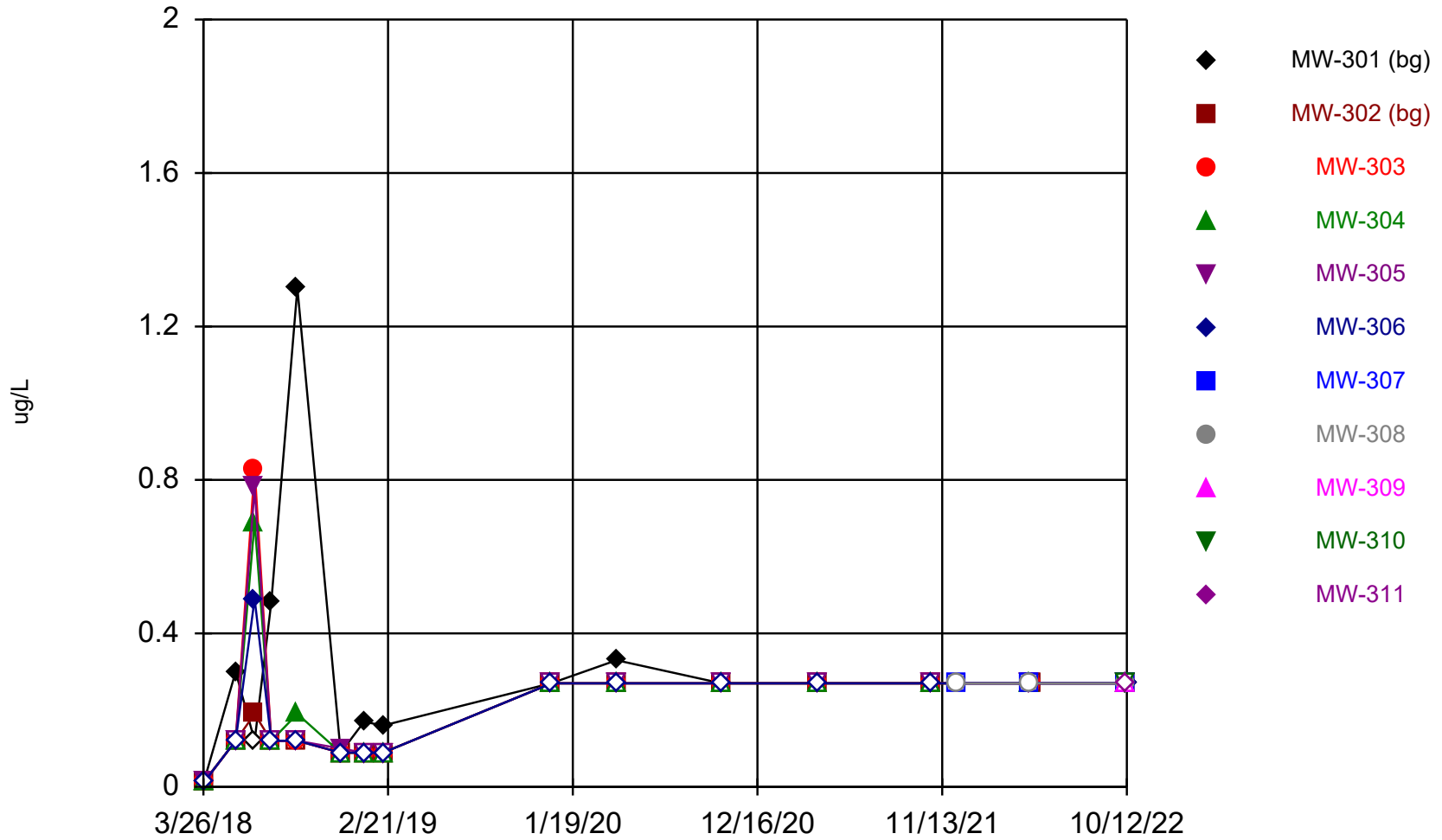
Time Series

Constituent: Barium (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	55	120
10/12/2022		

Beryllium



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Beryllium (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				<0.012 (U)	0.012 (J)				
3/27/2018	0.014 (J)	<0.012 (U)	<0.012 (U)			<0.012 (U)			
5/23/2018	0.3 (J)	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)			
6/26/2018	<0.12 (U)	0.19 (J)	0.83	0.69	0.78	0.49 (J)			
7/26/2018	0.48 (J)	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)			
9/11/2018	1.3	<0.12 (U)	<0.12 (U)	0.19 (J)	<0.12 (U)	<0.12 (U)			
11/28/2018	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)	0.1 (J)	<0.089 (U)			
1/9/2019	0.17 (J)	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)			
2/12/2019	0.16 (J)	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)			
12/11/2019	<0.27 (U)								
12/12/2019		<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)			
4/7/2020	0.33 (J)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)			
10/13/2020	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)			
4/6/2021	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)			
10/26/2021	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)			
12/9/2021							<0.27 (U)	<0.27 (U)	
4/21/2022				<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	
4/22/2022	<0.27 (U)	<0.27 (U)	<0.27 (U)						
10/10/2022		<0.27 (U)	<0.27 (U)				<0.27 (U)	<0.27 (U)	
10/11/2022				<0.27 (U)	<0.27 (U)				<0.27 (U)
10/12/2022	<0.27 (U)					<0.27 (U)			

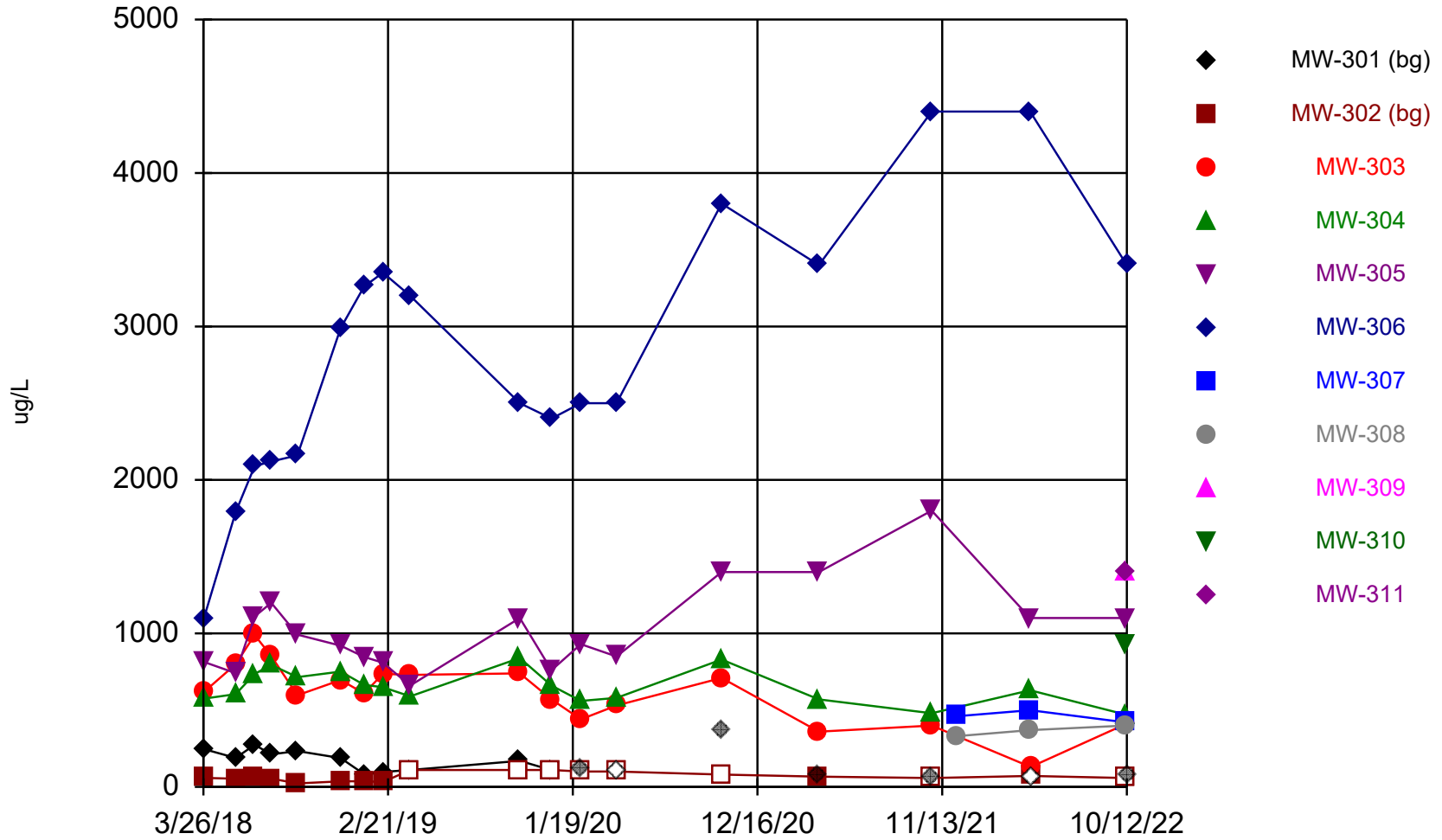
Time Series

Constituent: Beryllium (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	<0.27 (U)	<0.27 (U)
10/12/2022		

Boron



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Boron (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

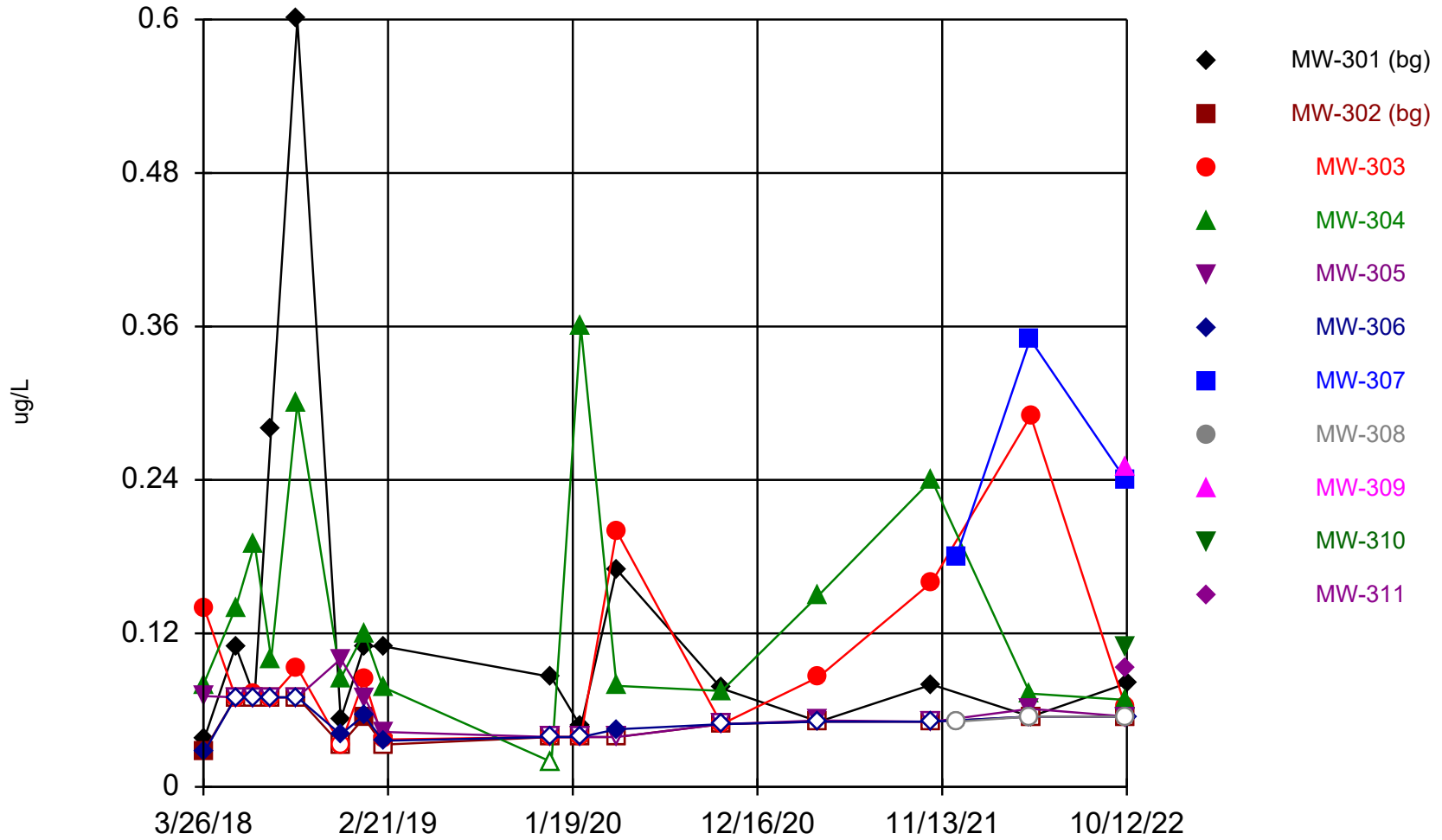
	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309
3/26/2018				575	815				
3/27/2018	246	58.4 (J)	619			1100			
5/23/2018	189	53.7 (J)	799	604	741	1790			
6/26/2018	274	65.3 (J)	989	736	1110	2090			
7/26/2018	212	53.8 (J)	852	795	1200	2120			
9/11/2018	234	22.4 (J)	597	715	992	2160			
11/28/2018	188	36.6 (J)	696	751	920	2990			
1/9/2019	82.7 (J)	36.7 (J)	609	665	847	3260			
2/12/2019	97.3 (J)	31.5 (J)	737	649	809	3350			
4/2/2019	<110 (U)	<110 (U)	730	590	660	3200			
10/16/2019	170 (J)	<110 (U)	740	840	1100	2500			
12/11/2019	<110 (U)								
12/12/2019		<110 (U)	570	660	760	2400			
2/3/2020	120 (J)	<100 (U)	440	560	930	2500			
4/7/2020	<100 (U)	<100 (U)	530	580	850	2500			
10/13/2020	370	<80 (U)	710	830	1400	3800			
4/6/2021	76 (J)	67 (J)	360	570	1400	3400			
10/26/2021	62 (J)	<58 (U)	400	480	1800	4400			
12/9/2021							460	330	
4/21/2022				630	1100	4400	500	370	
4/22/2022	<58 (U)	71 (J)	130						
10/10/2022		<58 (U)	410				420	400	
10/11/2022				470	1100				1400
10/12/2022	71 (J)					3400			

Time Series

Constituent: Boron (ug/L) Analysis Run 12/13/2022 11:34 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
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		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	920	1400
10/12/2022		

Cadmium



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Cadmium (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

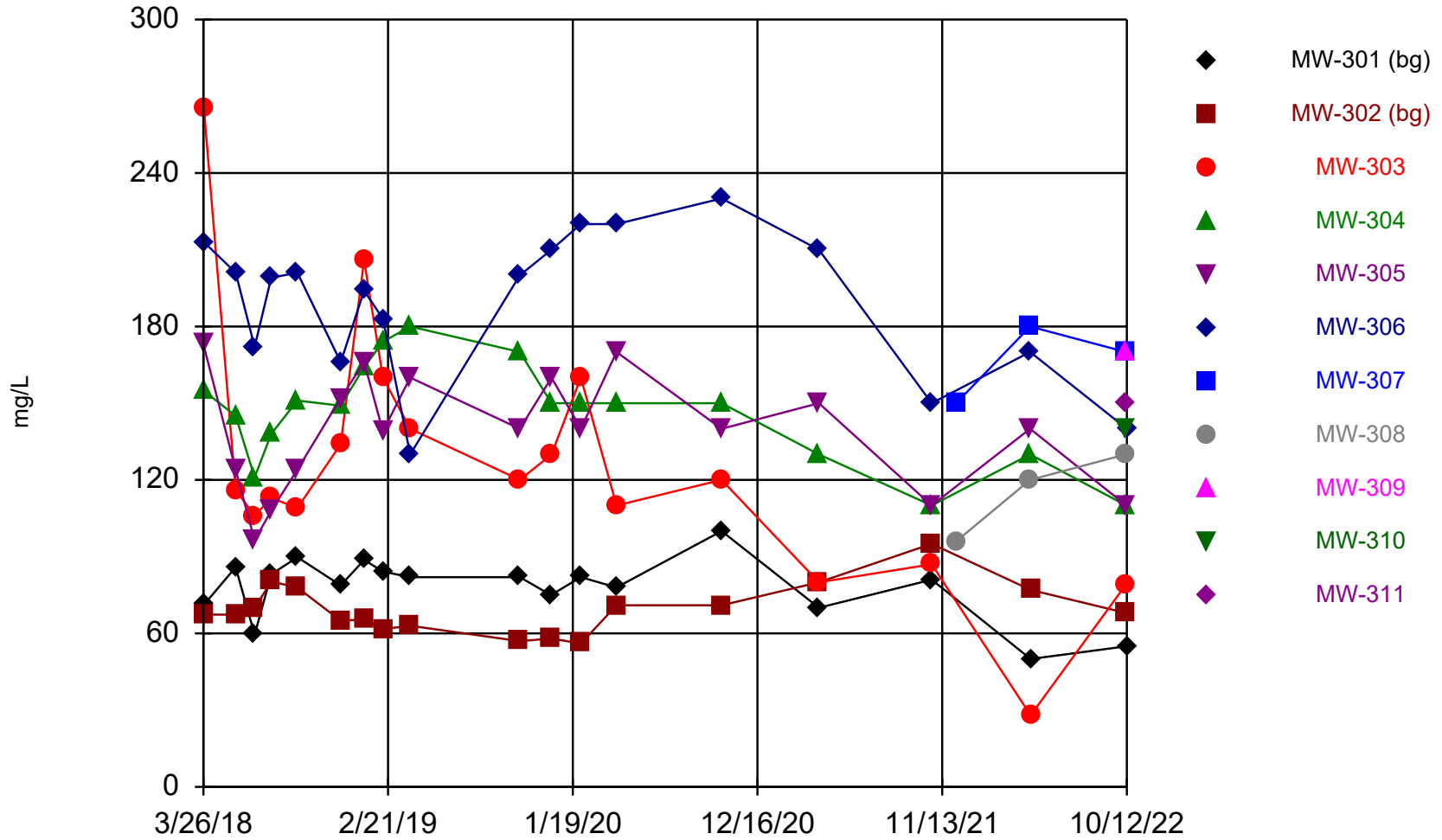
	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309
3/26/2018				0.08 (J)	0.071 (J)				
3/27/2018	0.037 (J)	0.028 (J)	0.14 (J)			0.027 (J)			
5/23/2018	0.11 (J)	<0.07 (U)	<0.07 (U)	0.14 (J)	<0.07 (U)	<0.07 (U)			
6/26/2018	<0.07 (U)	<0.07 (U)	0.073 (J)	0.19 (J)	<0.07 (U)	<0.07 (U)			
7/26/2018	0.28 (J)	<0.07 (U)	<0.07 (U)	0.1 (J)	<0.07 (U)	<0.07 (U)			
9/11/2018	0.6	<0.07 (U)	0.093 (J)	0.3 (J)	<0.07 (U)	<0.07 (U)			
11/28/2018	0.053 (J)	<0.033 (U)	<0.033 (U)	0.085 (J)	0.1 (J)	0.041 (J)			
1/9/2019	0.11 (J)	0.054 (J)	0.084 (J)	0.12 (J)	0.07 (J)	0.056 (J)			
2/12/2019	0.11 (J)	<0.033 (U)	0.037 (J)	0.078 (J)	0.043 (J)	0.036 (J)			
12/11/2019	0.086 (J)								
12/12/2019		<0.039 (U)	<0.039 (U)	<0.039 (U)	<0.039 (U)	<0.039 (U)			
2/3/2020	0.047 (J)	<0.039 (U)	<0.039 (U)	0.36	<0.039 (U)	<0.039 (U)			
4/7/2020	0.17	<0.039 (U)	0.2	0.079 (J)	<0.039 (U)	0.045 (J)			
10/13/2020	0.077 (J)	<0.049 (U)	<0.049 (U)	0.075 (J)	<0.049 (U)	<0.049 (U)			
4/6/2021	<0.051 (U)	<0.051 (U)	0.086 (J)	0.15	0.052 (J)	<0.051 (U)			
10/26/2021	0.08 (J)	<0.051 (U)	0.16	0.24	<0.051 (U)	<0.051 (U)			
12/9/2021							0.18	<0.051 (U)	
4/21/2022				0.073 (J)	0.061 (J)	<0.055 (U)	0.35	<0.055 (U)	
4/22/2022	<0.055 (U)	<0.055 (U)	0.29						
10/10/2022		<0.055 (U)	0.062 (J)				0.24	<0.055 (U)	
10/11/2022				0.068 (J)	<0.055 (U)				0.25
10/12/2022	0.081 (J)					<0.055 (U)			

Time Series

Constituent: Cadmium (ug/L) Analysis Run 12/13/2022 11:34 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	0.11	0.092 (J)
10/12/2022		

Calcium



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				155	173				
3/27/2018	71.2	67.4	265			213			
5/23/2018	85.9	67.3	116	145	124	201			
6/26/2018	59.5	69.9	106	121	96.4	172			
7/26/2018	83.1	80.3	113	138	108	199			
9/11/2018	89.8	77.9	109	151	124	201			
11/28/2018	78.8	65	134	149	152	166			
1/9/2019	88.7	65.4	206	164	166	194			
2/12/2019	84.2	61.7	160	174	139	183			
4/2/2019	82	63	140	180	160	130			
10/16/2019	82	57	120	170	140	200			
12/11/2019	75								
12/12/2019		58	130	150	160	210			
2/3/2020	82	56	160	150	140	220			
4/7/2020	78	71	110	150	170	220			
10/13/2020	100	71	120	150	140	230			
4/6/2021	70	80	80	130	150	210			
10/26/2021	81	95	87	110	110	150			
12/9/2021							150	96	
4/21/2022				130	140	170	180	120	
4/22/2022	50	77	28						
10/10/2022		68	79				170	130	
10/11/2022				110	110				170
10/12/2022	55					140			

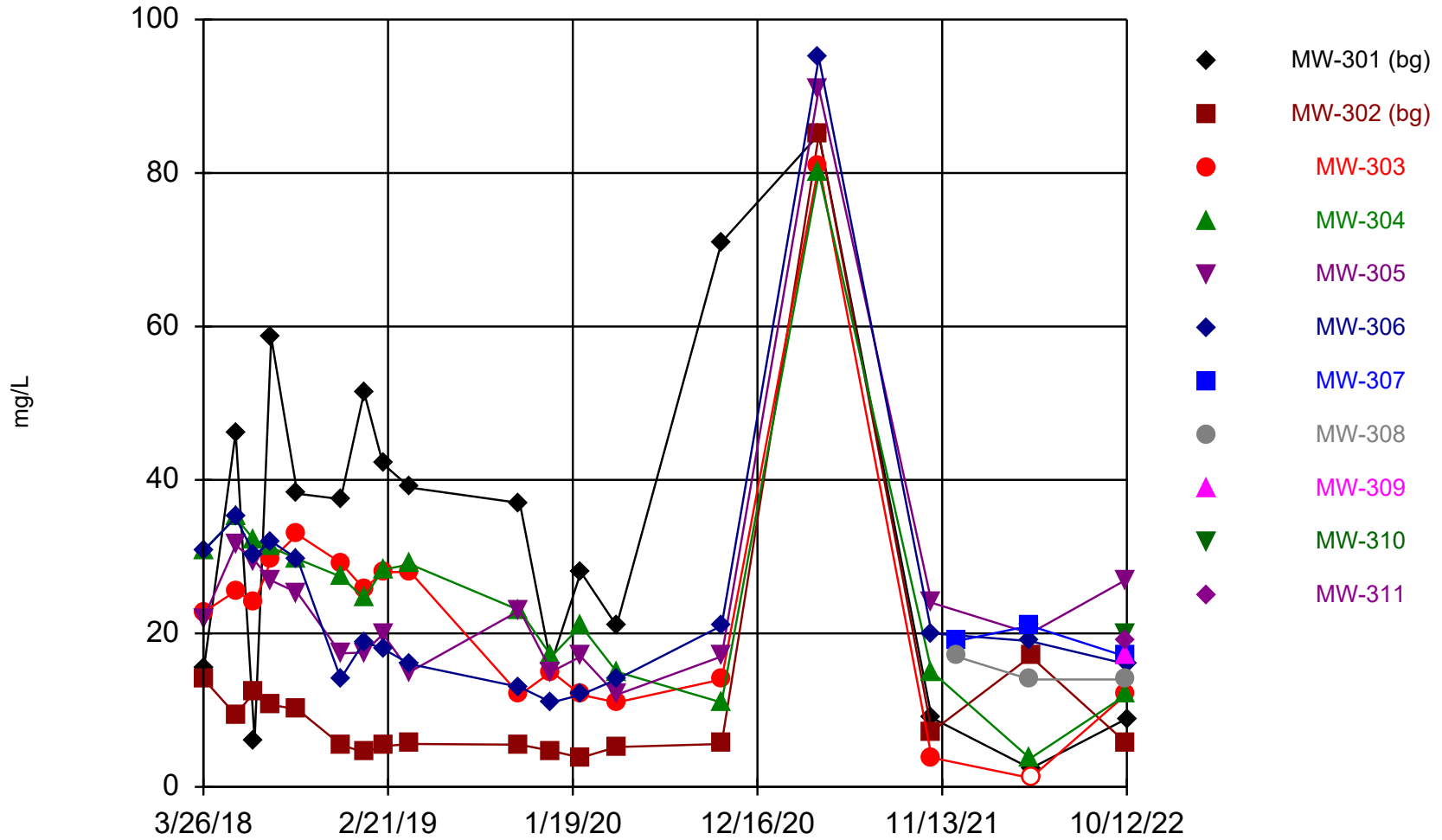
Time Series

Constituent: Calcium (mg/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
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		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	140	150
10/12/2022		

Chloride



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

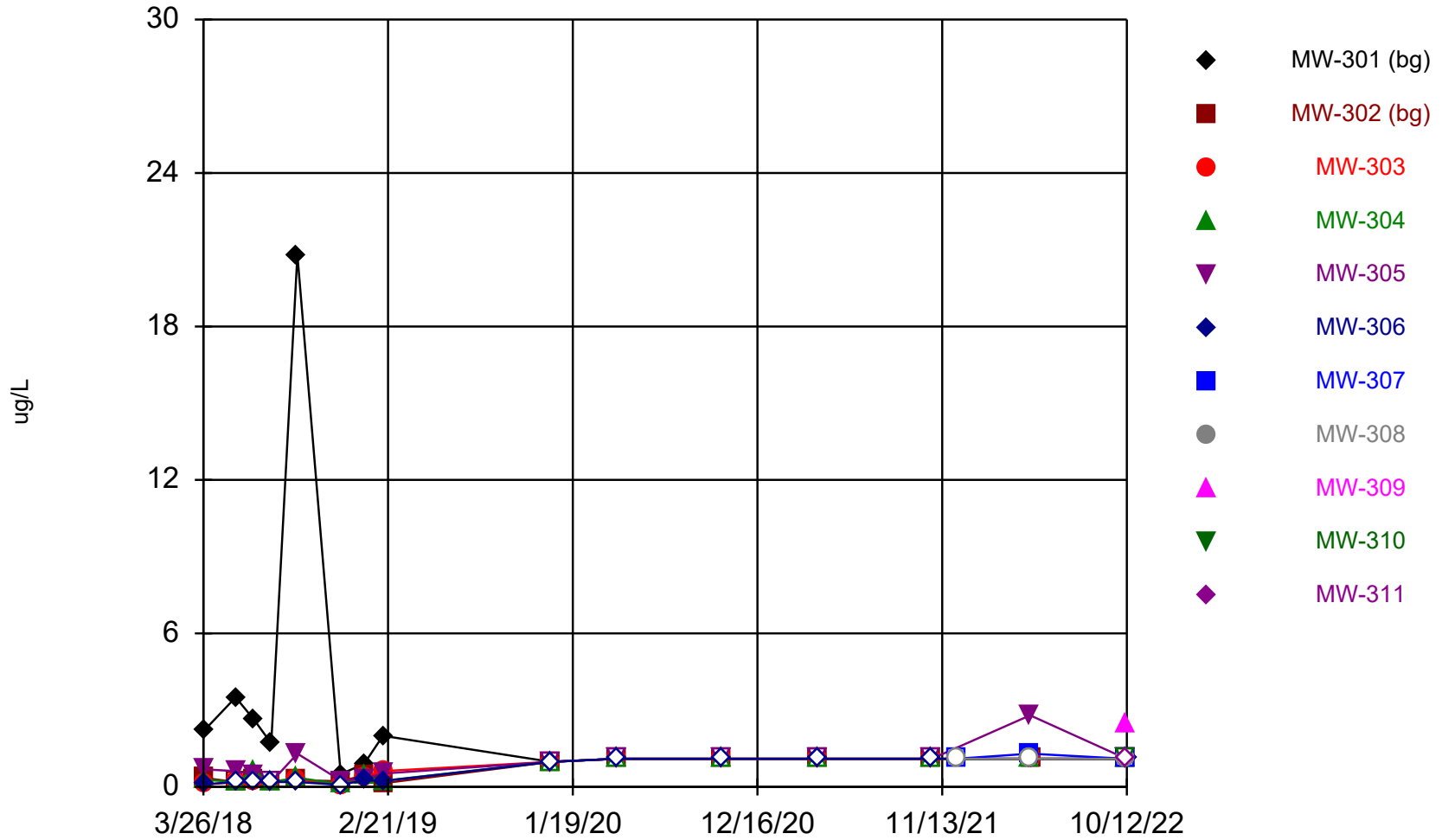
	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309
3/26/2018				30.8	21.9				
3/27/2018	15.5	14	22.8			30.8			
5/23/2018	46.2	9.4	25.5	35.1	31.5	35.1			
6/26/2018	6	12.4	24	32.1	29.5	30.2			
7/26/2018	58.6	10.7	29.6	31.2	26.9	32			
9/11/2018	38.2	10.1	32.9	29.7	25.3	29.7			
11/28/2018	37.5	5.5	29.2	27.4	17.4	14.1			
1/9/2019	51.4	4.5	25.8	24.6	17.5	18.9			
2/12/2019	42.1	5.3	28	28.3	19.9	18			
4/2/2019	39	5.6	28	29	15	16			
10/16/2019	37	5.5	12	23	23	13			
12/11/2019	16								
12/12/2019		4.7 (J)	15	17	15	11			
2/3/2020	28	3.8 (J)	12	21	17	12			
4/7/2020	21	5.2	11	15	12	14			
10/13/2020	71	5.6	14	11	17	21			
4/6/2021	85	85	81	80	91	95			
10/26/2021	9	7.2	3.8 (J)	15	24	20			
12/9/2021							19	17	
4/21/2022				3.7 (J)	20	19	21	14	
4/22/2022	2.4 (J)	17	<2.3 (U)						
10/10/2022		5.8	12				17	14	
10/11/2022				12	27				17
10/12/2022	8.9					16			

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/13/2022 11:34 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
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		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	20	19
10/12/2022		

Chromium



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Chromium (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				0.28 (J)	0.69 (J)				
3/27/2018	2.2	0.35 (J)	0.086 (J)			0.1 (J)			
5/23/2018	3.5	<0.19 (U)	<0.19 (U)	<0.19 (U)	0.62 (J)	<0.19 (U)			
6/26/2018	2.6	0.26 (J)	0.23 (J)	0.6 (J)	0.45 (J)	<0.19 (U)			
7/26/2018	1.7	0.25 (J)	<0.19 (U)	<0.19 (U)	<0.19 (U)	<0.19 (U)			
9/11/2018	20.8	0.26 (J)	0.29 (J)	0.36 (J)	1.3	<0.19 (U)			
11/28/2018	0.5 (J)	0.22 (J)	<0.078 (U)	0.11 (J)	0.25 (J)	<0.078 (U)			
1/9/2019	0.9 (J)	0.45 (J)	0.36 (J)	0.44 (J)	0.32 (J)	0.26 (J)			
2/12/2019	2	0.14 (J)	0.62 (J)	0.24 (J)	0.52 (J)	0.23 (J)			
12/11/2019	<0.98 (U)								
12/12/2019		<0.98 (U)	<0.98 (U)	<0.98 (U)	<0.98 (U)	<0.98 (U)			
4/7/2020	1.1 (J)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)			
10/13/2020	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)			
4/6/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)			
10/26/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)			
12/9/2021							<1.1 (U)	<1.1 (U)	
4/21/2022				<1.1 (U)	2.8 (J)	<1.1 (U)	1.3 (J)	<1.1 (U)	
4/22/2022	<1.1 (U)	<1.1 (U)	<1.1 (U)						
10/10/2022		<1.1 (U)	<1.1 (U)				<1.1 (U)	<1.1 (U)	
10/11/2022				<1.1 (U)	<1.1 (U)				2.5 (J)
10/12/2022	<1.1 (U)					<1.1 (U)			

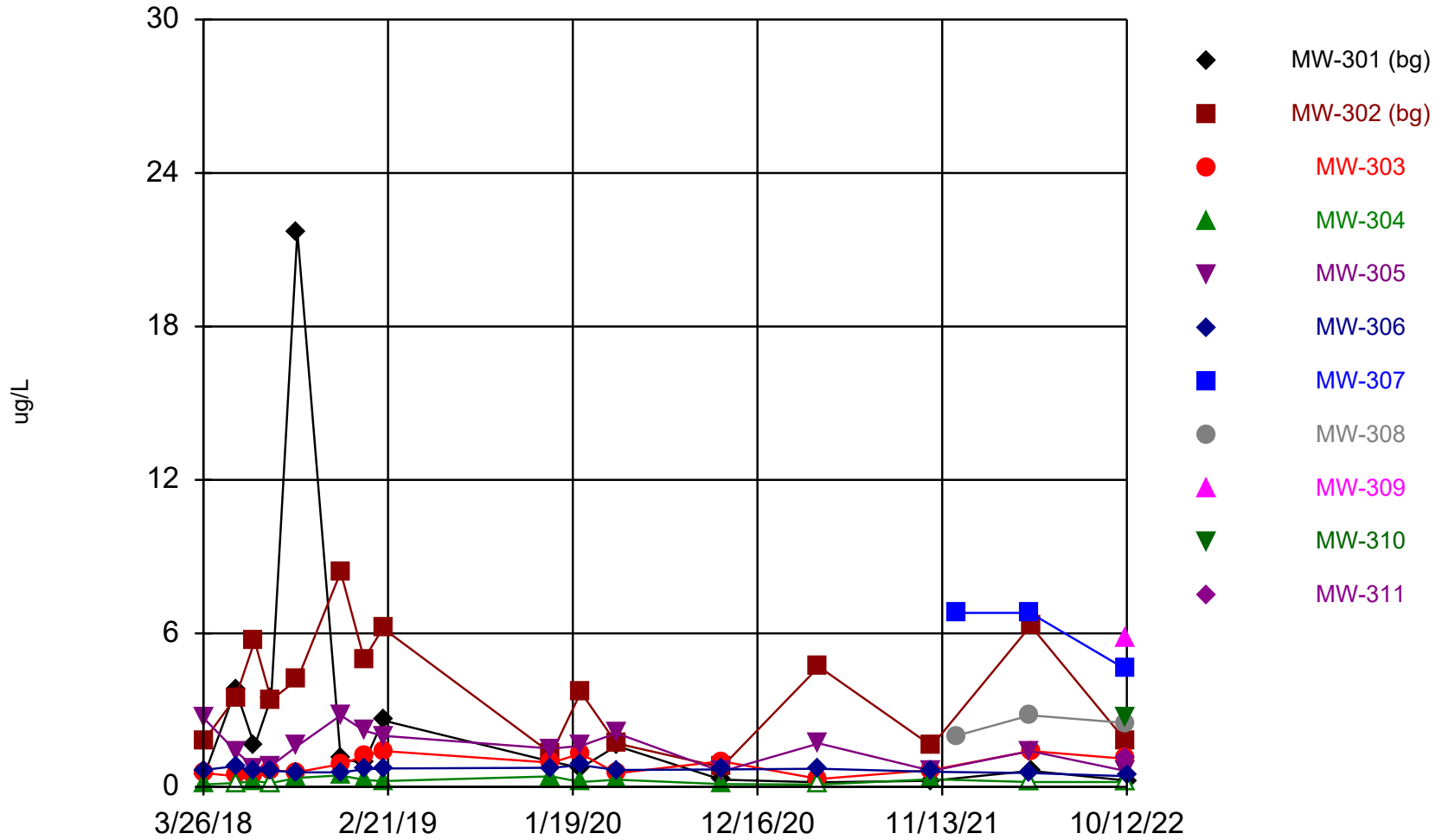
Time Series

Constituent: Chromium (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	<1.1 (U)	<1.1 (U)
10/12/2022		

Cobalt



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Cobalt (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				0.093 (J)	2.7				
3/27/2018	0.43 (J)	1.8	0.54 (J)			0.66 (J)			
5/23/2018	3.8	3.5	0.42 (J)	<0.15 (U)	1.4	0.81 (J)			
6/26/2018	1.6	5.7	0.48 (J)	0.22 (J)	0.74 (J)	0.6 (J)			
7/26/2018	3.5	3.4	0.65 (J)	<0.15 (U)	0.83 (J)	0.64 (J)			
9/11/2018	21.7	4.2	0.58 (J)	0.35 (J)	1.6	0.57 (J)			
11/28/2018	1.1	8.4	0.89 (J)	0.45 (J)	2.8	0.57 (J)			
1/9/2019	0.93 (J)	5	1.2	0.27 (J)	2.2	0.68 (J)			
2/12/2019	2.6	6.2	1.4	0.23 (J)	2	0.72 (J)			
12/11/2019	0.99								
12/12/2019		1.3	0.95	0.41 (J)	1.5	0.75			
2/3/2020	0.75	3.7	1.3	0.19 (J)	1.6	0.85			
4/7/2020	1.6	1.7	0.53	0.28 (J)	2.1	0.66			
10/13/2020	0.28 (J)	0.77	1	0.11 (J)	0.6	0.68			
4/6/2021	0.18 (J)	4.7	0.31 (J)	<0.091 (U)	1.7	0.71			
10/26/2021	0.24 (J)	1.6	0.66	0.3 (J)	0.63	0.59			
12/9/2021							6.8	2	
4/21/2022				<0.19 (U)	1.4	0.54	6.8	2.8	
4/22/2022	0.63	6.3	1.4						
10/10/2022		1.8	1.1				4.6	2.5	
10/11/2022				<0.19 (U)	0.62				5.8
10/12/2022	0.25 (J)					0.42 (J)			

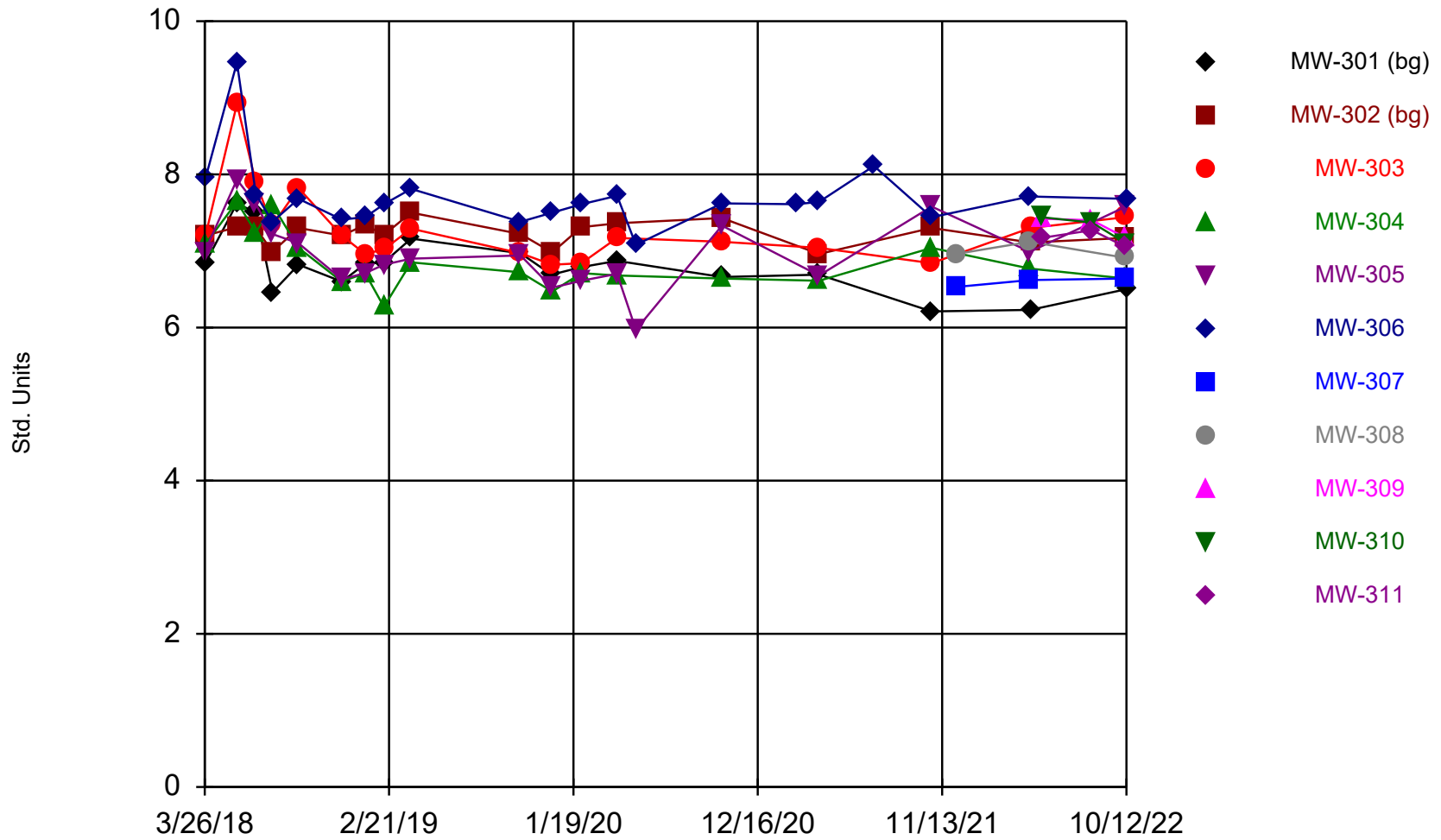
Time Series

Constituent: Cobalt (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	2.7	1.1
10/12/2022		

Field pH



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Field pH (Std. Units) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

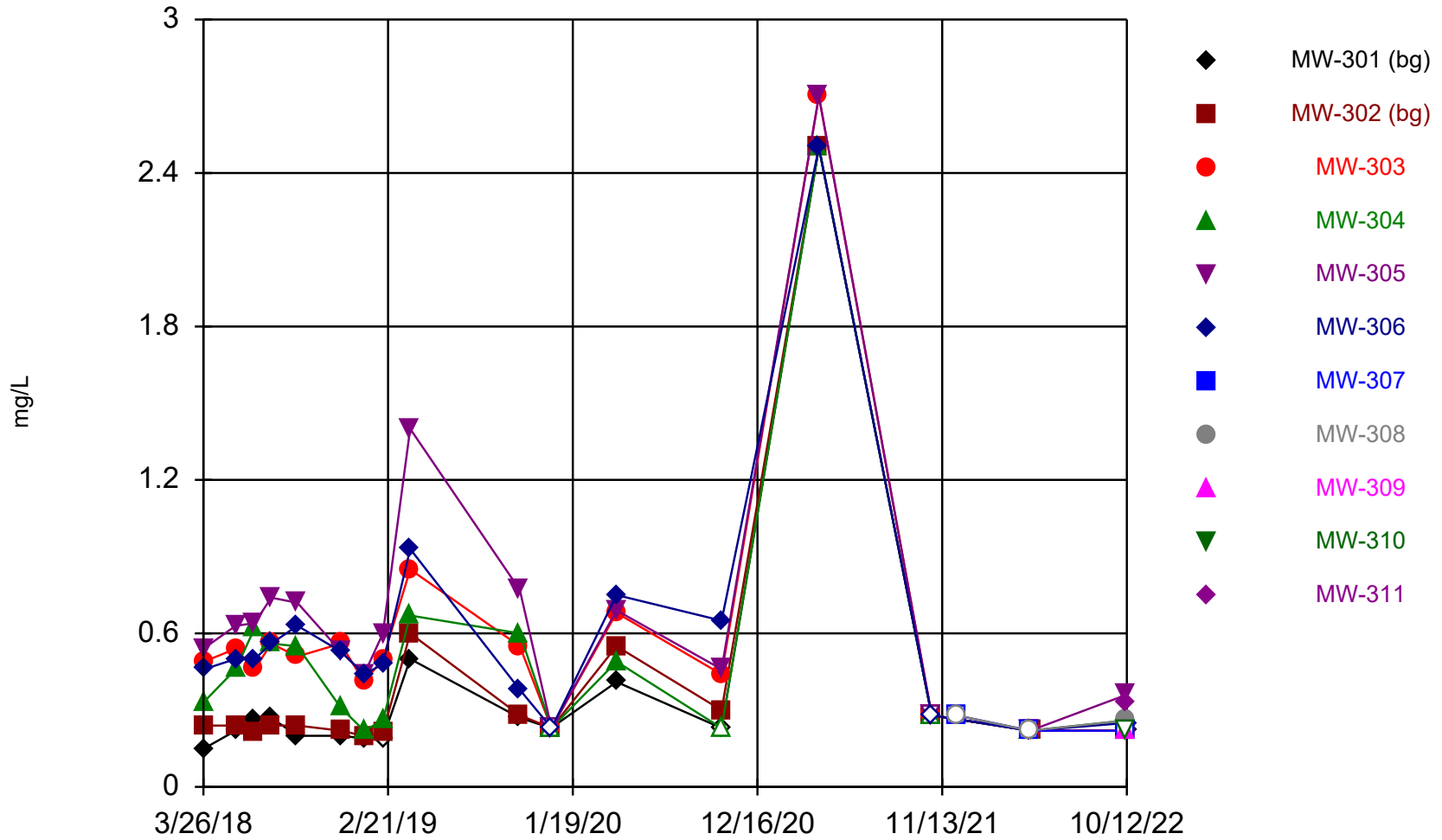
	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309
3/26/2018				7.08	6.99				
3/27/2018	6.84	7.2	7.19			7.94			
5/23/2018	7.62	7.31	8.92	7.64	7.93	9.46			
6/26/2018	7.5	7.3	7.89	7.24	7.61	7.74			
7/26/2018	6.46	6.99	7.33	7.6	7.22	7.38			
9/11/2018	6.82	7.3	7.82	7.04	7.1	7.68			
11/28/2018	6.6	7.2	7.2	6.6	6.63	7.41			
1/9/2019	6.83	7.34	6.96	6.71	6.71	7.44			
2/12/2019	6.85	7.21	7.02	6.27	6.82	7.61			
4/2/2019	7.16	7.5	7.29	6.85	6.9	7.81			
10/16/2019	6.97	7.22	6.97	6.72	6.94	7.38			
12/11/2019	6.69								
12/12/2019		6.98	6.82	6.47	6.52	7.5			
2/3/2020	6.79	7.31	6.84	6.71	6.61	7.61			
4/7/2020	6.87	7.36	7.17	6.68	6.7	7.72			
5/11/2020					5.97	7.08			
10/13/2020	6.66	7.43	7.12	6.64	7.33	7.62			
2/24/2021						7.61			
4/6/2021	6.69	6.96	7.04	6.61	6.68	7.64			
7/14/2021						8.11			
10/26/2021	6.21	7.3	6.84	7.04	7.58	7.44			
12/9/2021							6.53	6.96	
4/21/2022				6.77	6.99	7.71	6.62	7.12	
4/22/2022	6.23	7.11	7.3						
5/12/2022									7.42
8/11/2022									7.4
10/10/2022		7.17	7.44				6.64	6.91	
10/11/2022				6.64	7.58				7.17
10/12/2022	6.5					7.68			

Time Series

Constituent: Field pH (Std. Units) Analysis Run 12/13/2022 11:34 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
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		
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		
12/9/2021		
4/21/2022		
4/22/2022		
5/12/2022	7.44	7.17
8/11/2022	7.37	7.27
10/10/2022		
10/11/2022	7.1	7.05
10/12/2022		

Fluoride



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				0.33	0.54				
3/27/2018	0.15 (J)	0.24	0.49			0.46			
5/23/2018	0.22	0.24	0.54	0.46	0.63	0.5			
6/26/2018	0.26	0.21	0.46	0.62	0.64	0.5			
7/26/2018	0.27	0.24	0.56	0.56	0.74	0.56			
9/11/2018	0.2 (J)	0.24	0.51	0.55	0.72	0.63			
11/28/2018	0.2	0.22	0.56	0.31	0.53	0.53			
1/9/2019	<0.19 (U)	0.2	0.41	0.22	0.44	0.44			
2/12/2019	<0.19 (U)	0.21	0.5	0.26	0.6	0.48			
4/2/2019	0.5	0.6	0.85	0.67	1.4	0.93			
10/16/2019	0.27 (J)	0.28 (J)	0.55	0.6	0.77	0.38 (J)			
12/11/2019	<0.23 (U)								
12/12/2019		<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)			
4/7/2020	0.41 (J)	0.55	0.68	0.49 (J)	0.69	0.75 (J)			
10/13/2020	<0.23 (U)	0.3 (J)	0.44 (J)	<0.23 (U)	0.46 (J)	0.65			
4/6/2021	2.5	2.5	2.7	2.5	2.7	2.5			
10/26/2021	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)			
12/9/2021							<0.28 (U)	<0.28 (U)	
4/21/2022				<0.22 (U)	<0.22 (U)	<0.22 (U)	<0.22 (U)	<0.22 (U)	
4/22/2022	<0.22 (U)	<0.22 (U)	<0.22 (U)						
10/10/2022		<0.22 (U)	<0.22 (U)				<0.22 (U)	0.26 (J)	
10/11/2022				0.26 (J)	0.36 (J)				0.22 (J)
10/12/2022	<0.22 (U)					0.25 (J)			

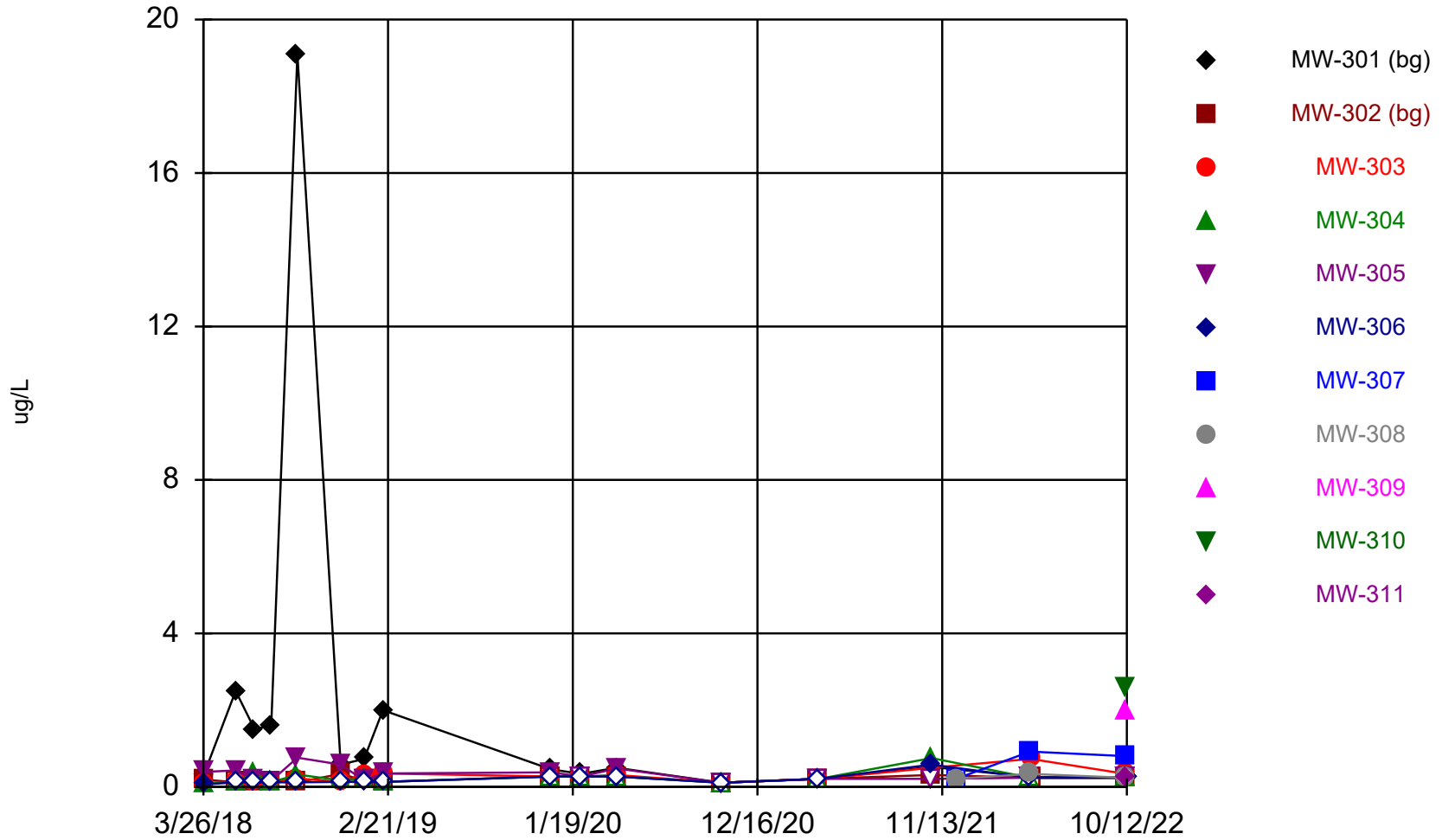
Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
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		
12/12/2019		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	<0.22 (U)	0.33 (J)
10/12/2022		

Lead



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Lead (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

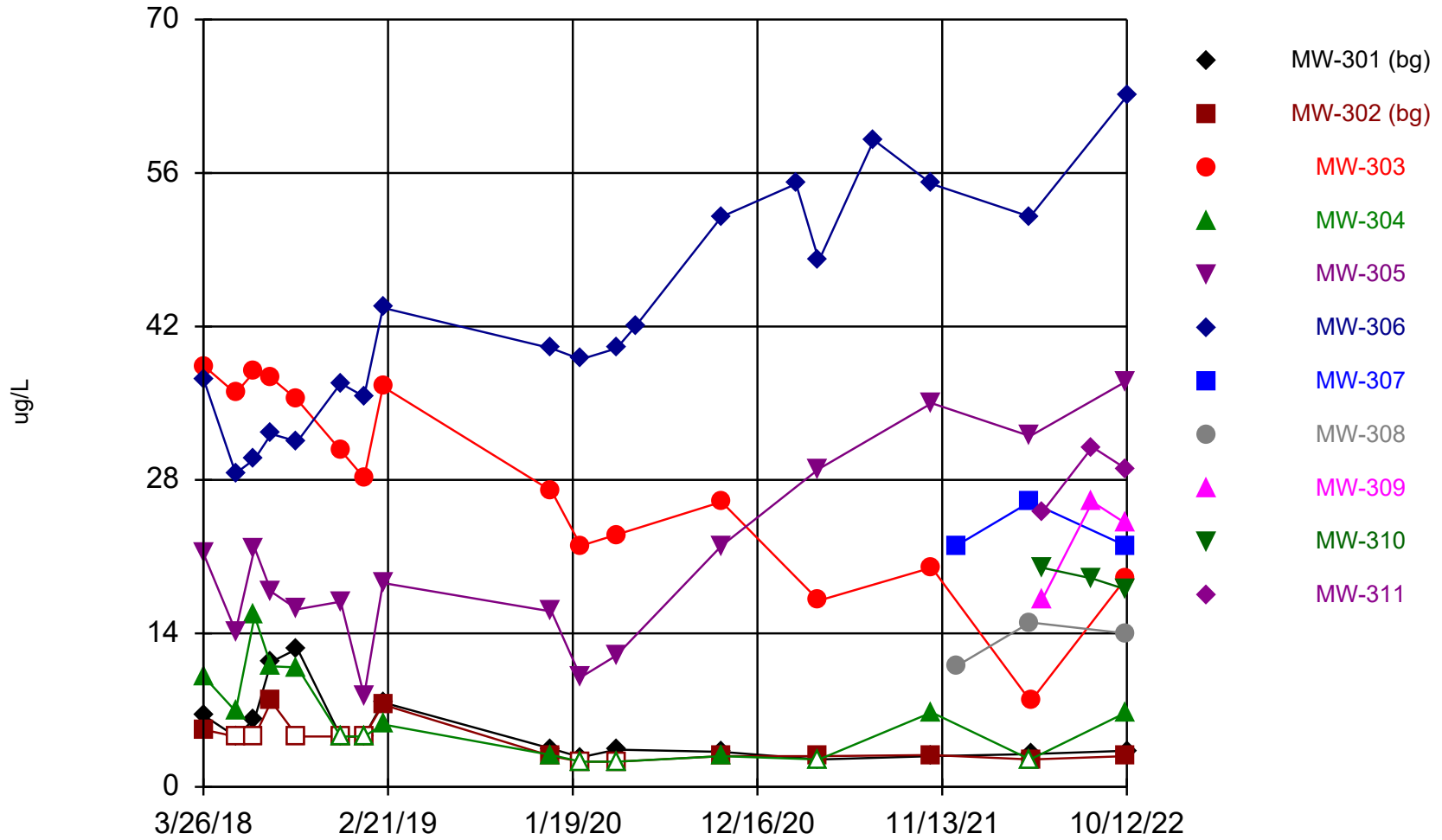
	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309
3/26/2018				0.094 (J)	0.39 (J)				
3/27/2018	0.33 (J)	0.19 (J)	0.1 (J)			0.063 (J)			
5/23/2018	2.5	<0.12 (U)	<0.12 (U)	<0.12 (U)	0.43 (J)	<0.12 (U)			
6/26/2018	1.5	<0.12 (U)	0.13 (J)	0.35 (J)	0.19 (J)	<0.12 (U)			
7/26/2018	1.6	0.15 (J)	<0.12 (U)	<0.12 (U)	0.16 (J)	<0.12 (U)			
9/11/2018	19.1	<0.12 (U)	0.22 (J)	0.32 (J)	0.76 (J)	<0.12 (U)			
11/28/2018	0.58 (J)	0.34 (J)	<0.13 (U)	0.17 (J)	0.58 (J)	<0.13 (U)			
1/9/2019	0.73 (J)	0.17 (J)	0.32 (J)	0.2 (J)	0.17 (J)	<0.13 (U)			
2/12/2019	2	<0.13 (U)	0.35 (J)	<0.13 (U)	0.35 (J)	<0.13 (U)			
12/11/2019	0.46 (J)								
12/12/2019		<0.27 (U)	<0.27 (U)	<0.27 (U)	0.38 (J)	<0.27 (U)			
2/3/2020	0.34 (J)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)			
4/7/2020	0.5	<0.27 (U)	0.31 (J)	<0.27 (U)	0.48 (J)	<0.27 (U)			
10/13/2020	<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)			
4/6/2021	<0.21 (U)	<0.21 (U)	<0.21 (U)	<0.21 (U)	<0.21 (U)	<0.21 (U)			
10/26/2021	0.52 (B)	0.31 (J,B)	0.5 (B)	0.75 (B)	<0.21 (U)	0.58 (B)			
12/9/2021							<0.21 (U)	0.21 (J)	
4/21/2022				<0.24 (U)	<0.24 (U)	<0.24 (U)	0.92	0.34 (J)	
4/22/2022	0.26 (J)	<0.24 (U)	0.73						
10/10/2022		<0.24 (U)	0.34 (J)				0.8	<0.24 (U)	
10/11/2022				<0.24 (U)	<0.24 (U)				2
10/12/2022	<0.24 (U)					<0.24 (U)			

Time Series

Constituent: Lead (ug/L) Analysis Run 12/13/2022 11:34 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	2.6	0.27 (J)
10/12/2022		

Lithium



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Lithium (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				10.1	21.3				
3/27/2018	6.5 (J)	5.2 (J)	38.4			37.1			
5/23/2018	<4.6 (U)	<4.6 (U)	35.9	6.9 (J)	14.2	28.6			
6/26/2018	6.2 (J)	<4.6 (U)	37.9	15.6	21.8	29.9			
7/26/2018	11.4	7.8 (J)	37.3	11	17.8	32.2			
9/11/2018	12.6	<4.6 (U)	35.3	10.9	16.2	31.5			
11/28/2018	<4.6 (U)	<4.6 (U)	30.7	<4.6 (U)	16.9	36.8			
1/9/2019	<4.6 (U)	<4.6 (U)	28.2	<4.6 (U)	8.3 (J)	35.6			
2/12/2019	7.7 (J)	7.5 (J)	36.5	5.7 (J)	18.6	43.7			
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			
12/9/2021							22	11	
4/21/2022				<2.5 (U)	32	52	26	15	
4/22/2022	3 (J)	2.5 (J)	7.8 (J)						
5/12/2022									17
8/11/2022									26
10/10/2022		2.8 (J)	19				22	14	
10/11/2022				6.8 (J)	37				24
10/12/2022	3.3 (J)					63			

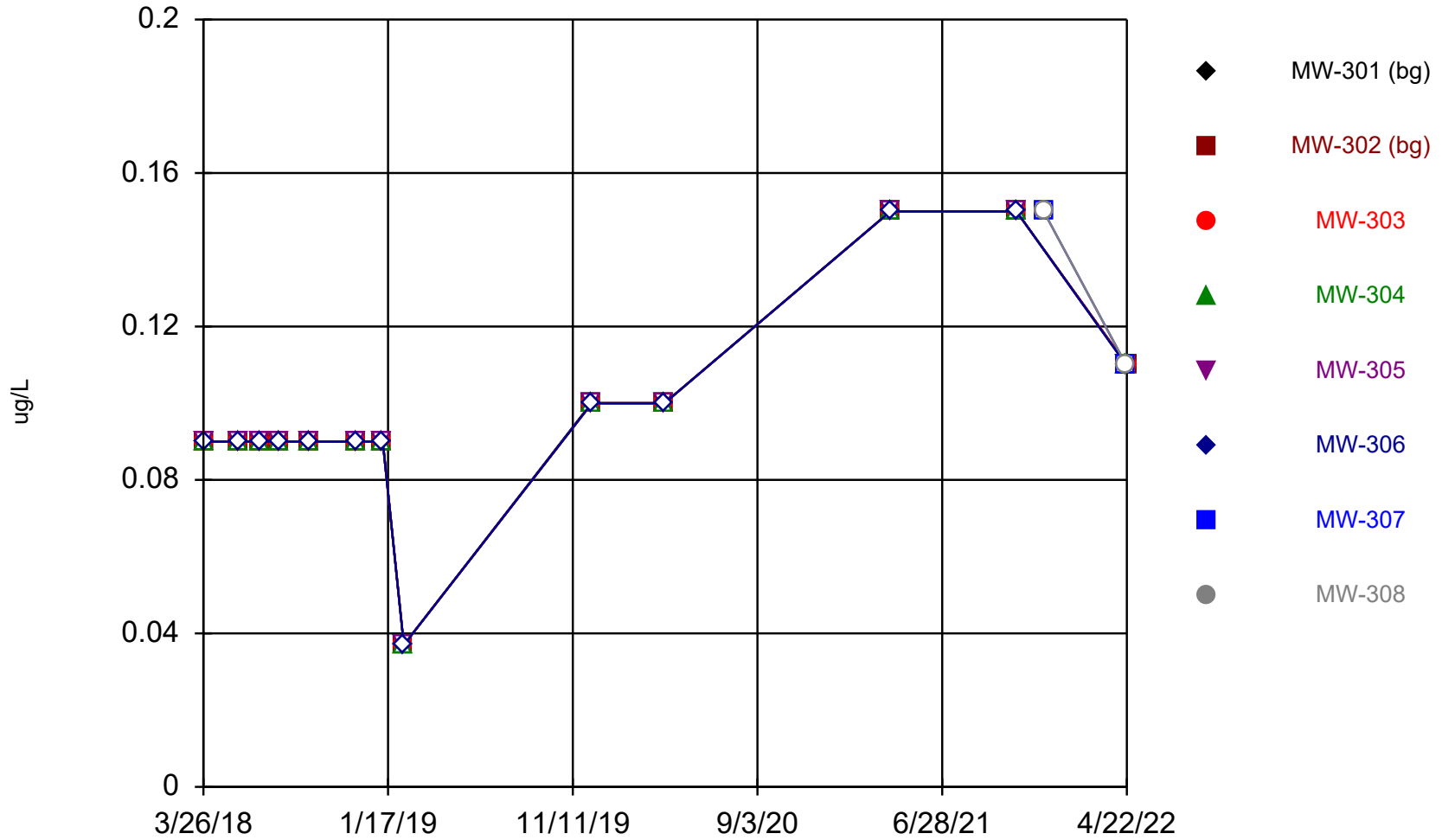
Time Series

Constituent: Lithium (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
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		
12/9/2021		
4/21/2022		
4/22/2022		
5/12/2022	20	25
8/11/2022	19	31
10/10/2022		
10/11/2022	18	29
10/12/2022		

Mercury



Time Series Analysis Run 12/13/2022 11:17 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

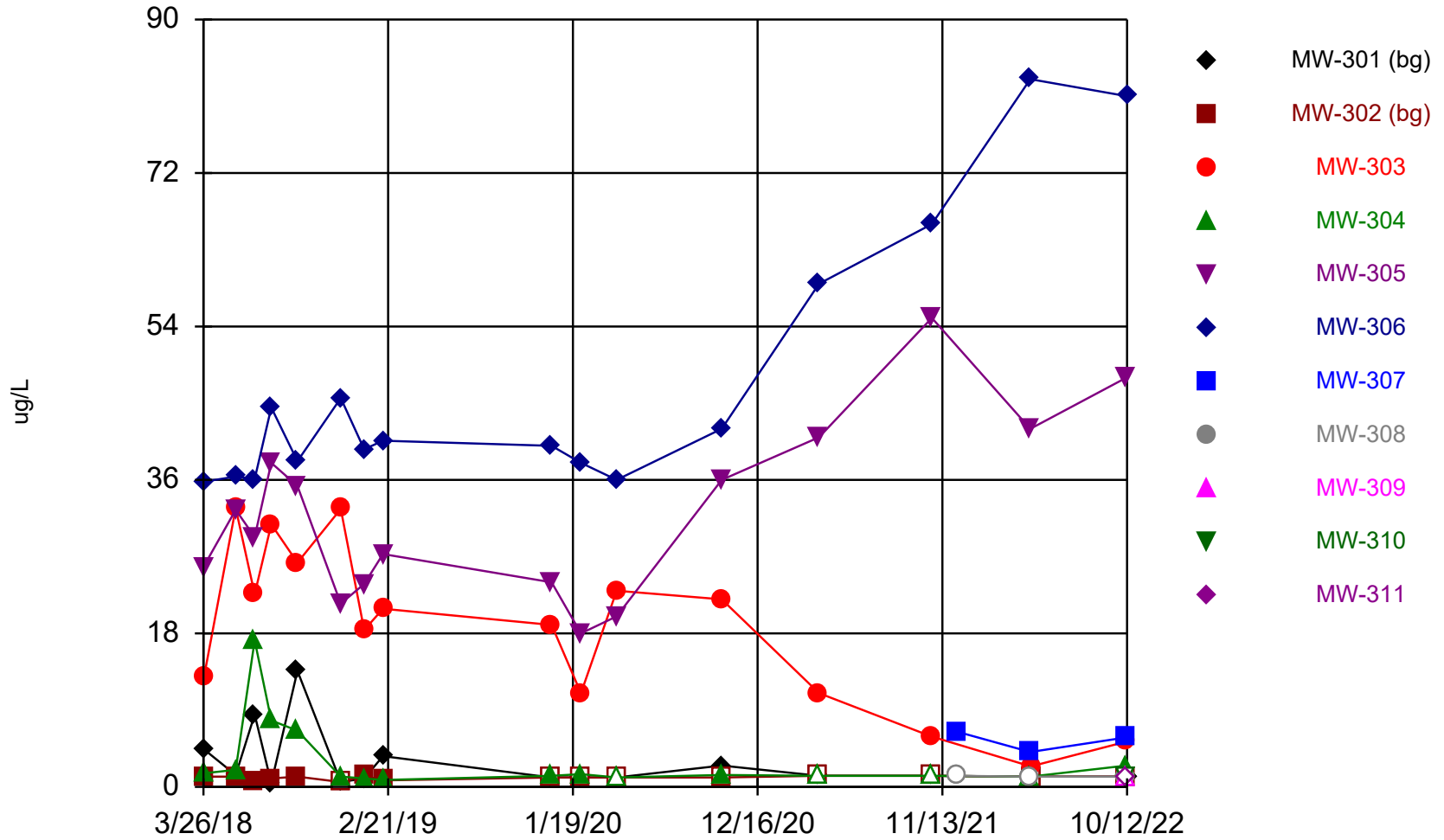
Time Series

Constituent: Mercury (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308
3/26/2018				<0.09 (U)	<0.09 (U)			
3/27/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)			<0.09 (U)		
5/23/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)		
6/26/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)		
7/26/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)		
9/11/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)		
11/28/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)		
1/9/2019	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)		
2/12/2019	<0.037 (U)	<0.037 (U)	<0.037 (U)	<0.037 (U)	<0.037 (U)	<0.037 (U)		
12/11/2019	<0.1 (U)							
12/12/2019		<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)		
4/7/2020	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)		
4/6/2021	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)		
10/26/2021	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)		
12/9/2021							<0.15 (U)	<0.15 (U)
4/21/2022				<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)
4/22/2022	<0.11 (U)	<0.11 (U)	<0.11 (U)					

Molybdenum



Time Series Analysis Run 12/13/2022 11:18 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Molybdenum (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				1.6	25.8				
3/27/2018	4.4	1.2	12.9			35.8			
5/23/2018	1.4	1.2	32.7	2	32.5	36.4			
6/26/2018	8.5	0.68 (J)	22.6	17.2	29.3	36.1			
7/26/2018	0.44 (J)	1	30.8	7.8	38	44.5			
9/11/2018	13.6	1.2	26.3	6.6	35.3	38.2			
11/28/2018	<0.57 (U)	<0.57 (U)	32.6	1.2	21.5	45.6			
1/9/2019	0.99 (J)	1.3	18.4	1 (J)	23.8	39.6			
2/12/2019	3.6	0.76 (J)	20.9	0.82 (J)	27.3	40.6			
12/11/2019	<1.1 (U)								
12/12/2019		<1.1 (U)	19	1.3 (J)	24	40			
2/3/2020	<1.1 (U)	<1.1 (U)	11	1.5 (J)	18	38			
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			
12/9/2021							6.5	<1.3 (U)	
4/21/2022				<1.2 (U)	42	83	4.1	<1.2 (U)	
4/22/2022	<1.2 (U)	<1.2 (U)	2.4						
10/10/2022		<1.2 (U)	5.3				5.8	<1.2 (U)	
10/11/2022				2.5	48				<1.2 (U)
10/12/2022	<1.2 (U)					81			

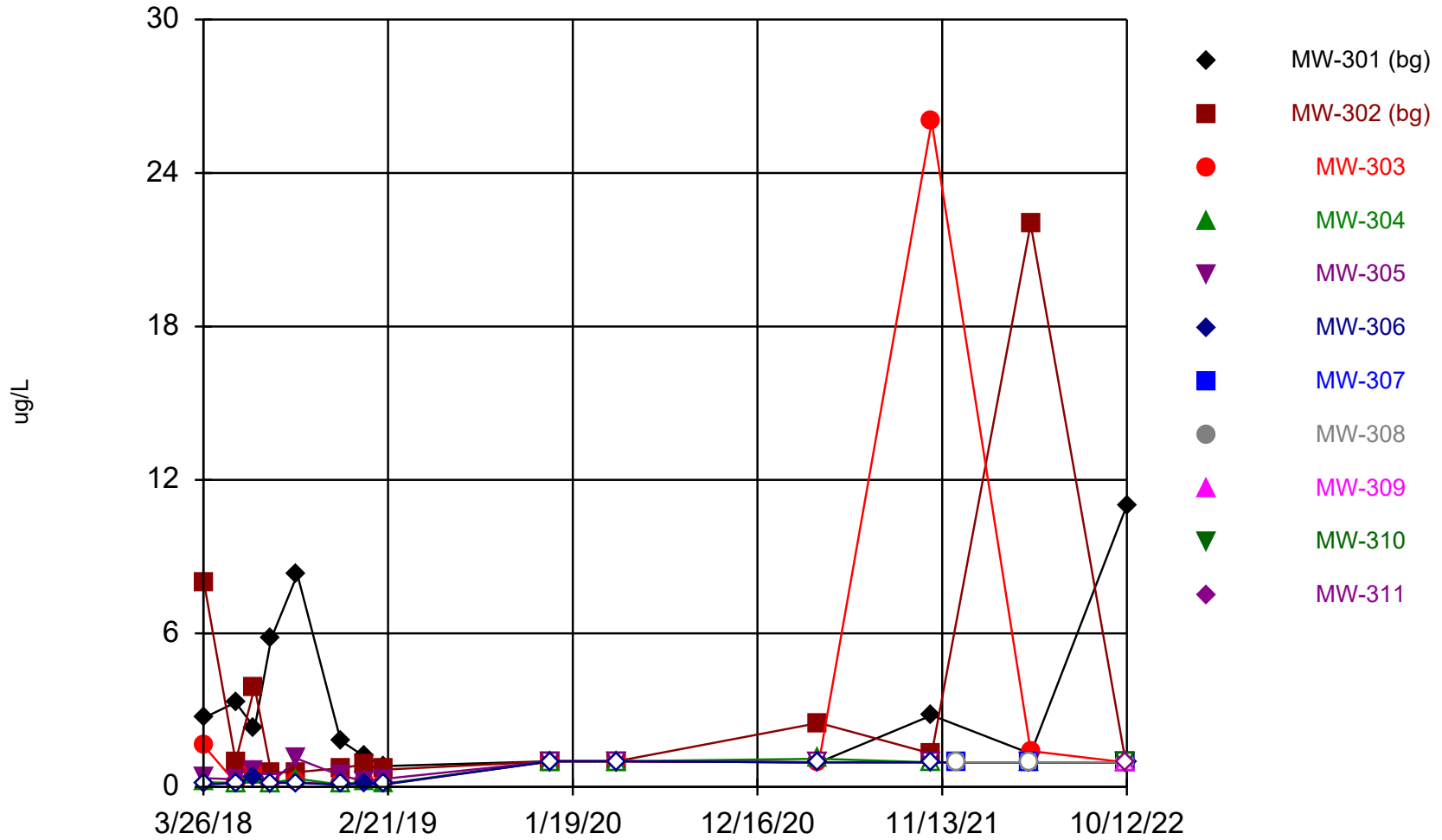
Time Series

Constituent: Molybdenum (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	<1.2 (U)	<1.2 (U)
10/12/2022		

Selenium



Time Series Analysis Run 12/13/2022 11:18 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Selenium (ug/L) Analysis Run 12/13/2022 11:34 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	MW-307	MW-308	MW-309
3/26/2018				0.18 (J)	0.34 (J)				
3/27/2018	2.7	8	1.6			<0.086 (U)			
5/23/2018	3.3	1	<0.16 (U)	<0.16 (U)	0.3 (J)	<0.16 (U)			
6/26/2018	2.3	3.9	0.61 (J)	0.5 (J)	0.59 (J)	0.38 (J)			
7/26/2018	5.8	0.56 (J)	<0.16 (U)	<0.16 (U)	<0.16 (U)	<0.16 (U)			
9/11/2018	8.3	0.58 (J)	0.18 (J)	0.32 (J)	1.1	<0.16 (U)			
11/28/2018	1.8	0.73 (J)	<0.085 (U)	<0.085 (U)	0.44 (J)	<0.085 (U)			
1/9/2019	1.2	0.88 (J)	0.18 (J)	0.21 (J)	0.24 (J)	0.13 (J)			
2/12/2019	0.81 (J)	0.67 (J)	0.097 (J)	0.12 (J)	0.31 (J)	<0.085 (U)			
12/11/2019	<1 (U)								
12/12/2019		<1 (U)	<1 (U)	<1 (U)	<1 (U)	<1 (U)			
4/7/2020	<1 (U)	<1 (U)	<1 (U)	<1 (U)	<1 (U)	<1 (U)			
4/6/2021	<0.96 (U)	2.5 (J)	<0.96 (U)	1.1 (J)	<0.96 (U)	<0.96 (U)			
10/26/2021	2.8 (J)	1.3 (J)	26	<0.96 (U)	<0.96 (U)	<0.96 (U)			
12/9/2021							<0.96 (U)	<0.96 (U)	
4/21/2022				<0.96 (U)	<0.96 (U)	<0.96 (U)	<0.96 (U)	<0.96 (U)	
4/22/2022	1.3 (J)	22	1.4 (J)						
10/10/2022		<0.96 (U)	<0.96 (U)				<0.96 (U)	<0.96 (U)	
10/11/2022				<0.96 (U)	<0.96 (U)				<0.96 (U)
10/12/2022	11					<0.96 (U)			

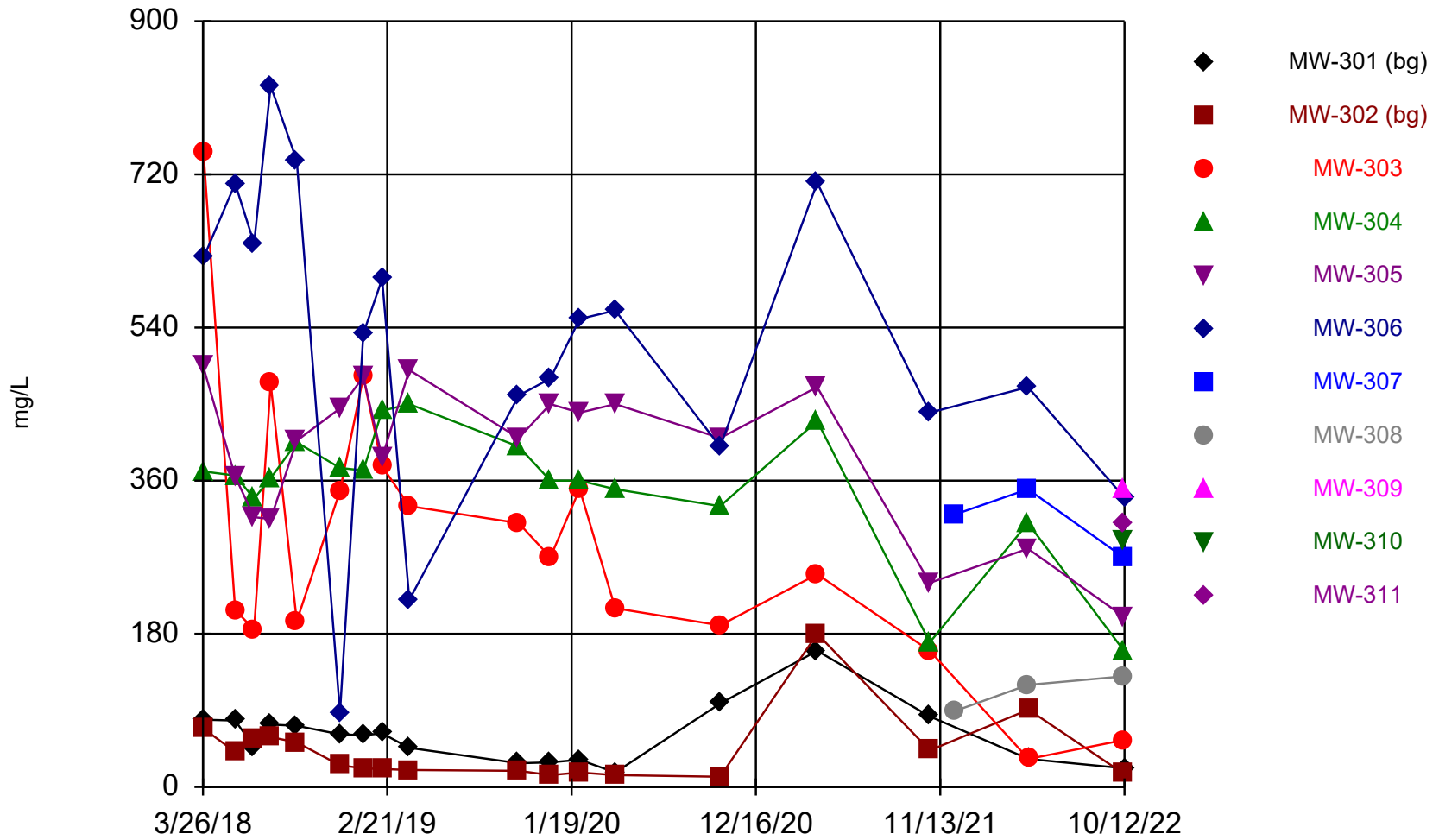
Time Series

Constituent: Selenium (ug/L) Analysis Run 12/13/2022 11:34 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
4/7/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	<0.96 (U)	<0.96 (U)
10/12/2022		

Sulfate



Time Series Analysis Run 12/13/2022 11:18 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/13/2022 11:35 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

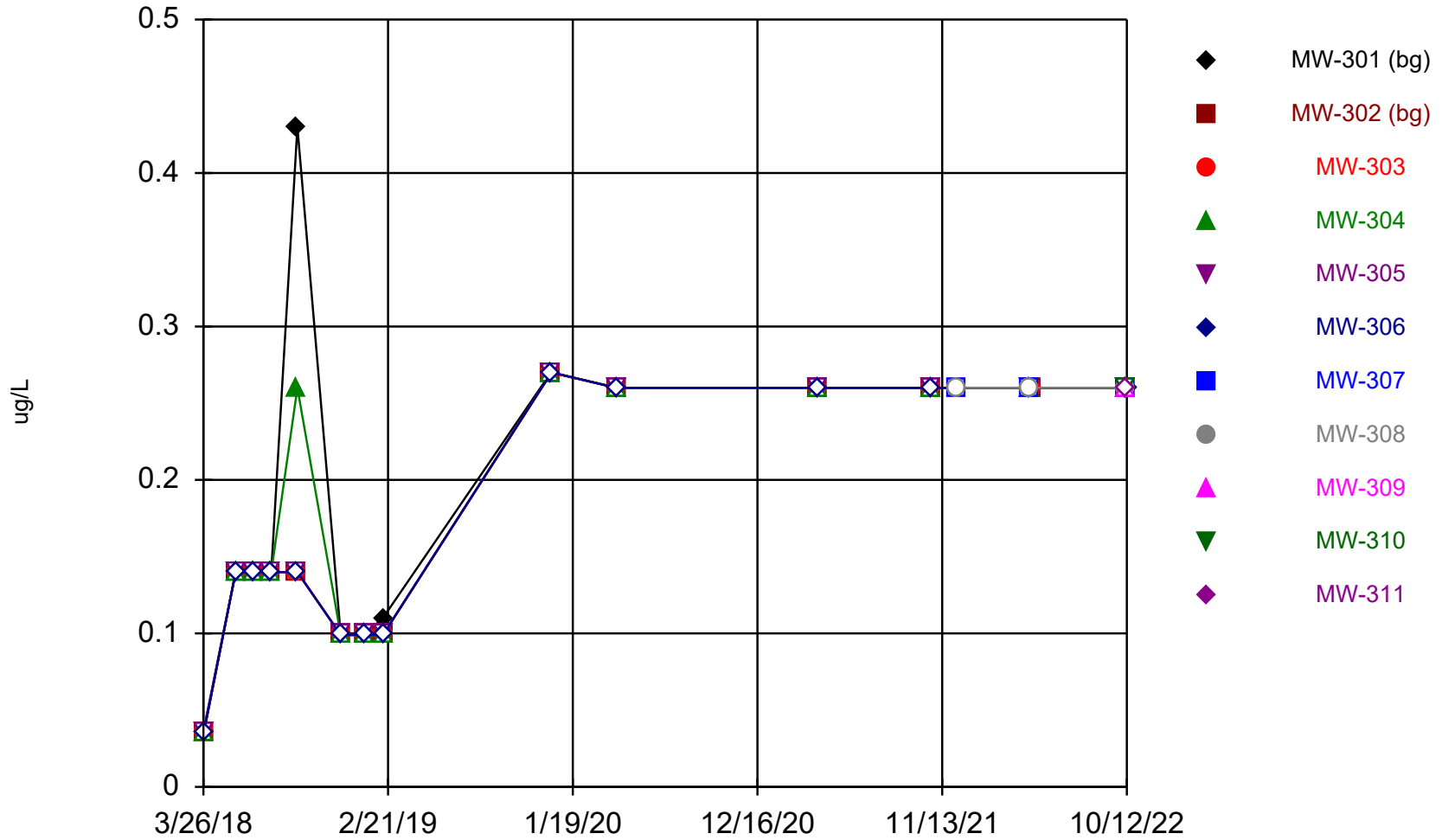
	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309
3/26/2018				371	495				
3/27/2018	79	68.5	745			622			
5/23/2018	78.1	41.3	208	366	365	709			
6/26/2018	46.9	56	185	339	317	639			
7/26/2018	73.4	58.7	474	363	315	824			
9/11/2018	71.9	52.5	195	405	407	736			
11/28/2018	61.9	25.5	348	375	445	87.4			
1/9/2019	60.9	21.9	482	372	482	533			
2/12/2019	63	21.2	377	442	387	597			
4/2/2019	46	20	330	450	490	220			
10/16/2019	28	19	310	400	410	460			
12/11/2019	29								
12/12/2019		14	270	360	450	480			
2/3/2020	32	17	350	360	440	550			
4/7/2020	17	14	210	350	450	560			
10/13/2020	98	12	190	330	410	400			
4/6/2021	160	180	250	430	470	710			
10/26/2021	83	43	160	170	240	440			
12/9/2021							320	89	
4/21/2022				310	280	470	350	120	
4/22/2022	33	91	33						
10/10/2022		16	55				270	130	
10/11/2022				160	200				350
10/12/2022	22					340			

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/13/2022 11:35 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
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		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	290	310
10/12/2022		

Thallium



Time Series Analysis Run 12/13/2022 11:18 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Thallium (ug/L) Analysis Run 12/13/2022 11:35 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	MW-307	MW-308	MW-309
3/26/2018				<0.036 (U)	<0.036 (U)				
3/27/2018	<0.036 (U)	<0.036 (U)	<0.036 (U)			<0.036 (U)			
5/23/2018	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)			
6/26/2018	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)			
7/26/2018	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)			
9/11/2018	0.43 (J)	<0.14 (U)	<0.14 (U)	0.26 (J)	<0.14 (U)	<0.14 (U)			
11/28/2018	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)			
1/9/2019	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)			
2/12/2019	0.11 (J)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)			
12/11/2019	<0.27 (U)								
12/12/2019		<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)			
4/7/2020	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)			
4/6/2021	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)			
10/26/2021	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)			
12/9/2021							<0.26 (U)	<0.26 (U)	
4/21/2022				<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	
4/22/2022	<0.26 (U)	<0.26 (U)	<0.26 (U)						
10/10/2022		<0.26 (U)	<0.26 (U)				<0.26 (U)	<0.26 (U)	
10/11/2022				<0.26 (U)	<0.26 (U)				<0.26 (U)
10/12/2022	<0.26 (U)					<0.26 (U)			

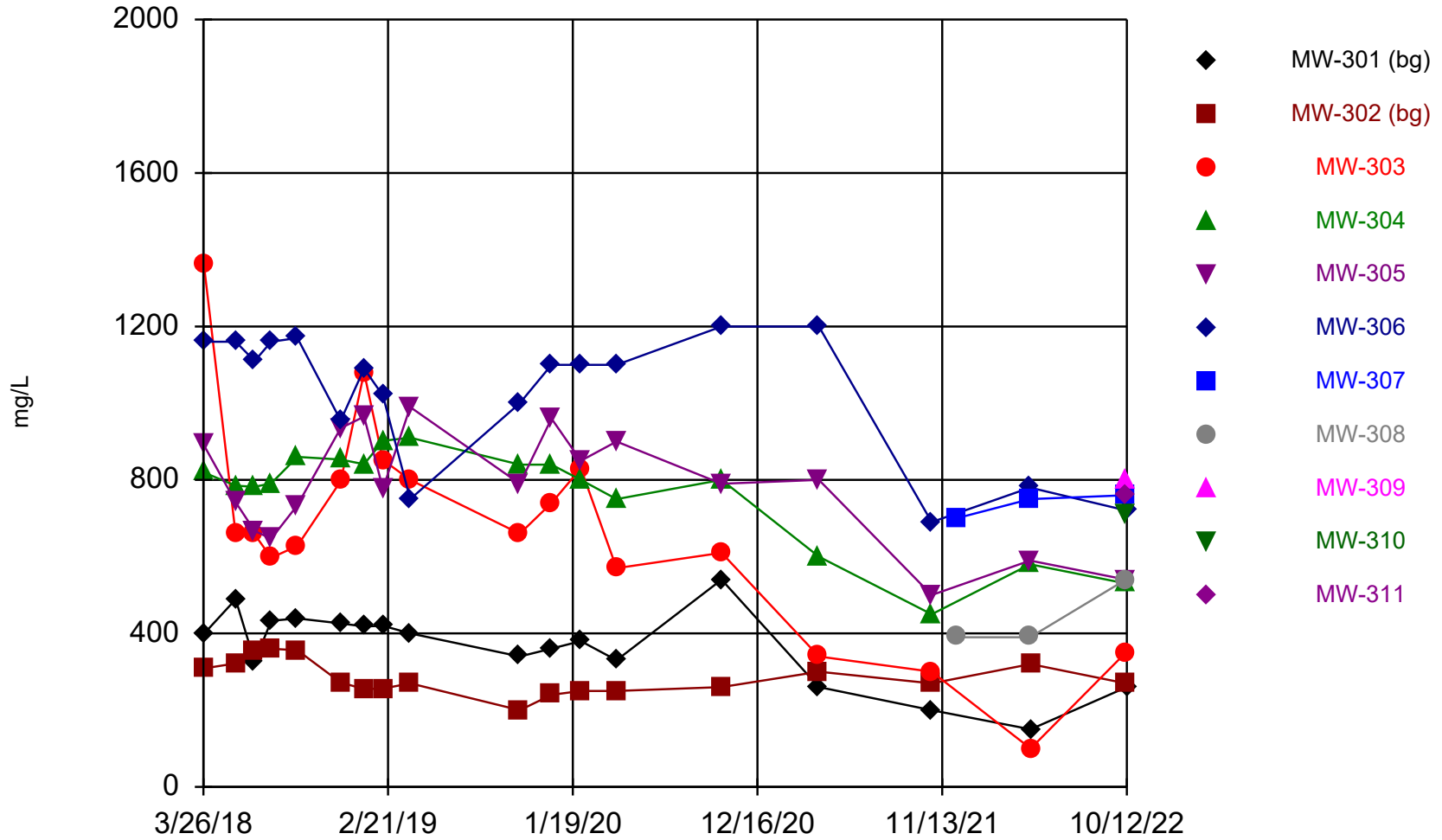
Time Series

Constituent: Thallium (ug/L) Analysis Run 12/13/2022 11:35 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
4/7/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	<0.26 (U)	<0.26 (U)
10/12/2022		

Total Dissolved Solids



Time Series Analysis Run 12/13/2022 11:18 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/13/2022 11:35 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

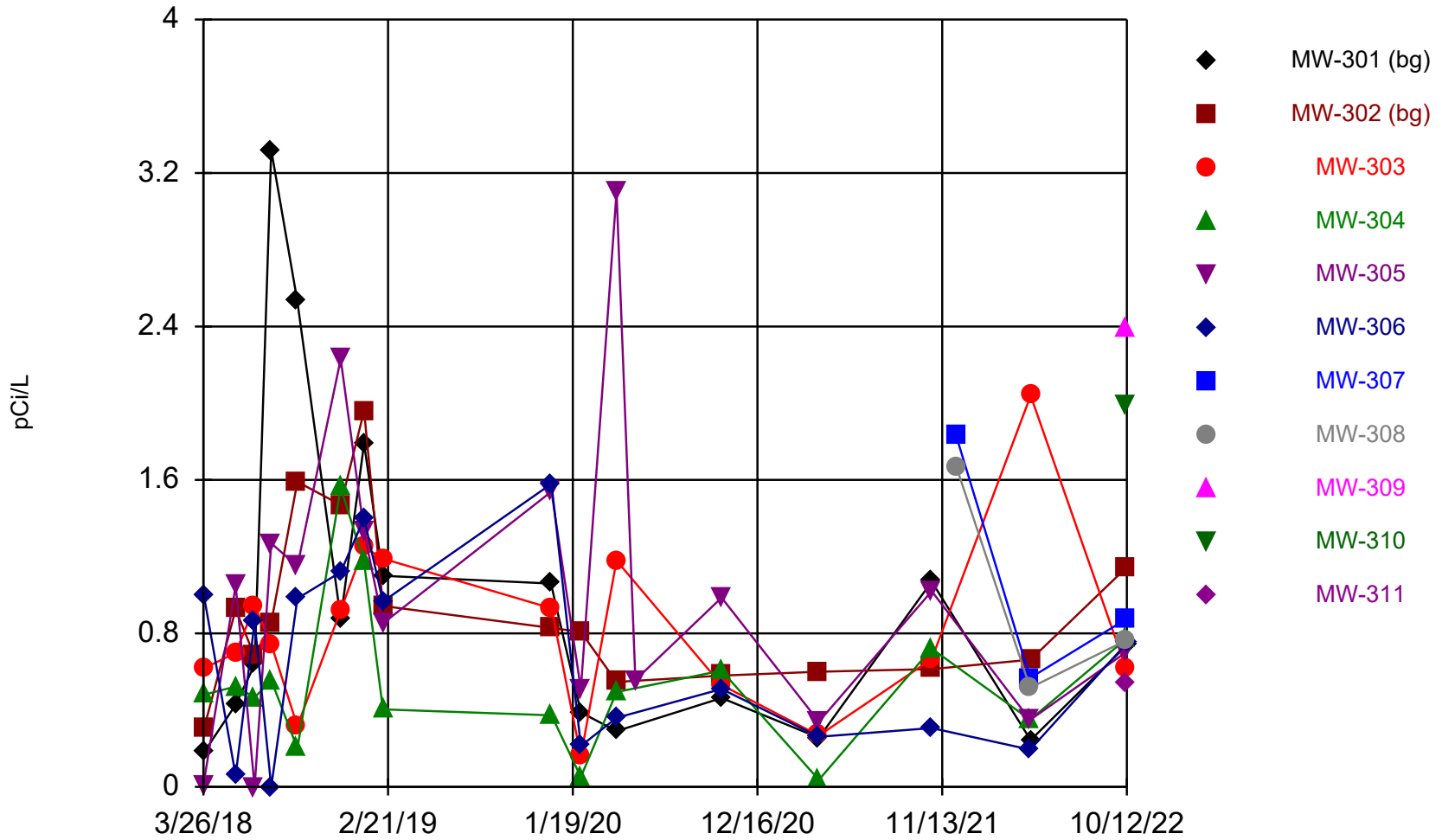
	MW-301 (bg)	MW-302 (bg)	MW-303	MW-304	MW-305	MW-306	MW-307	MW-308	MW-309
3/26/2018				820	893				
3/27/2018	399	309	1360			1160			
5/23/2018	489	322	658	785	742	1160			
6/26/2018	326	352	658	782	667	1110			
7/26/2018	433	360	597	791	647	1160			
9/11/2018	439	356	628	860	734	1170			
11/28/2018	426	272	797	853	935	955			
1/9/2019	418	255	1080	841	965	1090			
2/12/2019	420	256	852	902	777	1020			
4/2/2019	400	270	800	910	990	750			
10/16/2019	340	200	660	840	790	1000			
12/11/2019	360								
12/12/2019		240	740	840	960	1100			
2/3/2020	380	250	830	800	850	1100			
4/7/2020	330	250	570	750	900	1100			
10/13/2020	540	260	610	800	790	1200			
4/6/2021	260	300	340	600	800	1200			
10/26/2021	200	270	300	450	500	690			
12/9/2021							700	390	
4/21/2022				580	590	780	750	390	
4/22/2022	150	320	100						
10/10/2022		270	350				760	540	
10/11/2022				530	540				800
10/12/2022	260					720			

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/13/2022 11:35 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
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		
12/12/2019		
2/3/2020		
4/7/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	710	760
10/12/2022		

Total Radium



Time Series Analysis Run 12/13/2022 11:18 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Time Series

Constituent: Total Radium (pCi/L) Analysis Run 12/13/2022 11:35 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	MW-307	MW-308	MW-309
3/26/2018				0.48	0.0087				
3/27/2018	0.18	0.304	0.618			0.996			
5/23/2018	0.429	0.926	0.699	0.523	1.05	0.0586			
6/26/2018	0.637	0.68	0.941	0.466	0	0.86			
7/26/2018	3.32	0.856	0.744	0.556	1.27	0			
9/11/2018	2.53	1.59	0.317	0.201	1.15	0.982			
11/28/2018	0.875	1.47	0.921	1.56	2.23	1.12			
1/9/2019	1.79	1.96	1.25	1.17	1.33	1.4			
2/12/2019	1.1	0.943	1.19	0.404	0.852	0.966			
12/11/2019	1.06								
12/12/2019		0.828	0.931	0.373	1.54	1.58			
2/3/2020	0.388	0.808	0.159	0.0516	0.51	0.214			
4/7/2020	0.291	0.547	1.18	0.494	3.1	0.36			
5/11/2020					0.557				
10/13/2020	0.463	0.58	0.531	0.606	0.986	0.51			
4/6/2021	0.256	0.6	0.268	0.0369	0.34	0.261			
10/26/2021	1.07	0.614	0.666	0.721	1.02	0.307			
12/9/2021							1.83	1.67	
4/21/2022				0.35	0.349	0.194	0.568	0.517	
4/22/2022	0.244	0.663	2.04						
10/10/2022		1.14	0.623				0.873	0.763	
10/11/2022				0.772	0.703				2.39
10/12/2022	0.739					0.75			

Time Series

Constituent: Total Radium (pCi/L) Analysis Run 12/13/2022 11:35 PM
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-310	MW-311
3/26/2018		
3/27/2018		
5/23/2018		
6/26/2018		
7/26/2018		
9/11/2018		
11/28/2018		
1/9/2019		
2/12/2019		
12/11/2019		
12/12/2019		
2/3/2020		
4/7/2020		
5/11/2020		
10/13/2020		
4/6/2021		
10/26/2021		
12/9/2021		
4/21/2022		
4/22/2022		
10/10/2022		
10/11/2022	1.99	0.541
10/12/2022		

Attachment 2

Outliers Analysis

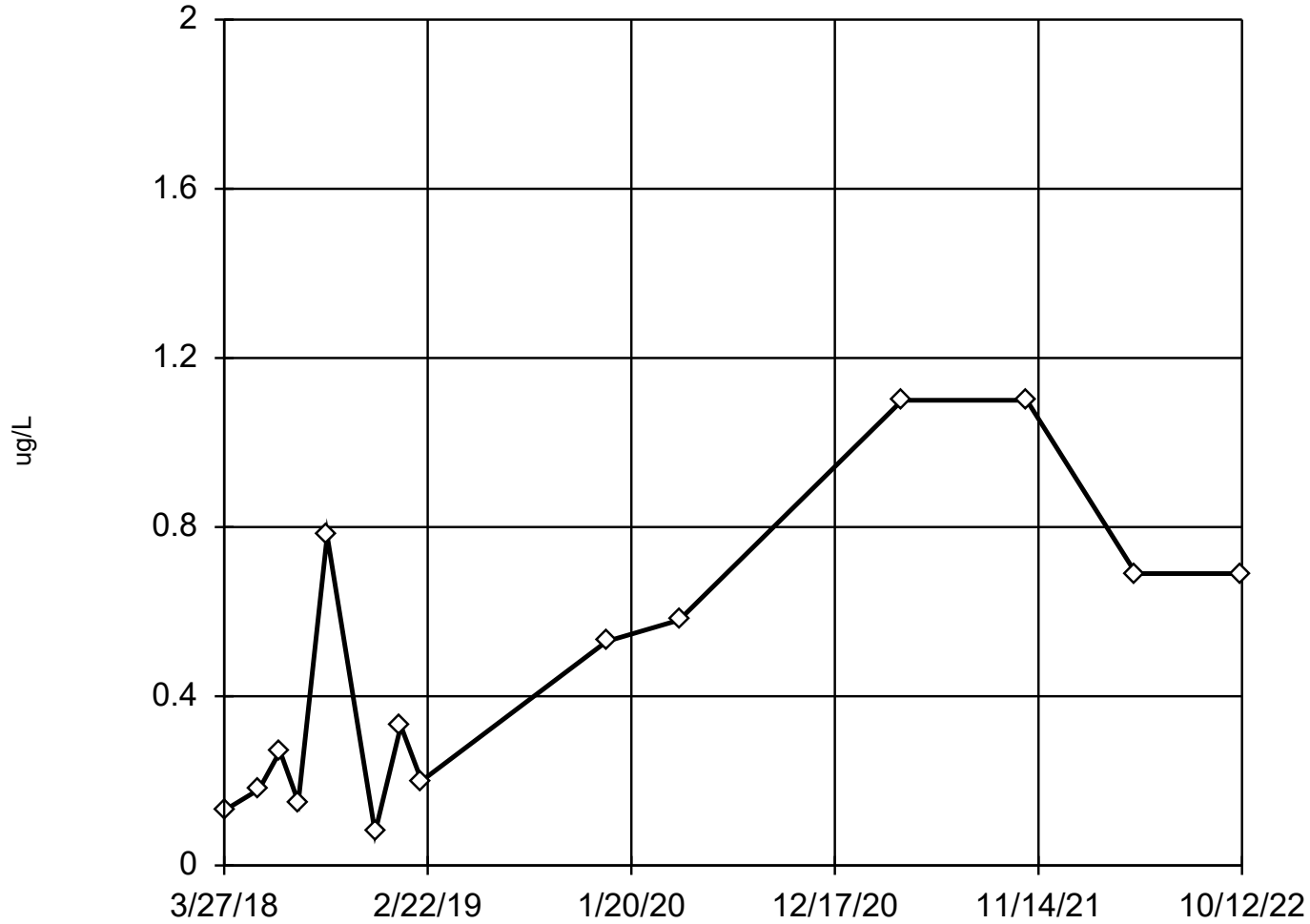
Outlier Analysis

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 1/1/2023, 1:11 PM

Constituent	Well	Outlier	Value(s)	Date(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (ug/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	14	0.4863	0.3494	normal	ShapiroWilk
Antimony (ug/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	14	0.7321	0.6563	ln(x)	ShapiroWilk
Arsenic (ug/L)	MW-301 (bg)	Yes	16.2	9/11/2018	Dixon`s	0.05	16	1.989	3.82	ln(x)	ShapiroWilk
Arsenic (ug/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	16	7.8	5.431	ln(x)	ShapiroWilk
Barium (ug/L)	MW-301 (bg)	Yes	1110	9/11/2018	Dixon`s	0.05	16	203.1	252.4	ln(x)	ShapiroWilk
Barium (ug/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	16	111.3	23.51	normal	ShapiroWilk
Beryllium (ug/L)	MW-301 (bg)	Yes	1.3	9/11/2018	Dixon`s	0.05	15	0.3055	0.2968	normal	ShapiroWilk
Beryllium (ug/L)	MW-302 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	15	0.1813	0.09283	unknown	ShapiroWilk
Boron (ug/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	18	153.9	87.05	normal	ShapiroWilk
Boron (ug/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	18	67.91	28.26	normal	ShapiroWilk
Cadmium (ug/L)	MW-301 (bg)	Yes	0.6	9/11/2018	Dixon`s	0.05	16	0.1261	0.1396	ln(x)	ShapiroWilk
Cadmium (ug/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	16	0.05037	0.01436	normal	ShapiroWilk
Calcium (mg/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	18	77.57	12.59	normal	ShapiroWilk
Calcium (mg/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	18	69.49	9.795	normal	ShapiroWilk
Chloride (mg/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	18	34.04	23.09	normal	ShapiroWilk
Chloride (mg/L)	MW-302 (bg)	Yes	85	4/6/2021	Dixon`s	0.05	18	12.07	18.58	ln(x)	ShapiroWilk
Chromium (ug/L)	MW-301 (bg)	Yes	20.8	9/11/2018	Dixon`s	0.05	15	2.785	5.045	ln(x)	ShapiroWilk
Chromium (ug/L)	MW-302 (bg)	No	n/a	n/a	NP (nrm)	NaN	15	0.6467	0.4288	unknown	ShapiroWilk
Cobalt (ug/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	16	2.536	5.234	ln(x)	ShapiroWilk
Cobalt (ug/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	16	3.754	2.192	normal	ShapiroWilk
Field pH (Std. Units)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	18	6.794	0.3673	normal	ShapiroWilk
Field pH (Std. Units)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	18	7.233	0.15	normal	ShapiroWilk
Fluoride (mg/L)	MW-301 (bg)	Yes	0.41,2.5,0.5	4/7/2020,...	Dixon`s	0.05	17	0.3847	0.5517	normal	ShapiroWilk
Fluoride (mg/L)	MW-302 (bg)	Yes	0.55,2.5,0.6	4/7/2020,...	Dixon`s	0.05	17	0.4106	0.5506	normal	ShapiroWilk
Lead (ug/L)	MW-301 (bg)	Yes	19.1	9/11/2018	Dixon`s	0.05	16	1.936	4.632	ln(x)	ShapiroWilk
Lead (ug/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	16	0.2038	0.07535	normal	ShapiroWilk
Lithium (ug/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	16	5.162	3.067	ln(x)	ShapiroWilk
Lithium (ug/L)	MW-302 (bg)	No	n/a	n/a	NP (nrm)	NaN	16	4.044	1.73	unknown	ShapiroWilk
Mercury (ug/L)	MW-301 (bg)	Yes	0.037,0.1...	2/12/2019...	NP (nrm)	NaN	13	0.09823	0.02847	unknown	ShapiroWilk
Mercury (ug/L)	MW-302 (bg)	Yes	0.037,0.1...	2/12/2019...	NP (nrm)	NaN	13	0.09823	0.02847	unknown	ShapiroWilk
Molybdenum (ug/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	16	2.769	3.526	ln(x)	ShapiroWilk
Molybdenum (ug/L)	MW-302 (bg)	Yes	0.76,0.57...	2/12/2019...	Dixon`s	0.05	16	1.082	0.2233	normal	ShapiroWilk
Selenium (ug/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	14	3.162	3.098	ln(x)	ShapiroWilk
Selenium (ug/L)	MW-302 (bg)	Yes	2.5,22,8,3.9	4/6/2021,...	Dixon`s	0.05	14	3.22	5.767	normal	ShapiroWilk
Sulfate (mg/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	18	60.17	34.43	ln(x)	ShapiroWilk
Sulfate (mg/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	18	42.87	41.02	ln(x)	ShapiroWilk
Thallium (ug/L)	MW-301 (bg)	No	n/a	n/a	Dixon`s	0.05	14	0.1974	0.1045	ln(x)	ShapiroWilk
Thallium (ug/L)	MW-302 (bg)	n/a	n/a	n/a	NP (nrm)	NaN	14	0.1759	0.08166	unknown	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-301 (bg)	No	n/a	n/a	Dixon`s	0.05	18	365	99.16	normal	ShapiroWilk
Total Dissolved Solids (mg/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	18	284	44.35	normal	ShapiroWilk
Total Radium (pCi/L)	MW-301 (bg)	No	n/a	n/a	EPA 1989	0.05	16	0.9608	0.8887	ln(x)	ShapiroWilk
Total Radium (pCi/L)	MW-302 (bg)	No	n/a	n/a	EPA 1989	0.05	16	0.9068	0.4365	normal	ShapiroWilk

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 14

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.4863, std. dev. 0.3494, critical Tn 2.371

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8976
Critical = 0.874
The distribution was found to be normally distributed.

Constituent: Antimony Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

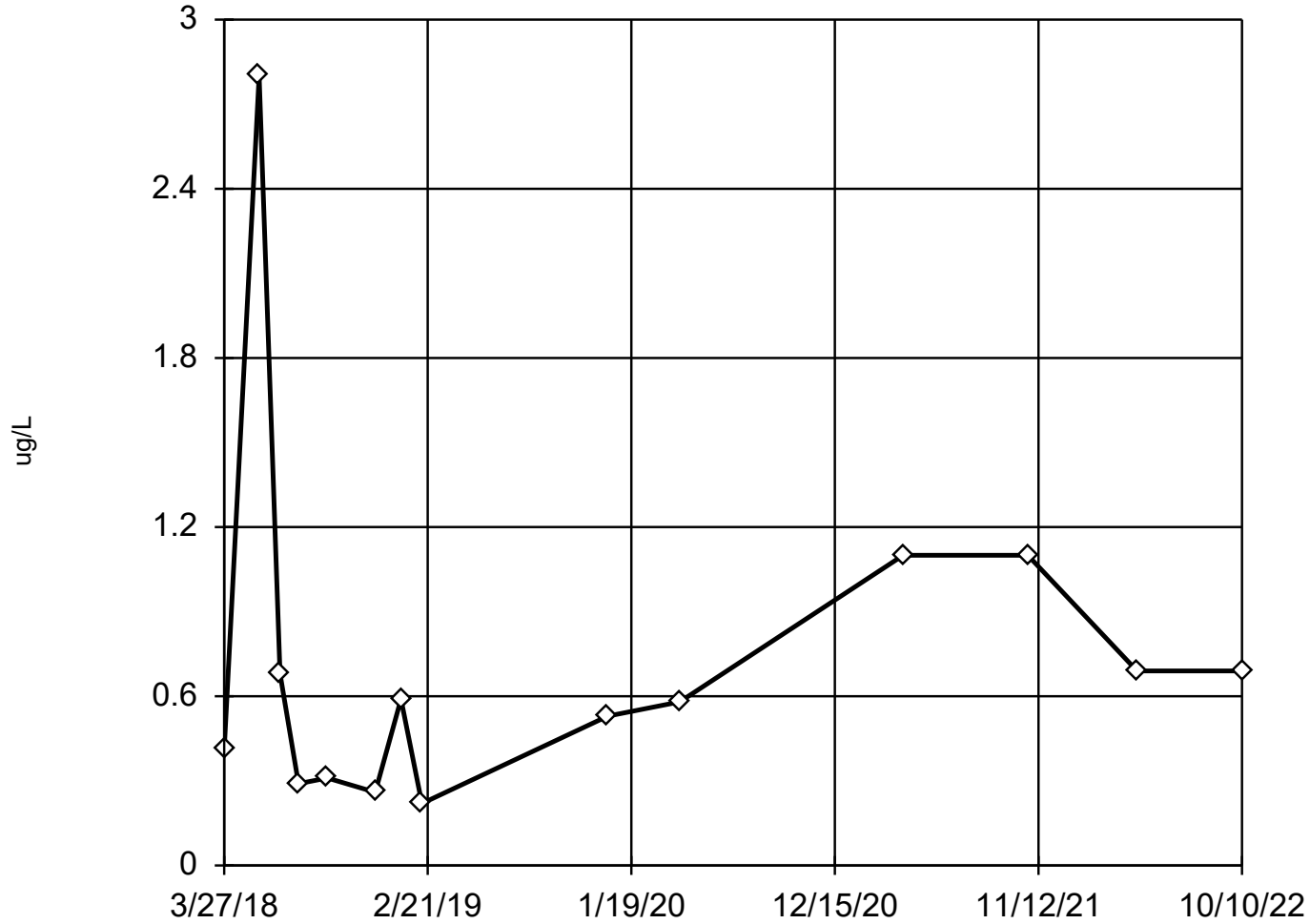
Constituent: Antimony (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.13 (J)
5/23/2018	0.18 (J)
6/26/2018	0.27 (J)
7/26/2018	<0.15 (U)
9/11/2018	0.78 (J)
11/28/2018	<0.078 (U)
1/9/2019	0.33 (J)
2/12/2019	0.2 (J)
12/11/2019	<0.53 (U)
4/7/2020	<0.58 (U)
4/6/2021	<1.1 (U)
10/26/2021	<1.1 (U)
4/22/2022	<0.69 (U)
10/12/2022	<0.69 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 14

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.7321, std. dev. 0.6563, critical Tn 2.371

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9409
Critical = 0.874 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Antimony Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

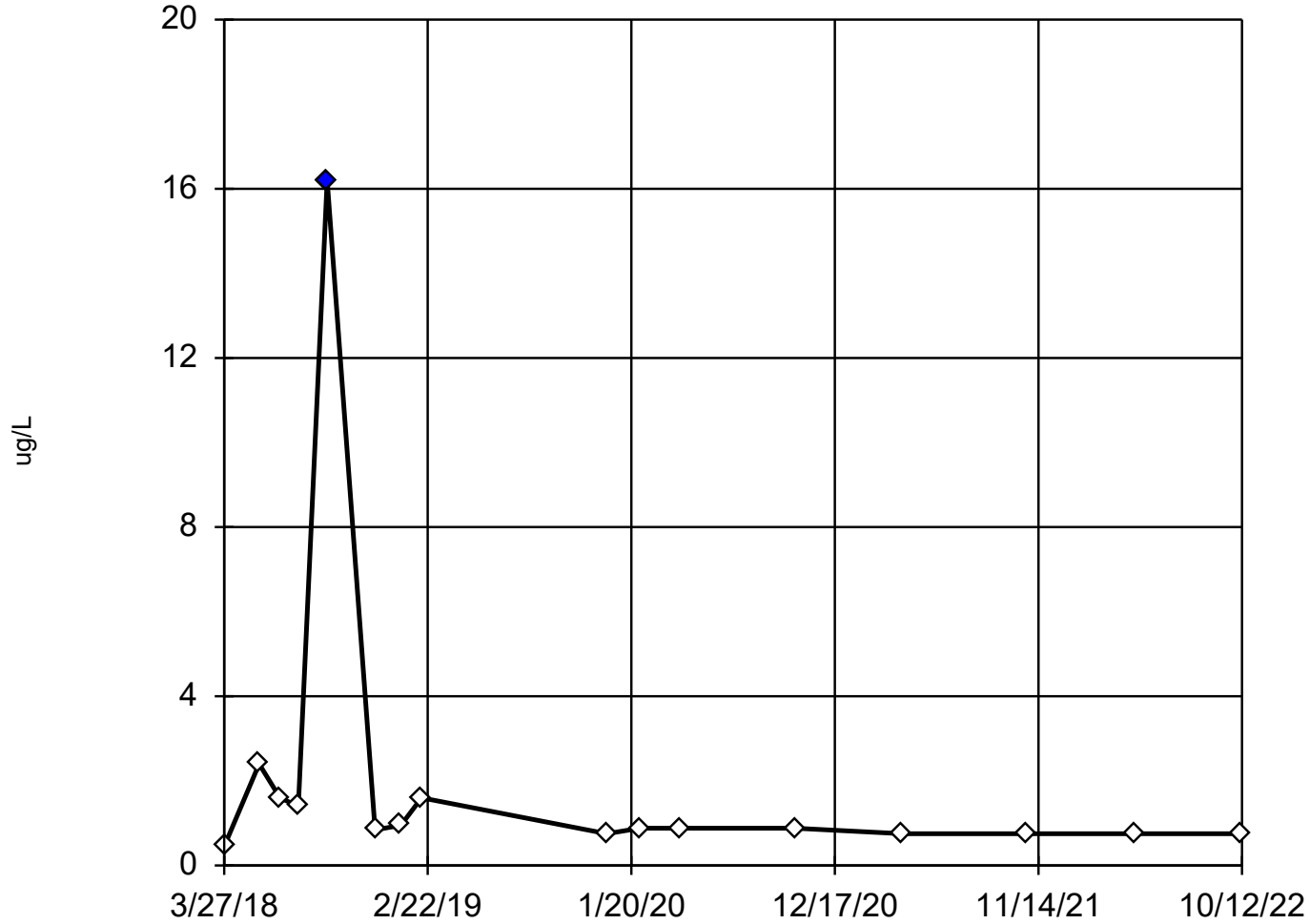
Constituent: Antimony (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	0.41 (J)
5/23/2018	2.8
6/26/2018	0.68 (J)
7/26/2018	0.29 (J)
9/11/2018	0.31 (J)
11/28/2018	0.26 (J)
1/9/2019	0.59 (J)
2/12/2019	0.22 (J)
12/12/2019	<0.53 (U)
4/7/2020	<0.58 (U)
4/6/2021	<1.1 (U)
10/26/2021	<1.1 (U)
4/22/2022	0.69 (J)
10/10/2022	<0.69 (U)

Dixon's Outlier Test

MW-301 (bg)



n = 16

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 1.989.
Std. Dev. = 3.82.
16.2: c = 0.7534
tab1 = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8882
Critical = 0.881 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Arsenic Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

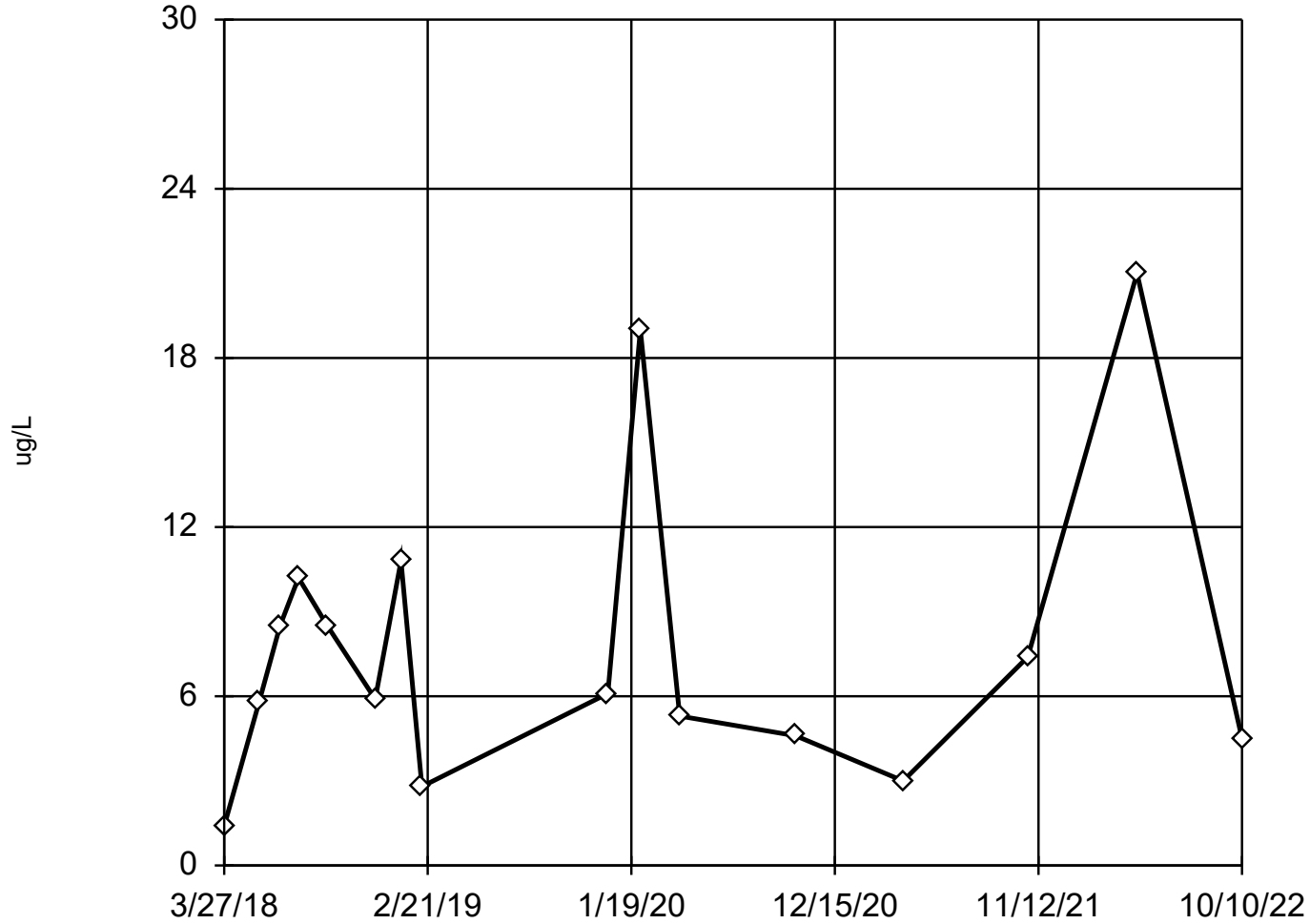
Constituent: Arsenic (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.45 (J)
5/23/2018	2.4
6/26/2018	1.6
7/26/2018	1.4
9/11/2018	16.2 (O)
11/28/2018	0.84 (J)
1/9/2019	0.95 (J)
2/12/2019	1.6
12/11/2019	<0.75 (U)
2/3/2020	<0.88 (U)
4/7/2020	<0.88 (U)
10/13/2020	<0.88 (U)
4/6/2021	<0.75 (U)
10/26/2021	<0.75 (U)
4/22/2022	<0.75 (U)
10/12/2022	<0.75 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 7.8, std. dev. 5.431, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.973
Critical = 0.887 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Arsenic Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

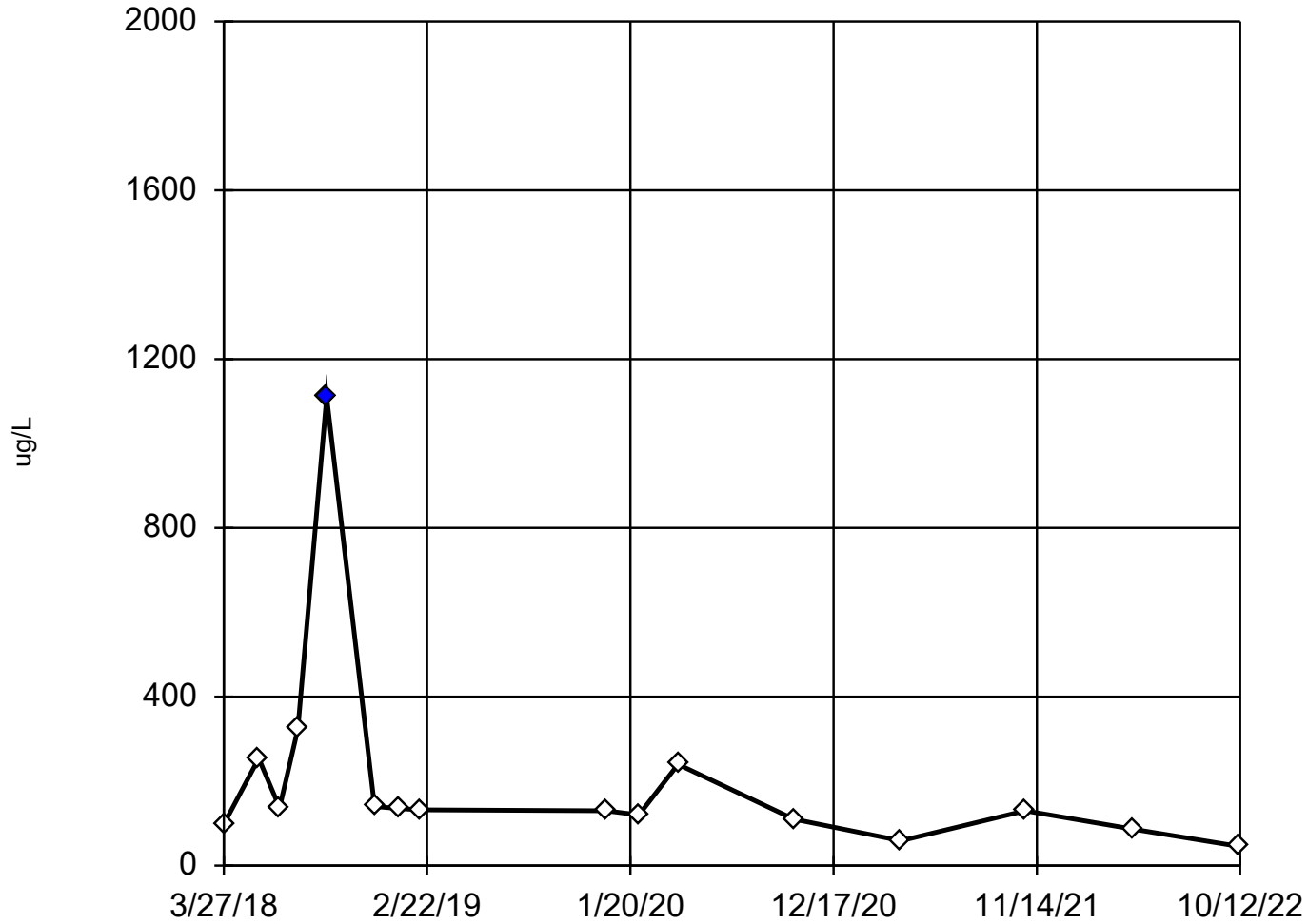
Constituent: Arsenic (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	1.4
5/23/2018	5.8
6/26/2018	8.5
7/26/2018	10.2
9/11/2018	8.5
11/28/2018	5.9
1/9/2019	10.8
2/12/2019	2.8
12/12/2019	6.1
2/3/2020	19
4/7/2020	5.3
10/13/2020	4.6
4/6/2021	3
10/26/2021	7.4
4/22/2022	21
10/10/2022	4.5

Dixon's Outlier Test

MW-301 (bg)



n = 16

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 203.1.
Std. Dev. = 252.4.
1110: c = 0.5766
tabl = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9403
Critical = 0.881 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Barium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

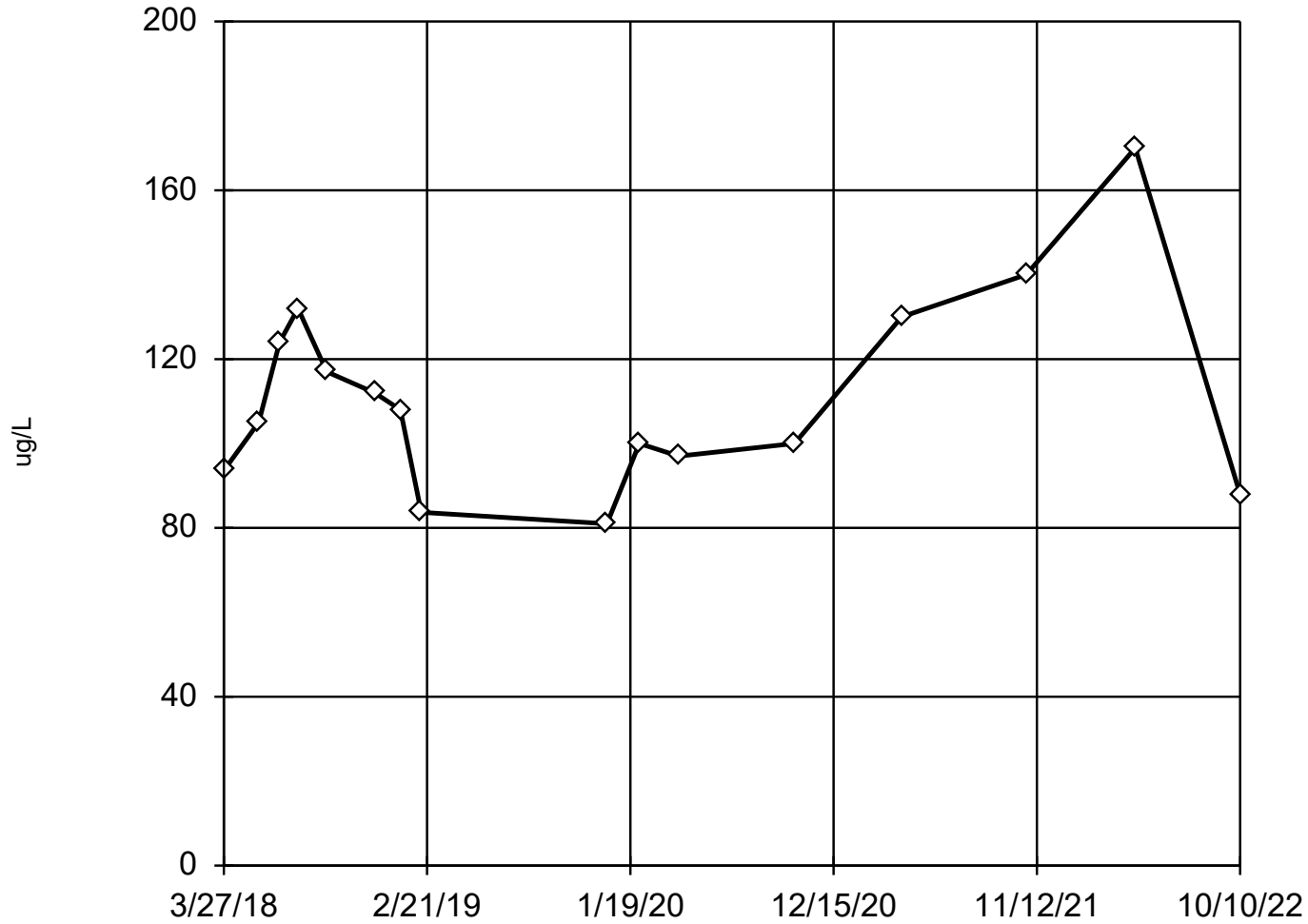
Constituent: Barium (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	98
5/23/2018	254
6/26/2018	137
7/26/2018	324
9/11/2018	1110 (O)
11/28/2018	140
1/9/2019	135
2/12/2019	132
12/11/2019	130
2/3/2020	120
4/7/2020	240
10/13/2020	110
4/6/2021	59
10/26/2021	130
4/22/2022	86
10/12/2022	45

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 111.3, std. dev. 23.51, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9355
Critical = 0.887
The distribution was found to be normally distributed.

Constituent: Barium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

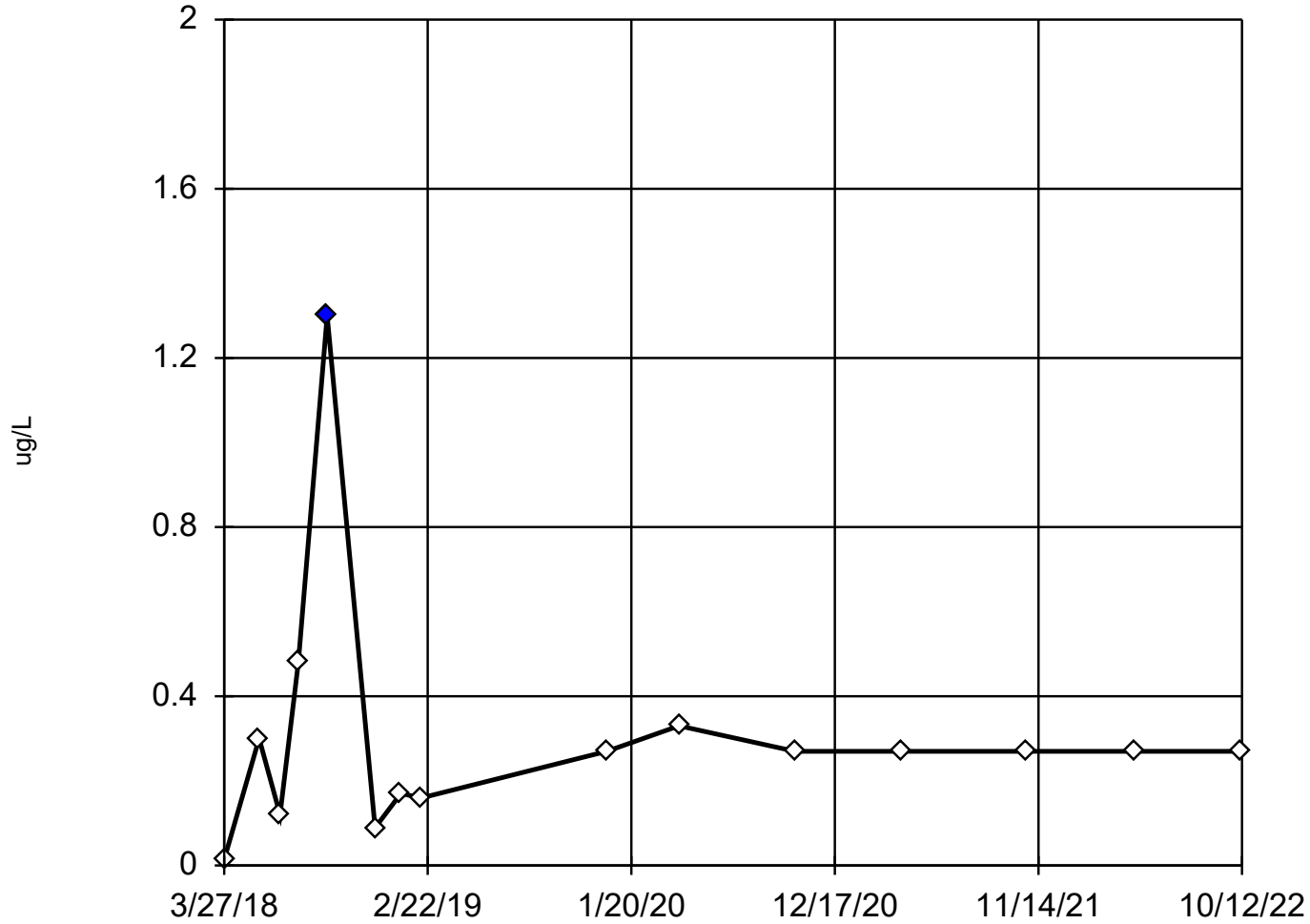
Constituent: Barium (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	93.6
5/23/2018	105
6/26/2018	124
7/26/2018	132
9/11/2018	117
11/28/2018	112
1/9/2019	108
2/12/2019	83.7
12/12/2019	81
2/3/2020	100
4/7/2020	97
10/13/2020	100
4/6/2021	130
10/26/2021	140
4/22/2022	170
10/10/2022	88

Dixon's Outlier Test

MW-301 (bg)



n = 15

Statistical outlier is drawn as solid.
Testing for 1 high and 1 low outliers.
Mean = 0.3055.
Std. Dev. = 0.2968.
1.3: c = 0.822
tab1 = 0.525.
0.014 (J): c = 0.3354
tab1 = 0.525.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8974
Critical = 0.866
The distribution, after removal of suspect value, was found to be normally distributed.

Constituent: Beryllium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

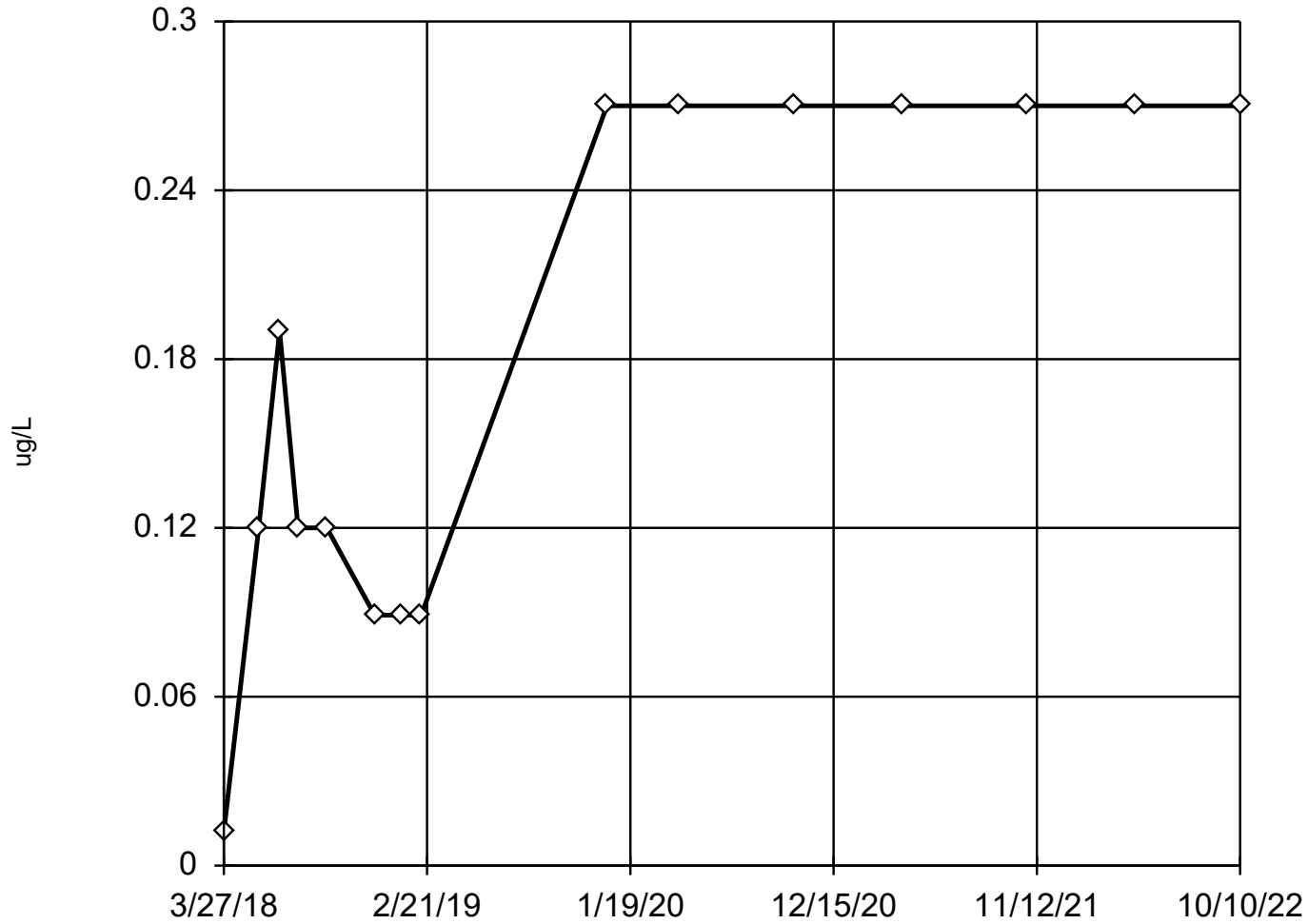
Constituent: Beryllium (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.014 (J)
5/23/2018	0.3 (J)
6/26/2018	<0.12 (U)
7/26/2018	0.48 (J)
9/11/2018	1.3 (O)
11/28/2018	<0.089 (U)
1/9/2019	0.17 (J)
2/12/2019	0.16 (J)
12/11/2019	<0.27 (U)
4/7/2020	0.33 (J)
10/13/2020	<0.27 (U)
4/6/2021	<0.27 (U)
10/26/2021	<0.27 (U)
4/22/2022	<0.27 (U)
10/12/2022	<0.27 (U)

Tukey's Outlier Screening

MW-302 (bg)



n = 15

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

Data were square root transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Beryllium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tukey's Outlier Screening

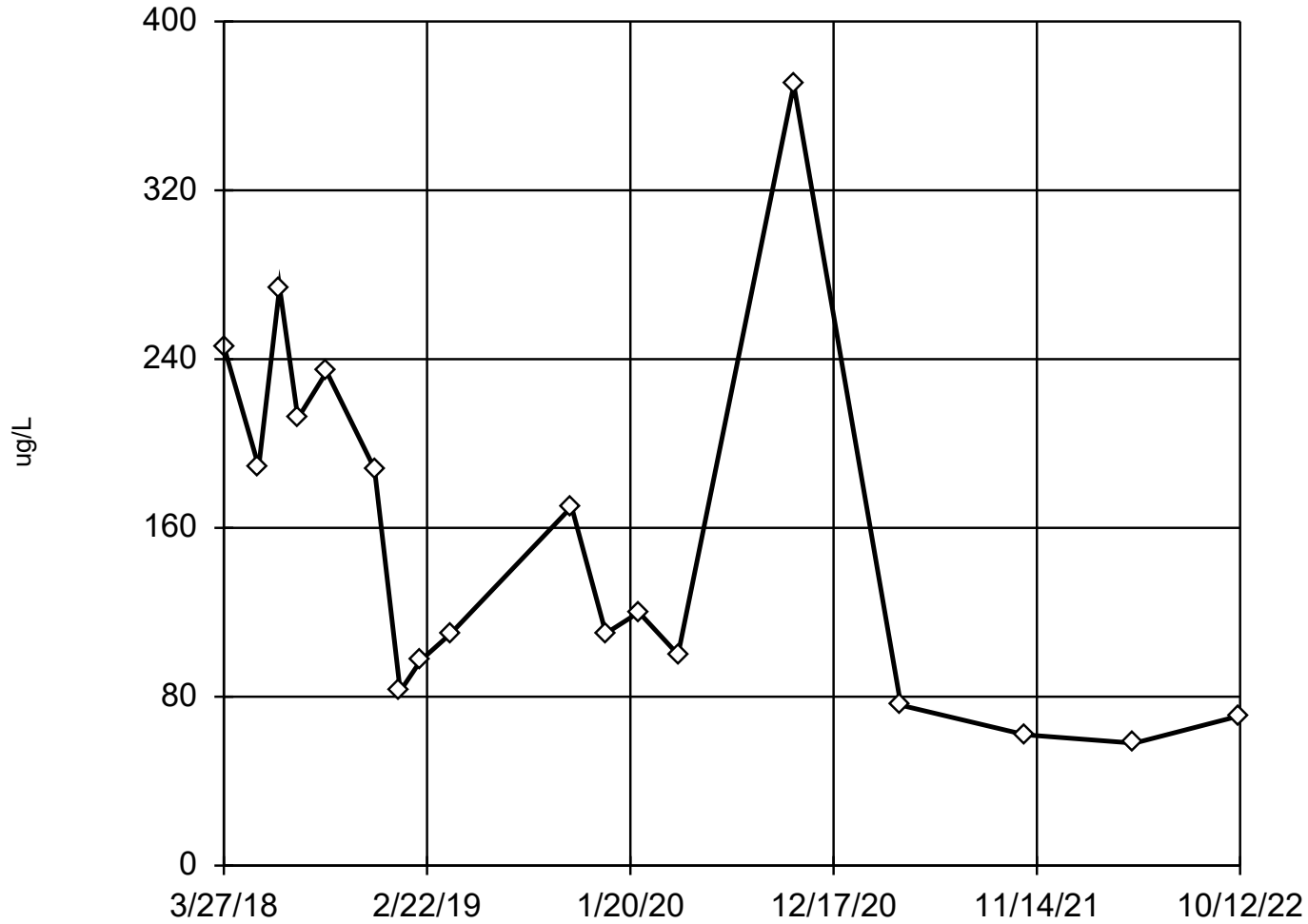
Constituent: Beryllium (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	<0.012 (U)
5/23/2018	<0.12 (U)
6/26/2018	0.19 (J)
7/26/2018	<0.12 (U)
9/11/2018	<0.12 (U)
11/28/2018	<0.089 (U)
1/9/2019	<0.089 (U)
2/12/2019	<0.089 (U)
12/12/2019	<0.27 (U)
4/7/2020	<0.27 (U)
10/13/2020	<0.27 (U)
4/6/2021	<0.27 (U)
10/26/2021	<0.27 (U)
4/22/2022	<0.27 (U)
10/10/2022	<0.27 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 153.9, std. dev. 87.05, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.898
Critical = 0.897
The distribution was found to be normally distributed.

Constituent: Boron Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

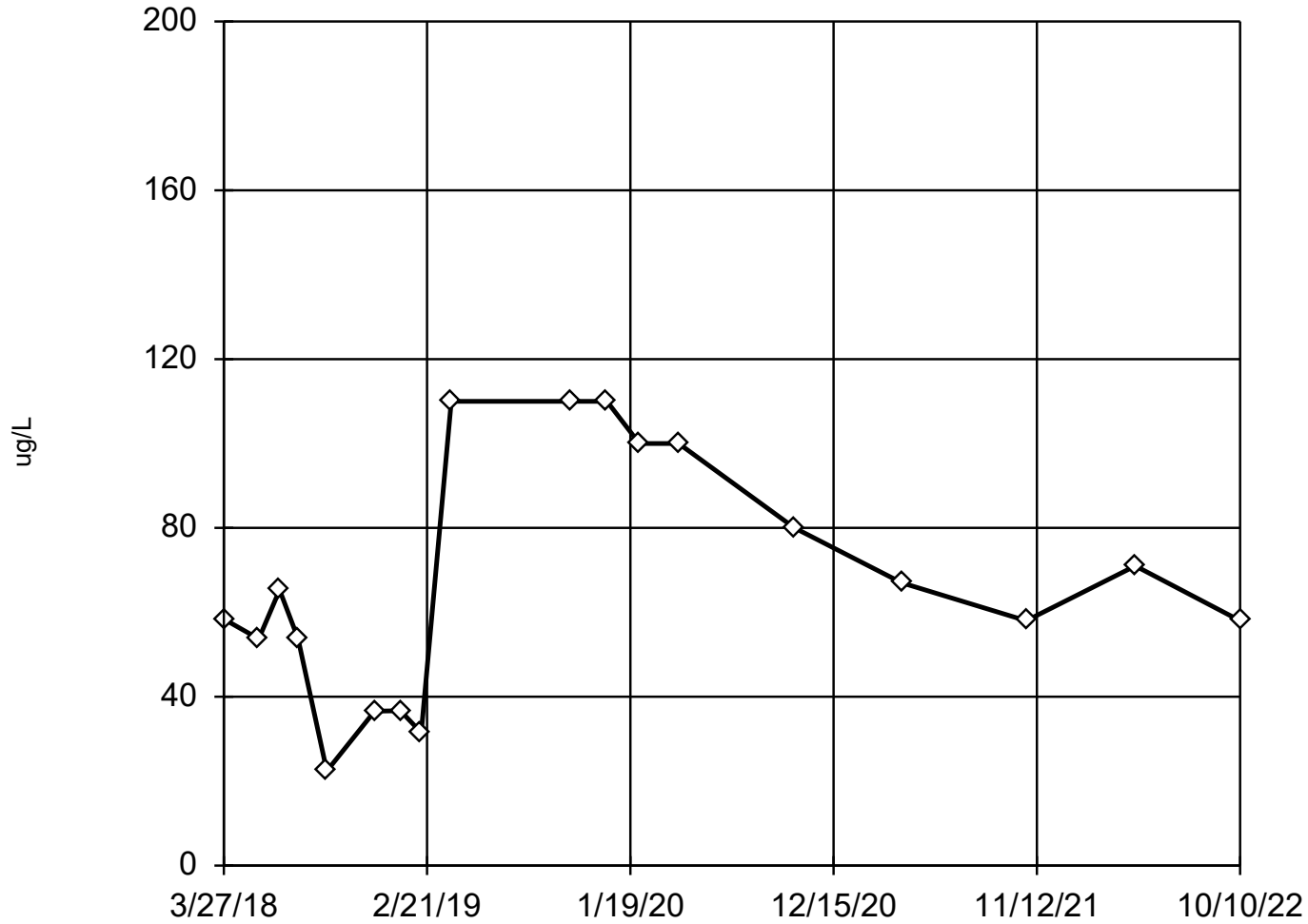
Constituent: Boron (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	246
5/23/2018	189
6/26/2018	274
7/26/2018	212
9/11/2018	234
11/28/2018	188
1/9/2019	82.7 (J)
2/12/2019	97.3 (J)
4/2/2019	<110 (U)
10/16/2019	170 (J)
12/11/2019	<110 (U)
2/3/2020	120 (J)
4/7/2020	<100 (U)
10/13/2020	370
4/6/2021	76 (J)
10/26/2021	62 (J)
4/22/2022	<58 (U)
10/12/2022	71 (J)

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 67.91, std. dev. 28.26, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9246
Critical = 0.897
The distribution was found to be normally distributed.

Constituent: Boron Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

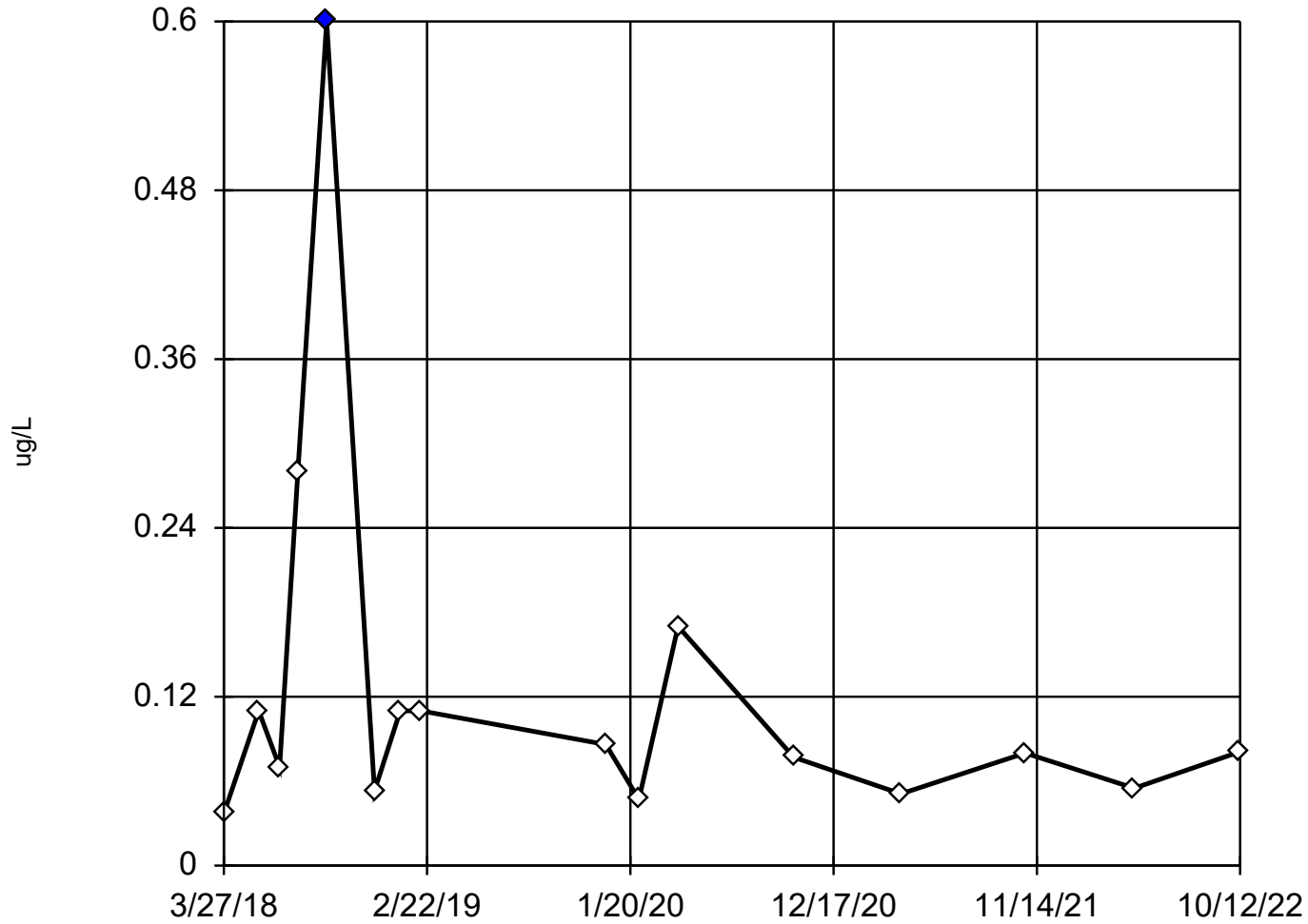
Constituent: Boron (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	58.4 (J)
5/23/2018	53.7 (J)
6/26/2018	65.3 (J)
7/26/2018	53.8 (J)
9/11/2018	22.4 (J)
11/28/2018	36.6 (J)
1/9/2019	36.7 (J)
2/12/2019	31.5 (J)
4/2/2019	<110 (U)
10/16/2019	<110 (U)
12/12/2019	<110 (U)
2/3/2020	<100 (U)
4/7/2020	<100 (U)
10/13/2020	<80 (U)
4/6/2021	67 (J)
10/26/2021	<58 (U)
4/22/2022	71 (J)
10/10/2022	<58 (U)

Dixon's Outlier Test

MW-301 (bg)



n = 16
Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 0.1261.
Std. Dev. = 0.1396.
0.6: c = 0.5116
tab1 = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9481
Critical = 0.881 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Cadmium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

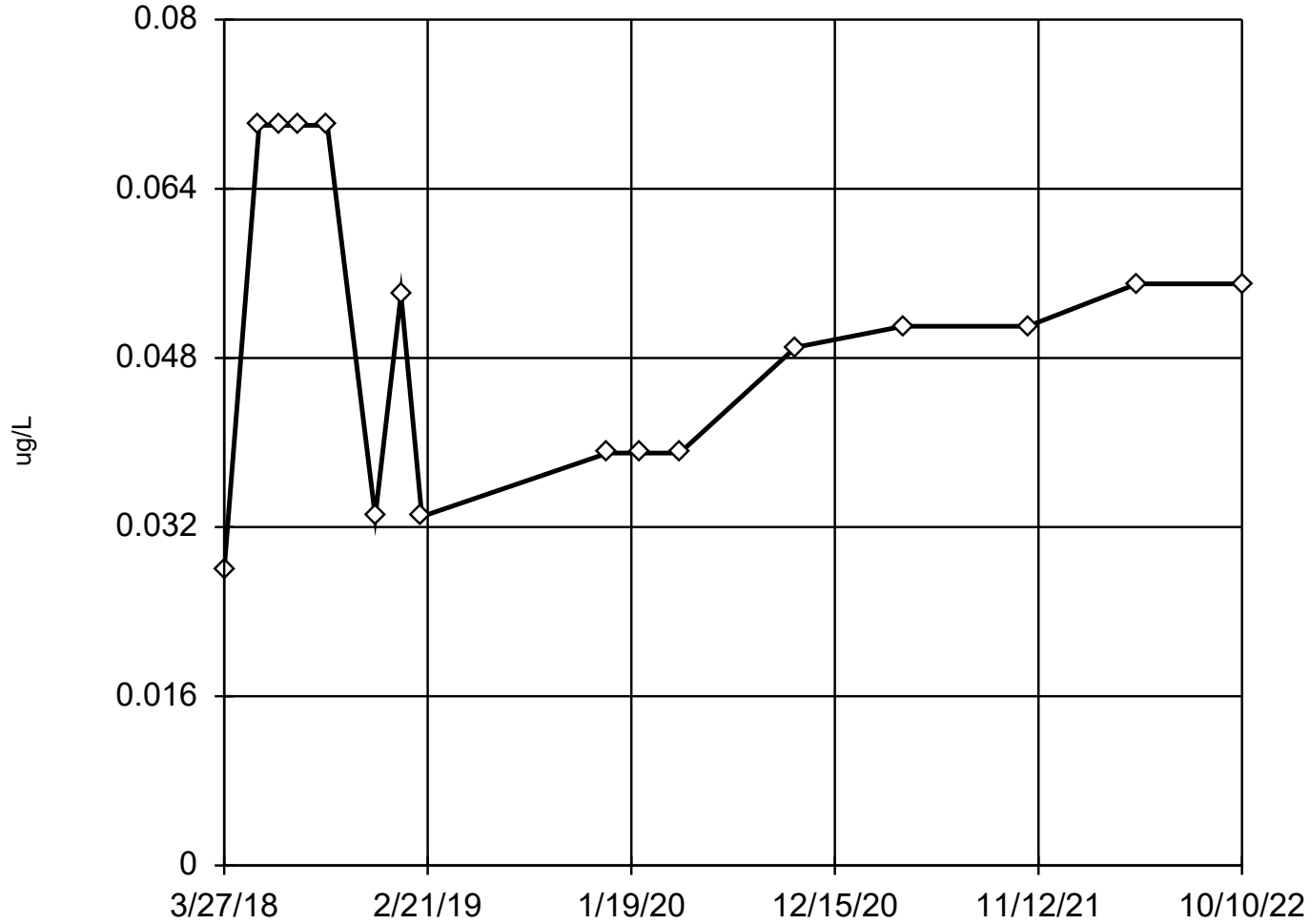
Constituent: Cadmium (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.037 (J)
5/23/2018	0.11 (J)
6/26/2018	<0.07 (U)
7/26/2018	0.28 (J)
9/11/2018	0.6 (O)
11/28/2018	0.053 (J)
1/9/2019	0.11 (J)
2/12/2019	0.11 (J)
12/11/2019	0.086 (J)
2/3/2020	0.047 (J)
4/7/2020	0.17
10/13/2020	0.077 (J)
4/6/2021	<0.051 (U)
10/26/2021	0.08 (J)
4/22/2022	<0.055 (U)
10/12/2022	0.081 (J)

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 16
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.05037, std. dev. 0.01436, critical Tn 2.443
Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9074
Critical = 0.887
The distribution was found to be normally distributed.

Constituent: Cadmium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

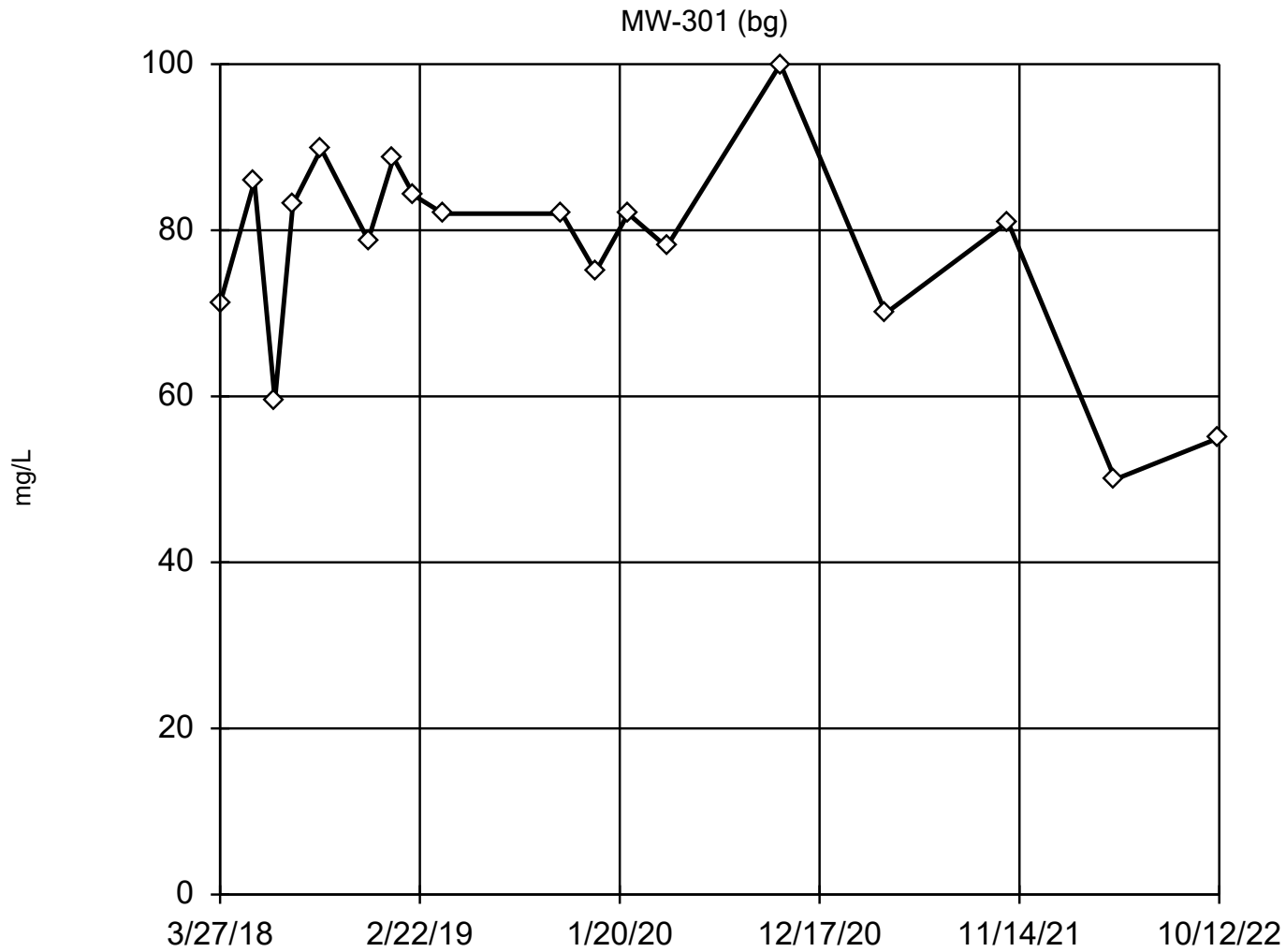
EPA 1989 Outlier Screening

Constituent: Cadmium (ug/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	0.028 (J)
5/23/2018	<0.07 (U)
6/26/2018	<0.07 (U)
7/26/2018	<0.07 (U)
9/11/2018	<0.07 (U)
11/28/2018	<0.033 (U)
1/9/2019	0.054 (J)
2/12/2019	<0.033 (U)
12/12/2019	<0.039 (U)
2/3/2020	<0.039 (U)
4/7/2020	<0.039 (U)
10/13/2020	<0.049 (U)
4/6/2021	<0.051 (U)
10/26/2021	<0.051 (U)
4/22/2022	<0.055 (U)
10/10/2022	<0.055 (U)

EPA Screening (suspected outliers for Dixon's Test)



EPA 1989 Outlier Screening

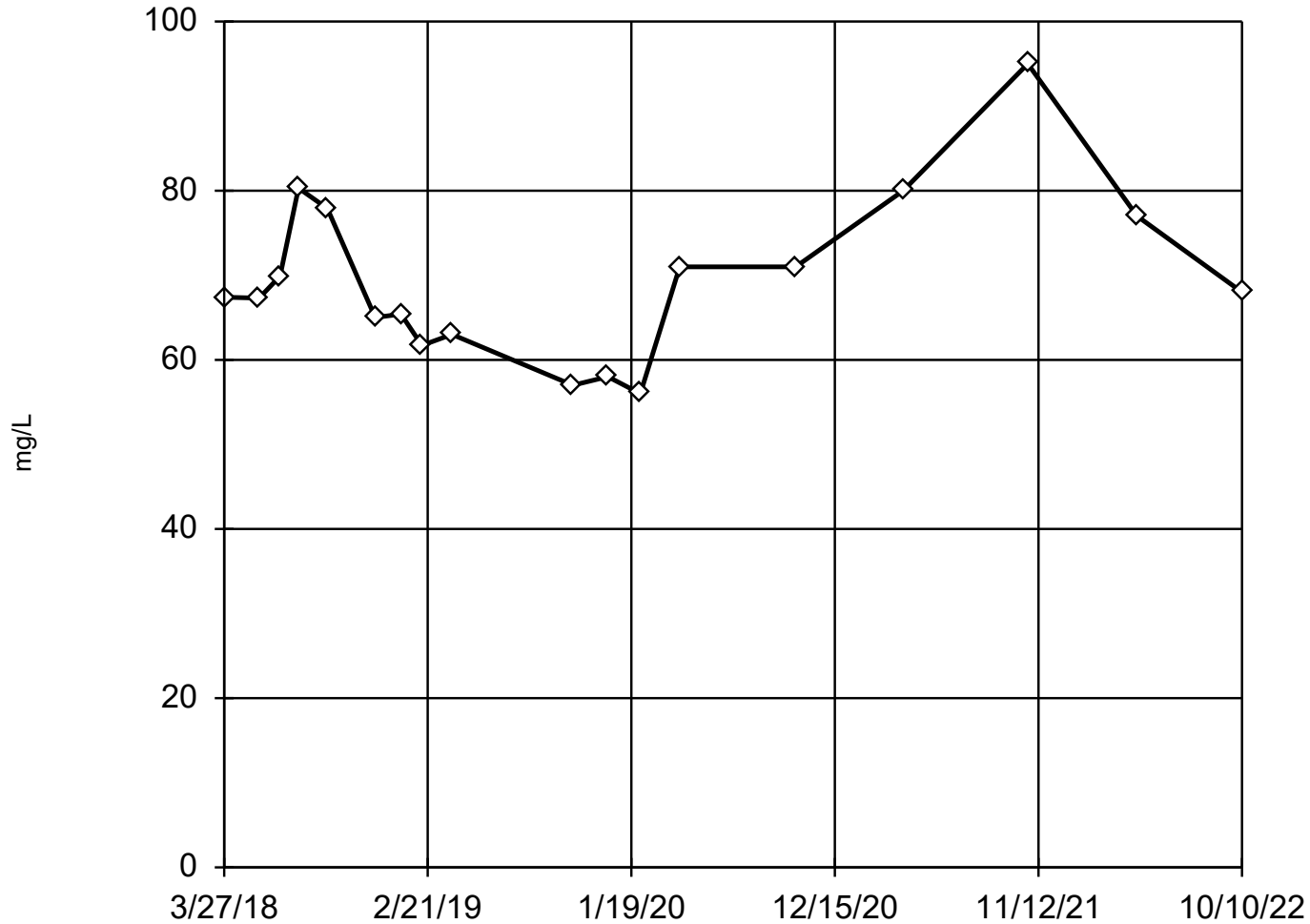
Constituent: Calcium (mg/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	71.2
5/23/2018	85.9
6/26/2018	59.5
7/26/2018	83.1
9/11/2018	89.8
11/28/2018	78.8
1/9/2019	88.7
2/12/2019	84.2
4/2/2019	82
10/16/2019	82
12/11/2019	75
2/3/2020	82
4/7/2020	78
10/13/2020	100
4/6/2021	70
10/26/2021	81
4/22/2022	50
10/12/2022	55

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 69.49, std. dev. 9.795, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9365
Critical = 0.897
The distribution was found to be normally distributed.

Constituent: Calcium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

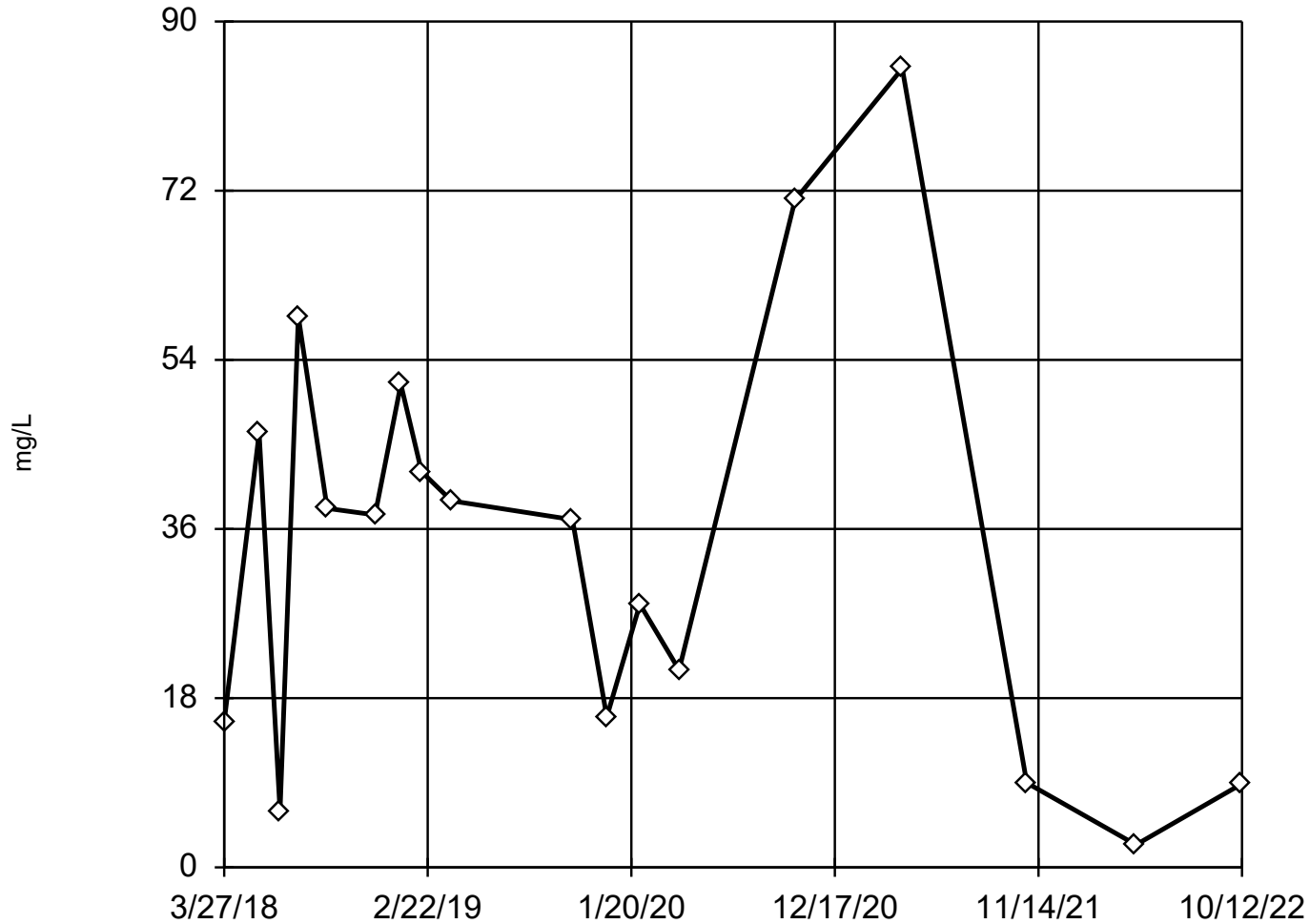
Constituent: Calcium (mg/L) Analysis Run 1/1/2023 1:10 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	67.4
5/23/2018	67.3
6/26/2018	69.9
7/26/2018	80.3
9/11/2018	77.9
11/28/2018	65
1/9/2019	65.4
2/12/2019	61.7
4/2/2019	63
10/16/2019	57
12/12/2019	58
2/3/2020	56
4/7/2020	71
10/13/2020	71
4/6/2021	80
10/26/2021	95
4/22/2022	77
10/10/2022	68

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 18
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 34.04, std. dev. 23.09, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9501
Critical = 0.897
The distribution was found to be normally distributed.

Constituent: Chloride Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

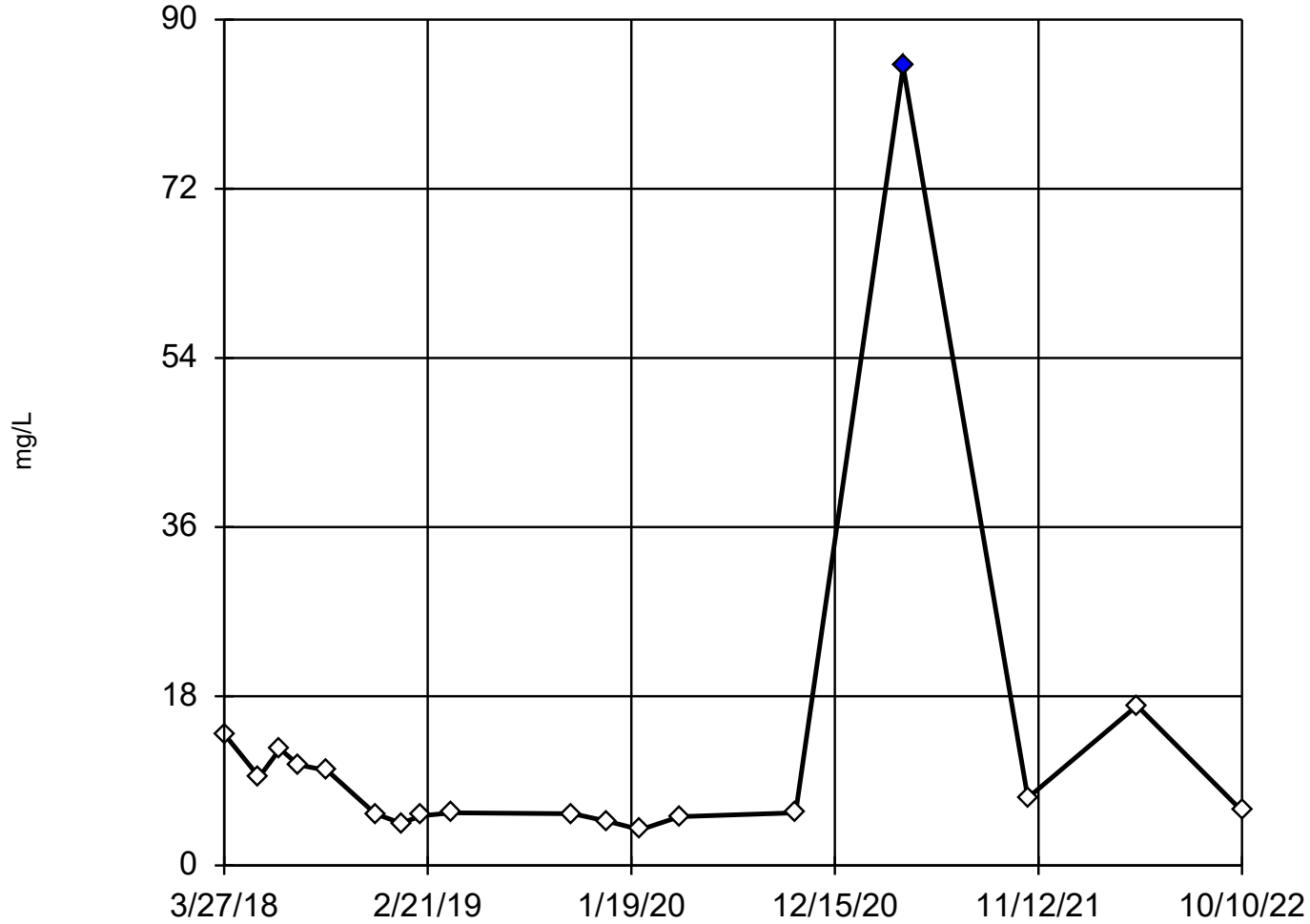
Constituent: Chloride (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	15.5
5/23/2018	46.2
6/26/2018	6
7/26/2018	58.6
9/11/2018	38.2
11/28/2018	37.5
1/9/2019	51.4
2/12/2019	42.1
4/2/2019	39
10/16/2019	37
12/11/2019	16
2/3/2020	28
4/7/2020	21
10/13/2020	71
4/6/2021	85
10/26/2021	9
4/22/2022	2.4 (J)
10/12/2022	8.9

Dixon's Outlier Test

MW-302 (bg)



n = 18
Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 12.07.
Std. Dev. = 18.58.
85: c = 0.623
tab1 = 0.475.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9033
Critical = 0.892 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Chloride Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

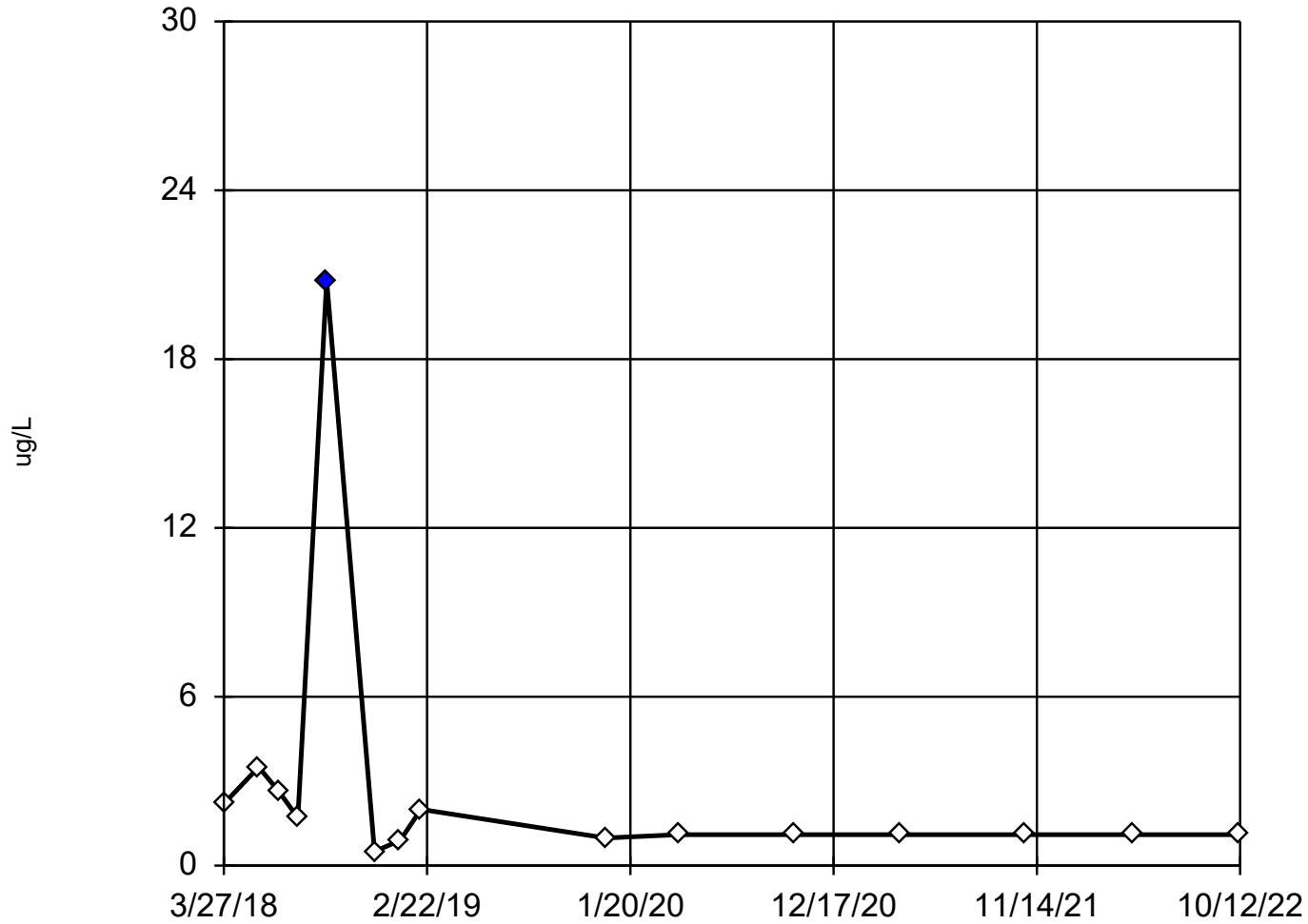
Constituent: Chloride (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	14
5/23/2018	9.4
6/26/2018	12.4
7/26/2018	10.7
9/11/2018	10.1
11/28/2018	5.5
1/9/2019	4.5
2/12/2019	5.3
4/2/2019	5.6
10/16/2019	5.5
12/12/2019	4.7 (J)
2/3/2020	3.8 (J)
4/7/2020	5.2
10/13/2020	5.6
4/6/2021	85 (O)
10/26/2021	7.2
4/22/2022	17
10/10/2022	5.8

Dixon's Outlier Test

MW-301 (bg)



n = 15
Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 2.785.
Std. Dev. = 5.045.
20.8 (X): c = 0.6806
tab1 = 0.525.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9158
Critical = 0.874 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Chromium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

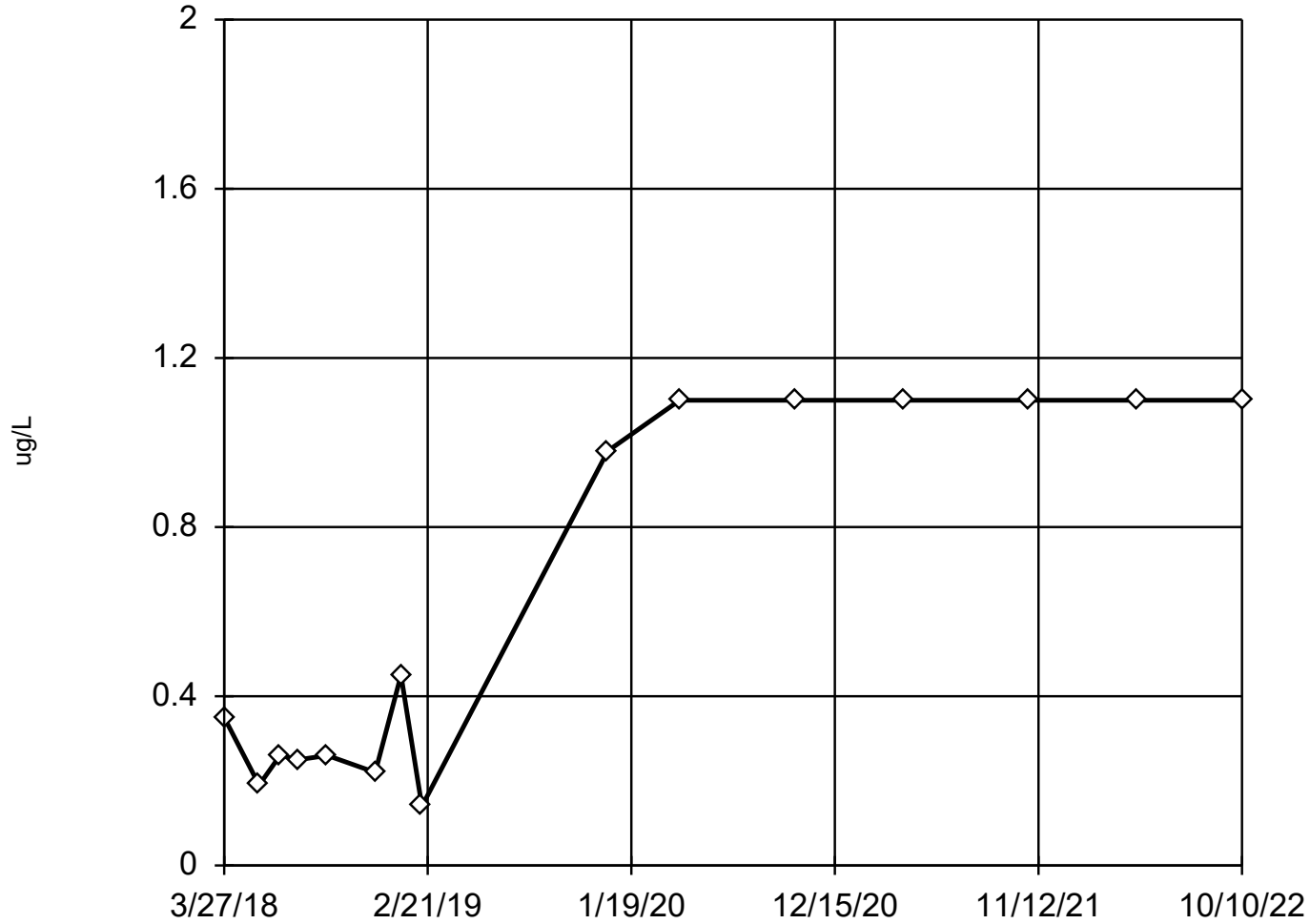
Constituent: Chromium (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	2.2
5/23/2018	3.5
6/26/2018	2.6
7/26/2018	1.7
9/11/2018	20.8 (XO)
11/28/2018	0.5 (J)
1/9/2019	0.9 (J)
2/12/2019	2
12/11/2019	<0.98 (U)
4/7/2020	1.1 (J)
10/13/2020	<1.1 (U)
4/6/2021	<1.1 (U)
10/26/2021	<1.1 (U)
4/22/2022	<1.1 (U)
10/12/2022	<1.1 (U)

Tukey's Outlier Screening

MW-302 (bg)



n = 15

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 93.7, low cutoff = 0.002935, based on IQR multiplier of 3.

Constituent: Chromium Analysis Run 1/1/2023 1:08 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tukey's Outlier Screening

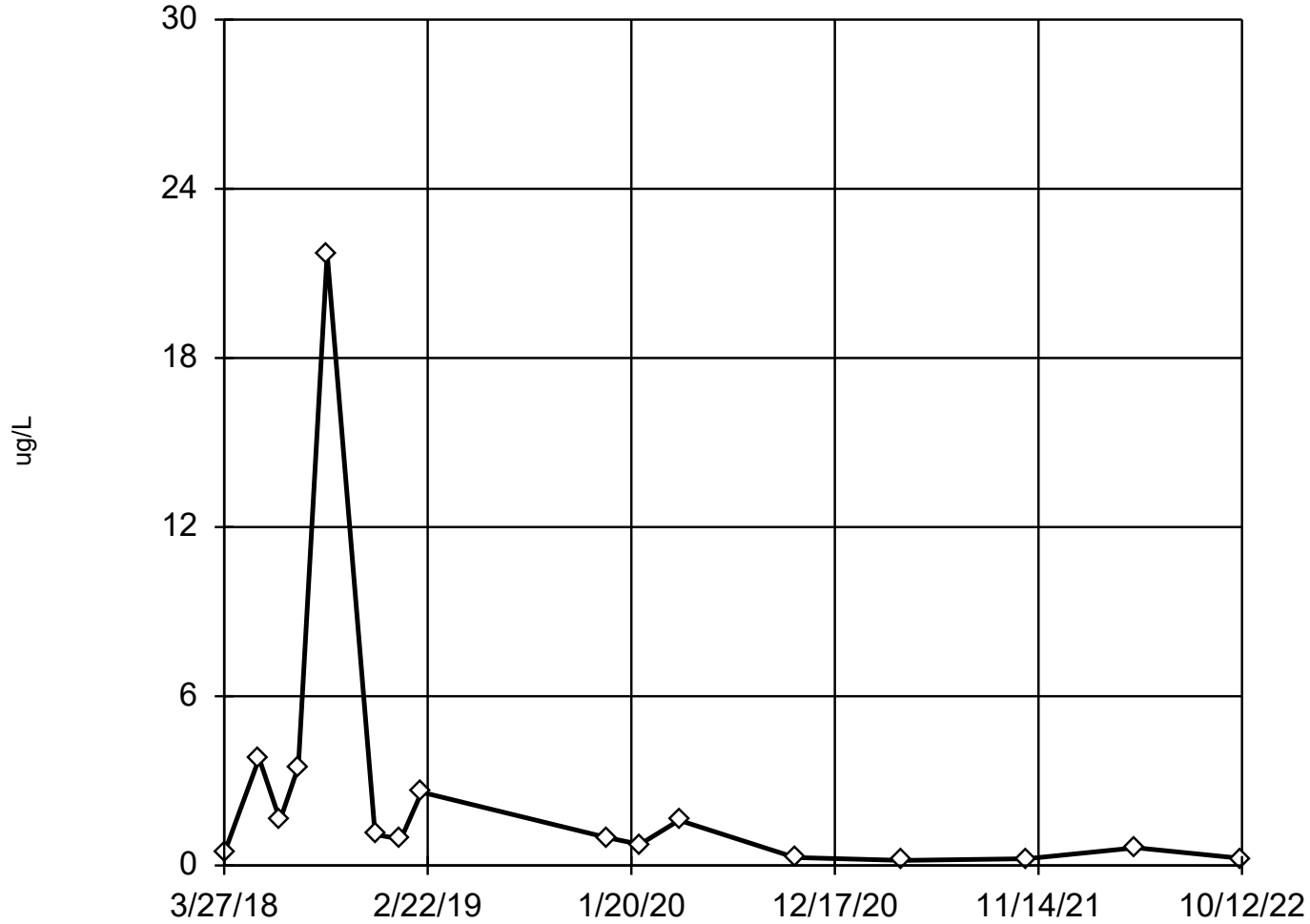
Constituent: Chromium (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	0.35 (J)
5/23/2018	<0.19 (U)
6/26/2018	0.26 (J)
7/26/2018	0.25 (J)
9/11/2018	0.26 (J)
11/28/2018	0.22 (J)
1/9/2019	0.45 (J)
2/12/2019	0.14 (J)
12/12/2019	<0.98 (U)
4/7/2020	<1.1 (U)
10/13/2020	<1.1 (U)
4/6/2021	<1.1 (U)
10/26/2021	<1.1 (U)
4/22/2022	<1.1 (U)
10/10/2022	<1.1 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 16
Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 2.536, std. dev. 5.234, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.946
Critical = 0.887 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Cobalt Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

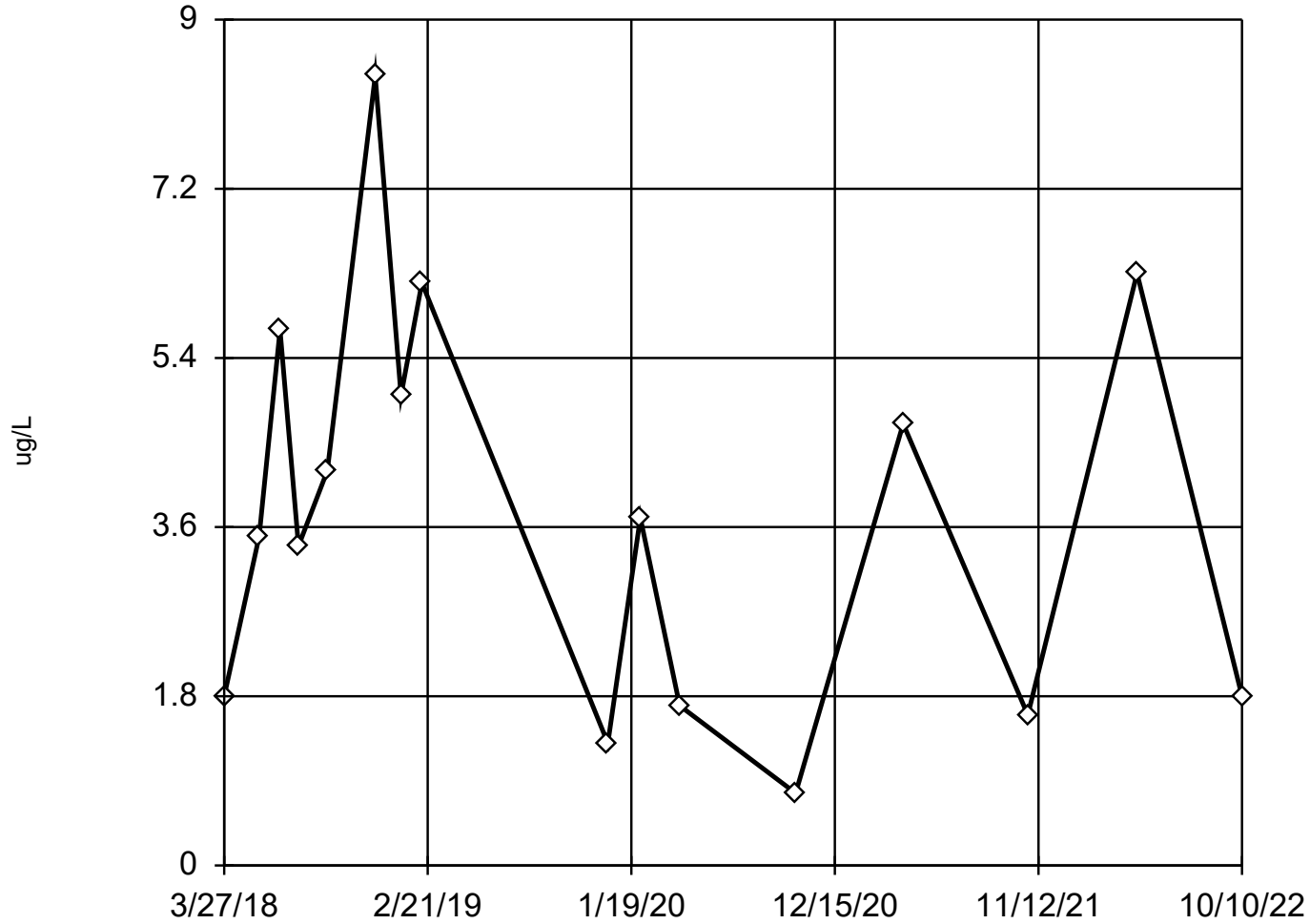
Constituent: Cobalt (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.43 (J)
5/23/2018	3.8
6/26/2018	1.6
7/26/2018	3.5
9/11/2018	21.7 (X)
11/28/2018	1.1
1/9/2019	0.93 (J)
2/12/2019	2.6
12/11/2019	0.99
2/3/2020	0.75
4/7/2020	1.6
10/13/2020	0.28 (J)
4/6/2021	0.18 (J)
10/26/2021	0.24 (J)
4/22/2022	0.63
10/12/2022	0.25 (J)

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 3.754, std. dev. 2.192, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9426
Critical = 0.887
The distribution was found to be normally distributed.

Constituent: Cobalt Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

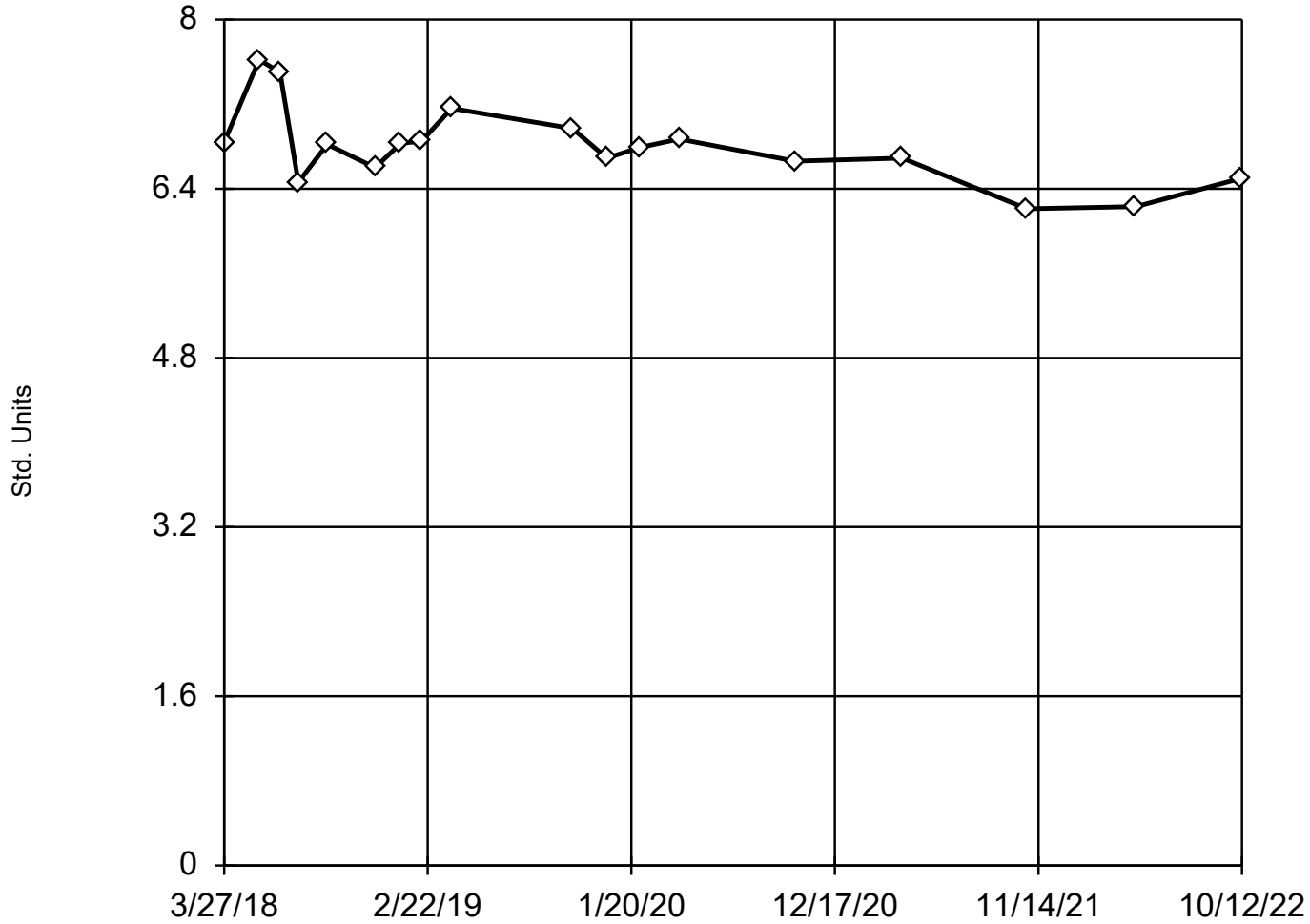
Constituent: Cobalt (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	1.8
5/23/2018	3.5
6/26/2018	5.7
7/26/2018	3.4
9/11/2018	4.2
11/28/2018	8.4
1/9/2019	5
2/12/2019	6.2
12/12/2019	1.3
2/3/2020	3.7
4/7/2020	1.7
10/13/2020	0.77
4/6/2021	4.7
10/26/2021	1.6
4/22/2022	6.3
10/10/2022	1.8

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 6.794, std. dev. 0.3673, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9317
Critical = 0.897
The distribution was found to be normally distributed.

Constituent: Field pH Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

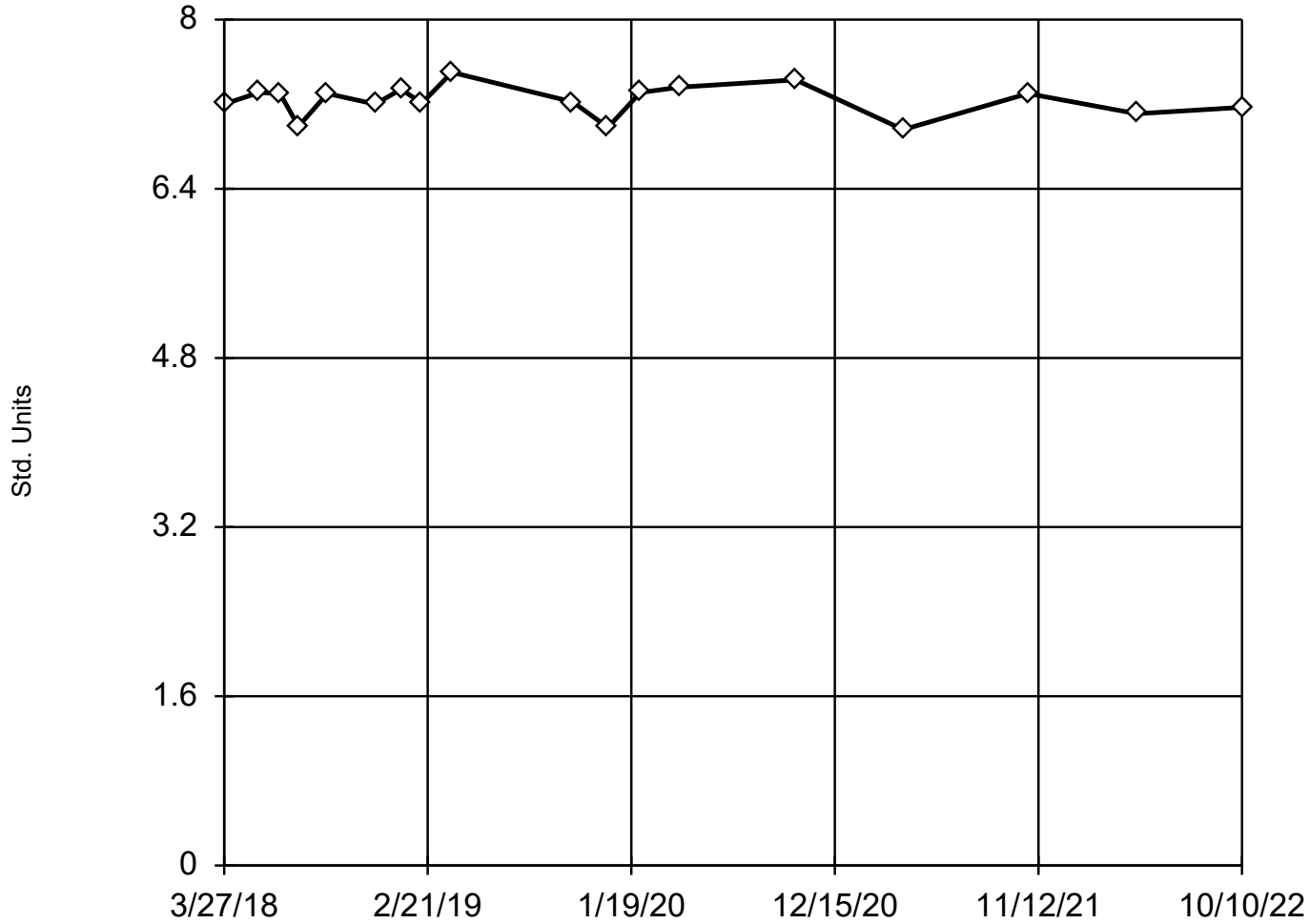
Constituent: Field pH (Std. Units) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	6.84
5/23/2018	7.62
6/26/2018	7.5
7/26/2018	6.46
9/11/2018	6.82
11/28/2018	6.6
1/9/2019	6.83
2/12/2019	6.85
4/2/2019	7.16
10/16/2019	6.97
12/11/2019	6.69
2/3/2020	6.79
4/7/2020	6.87
10/13/2020	6.66
4/6/2021	6.69
10/26/2021	6.21
4/22/2022	6.23
10/12/2022	6.5

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 7.233, std. dev. 0.15, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9436
Critical = 0.897
The distribution was found to be normally distributed.

Constituent: Field pH Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

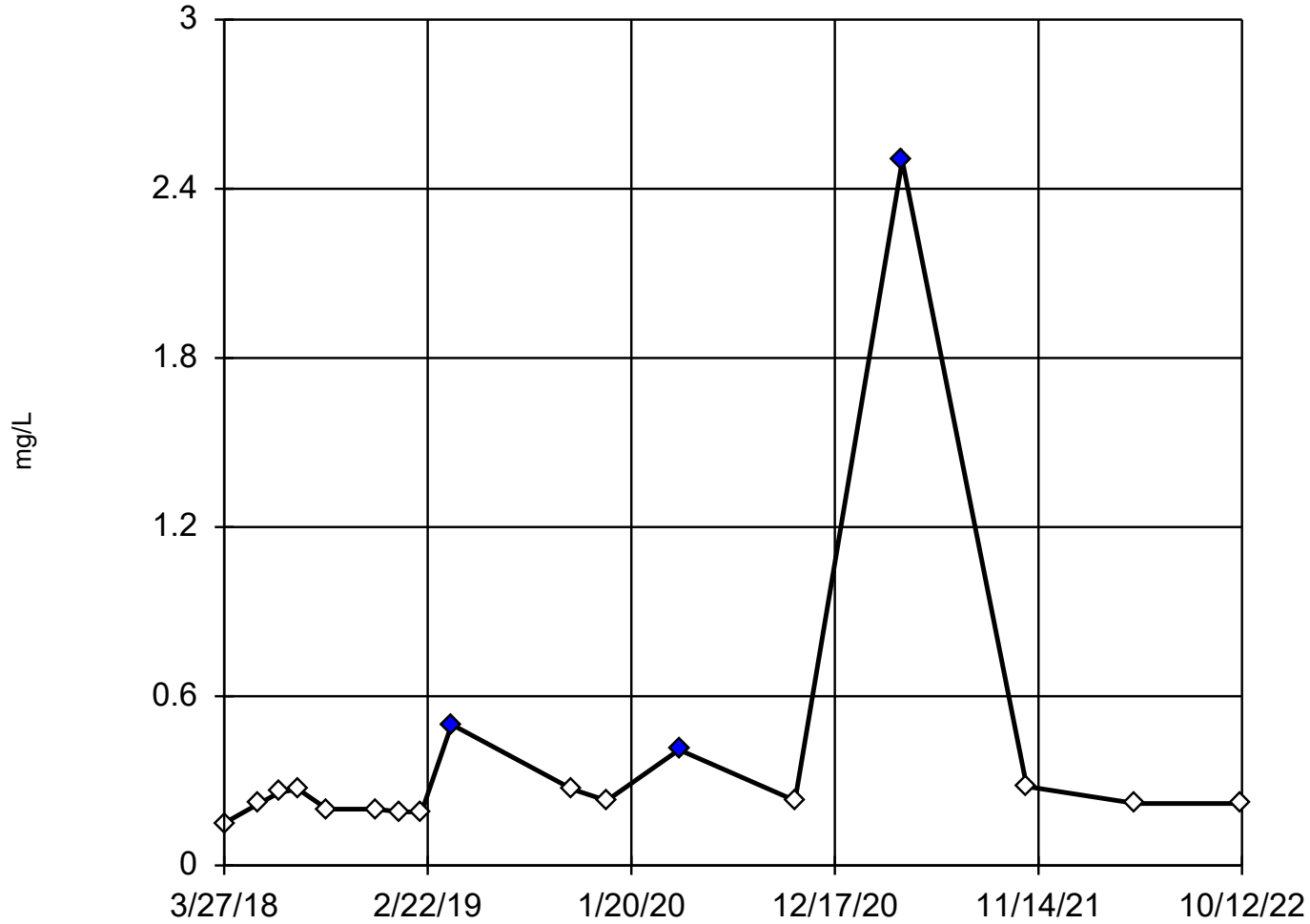
Constituent: Field pH (Std. Units) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	7.2
5/23/2018	7.31
6/26/2018	7.3
7/26/2018	6.99
9/11/2018	7.3
11/28/2018	7.2
1/9/2019	7.34
2/12/2019	7.21
4/2/2019	7.5
10/16/2019	7.22
12/12/2019	6.98
2/3/2020	7.31
4/7/2020	7.36
10/13/2020	7.43
4/6/2021	6.96
10/26/2021	7.3
4/22/2022	7.11
10/10/2022	7.17

Dixon's Outlier Test

MW-301 (bg)



n = 17
Statistical outliers are drawn as solid.
Testing for 3 high outliers.
Mean = 0.3847.
Std. Dev. = 0.5517.
0.41 (J): c = 0.6364
tab1 = 0.49.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9499
Critical = 0.874
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Fluoride Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

Constituent: Fluoride (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.15 (J)
5/23/2018	0.22
6/26/2018	0.26
7/26/2018	0.27
9/11/2018	0.2 (J)
11/28/2018	0.2
1/9/2019	<0.19 (U)
2/12/2019	<0.19 (U)
4/2/2019	0.5 (O)
10/16/2019	0.27 (J)
12/11/2019	<0.23 (U)
4/7/2020	0.41 (JO)
10/13/2020	<0.23 (U)
4/6/2021	2.5 (XO)
10/26/2021	<0.28 (U)
4/22/2022	<0.22 (U)
10/12/2022	<0.22 (U)

Dixon's Outlier Test

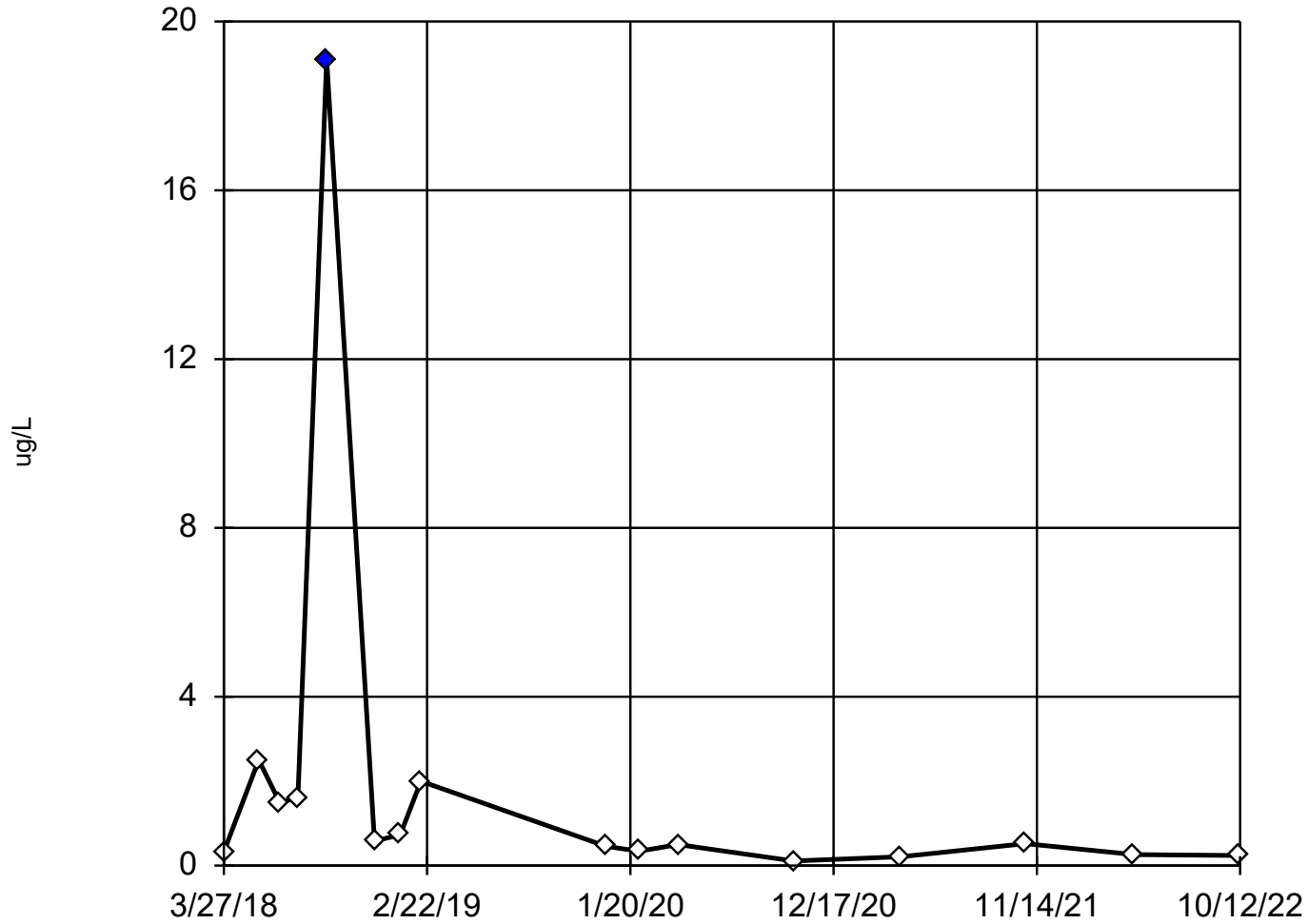
Constituent: Fluoride (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	0.24
5/23/2018	0.24
6/26/2018	0.21
7/26/2018	0.24
9/11/2018	0.24
11/28/2018	0.22
1/9/2019	0.2
2/12/2019	0.21
4/2/2019	0.6 (O)
10/16/2019	0.28 (J)
12/12/2019	<0.23 (U)
4/7/2020	0.55 (O)
10/13/2020	0.3 (J)
4/6/2021	2.5 (XO)
10/26/2021	<0.28 (U)
4/22/2022	<0.22 (U)
10/10/2022	<0.22 (U)

Dixon's Outlier Test

MW-301 (bg)



n = 16

Statistical outlier is drawn as solid.
Testing for 1 high outlier.
Mean = 1.936.
Std. Dev. = 4.632.
19.1 (X): c = 0.5156
tab1 = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9572
Critical = 0.881 (after natural log transformation)
The distribution, after removal of suspect value, was found to be log-normal.

Constituent: Lead Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

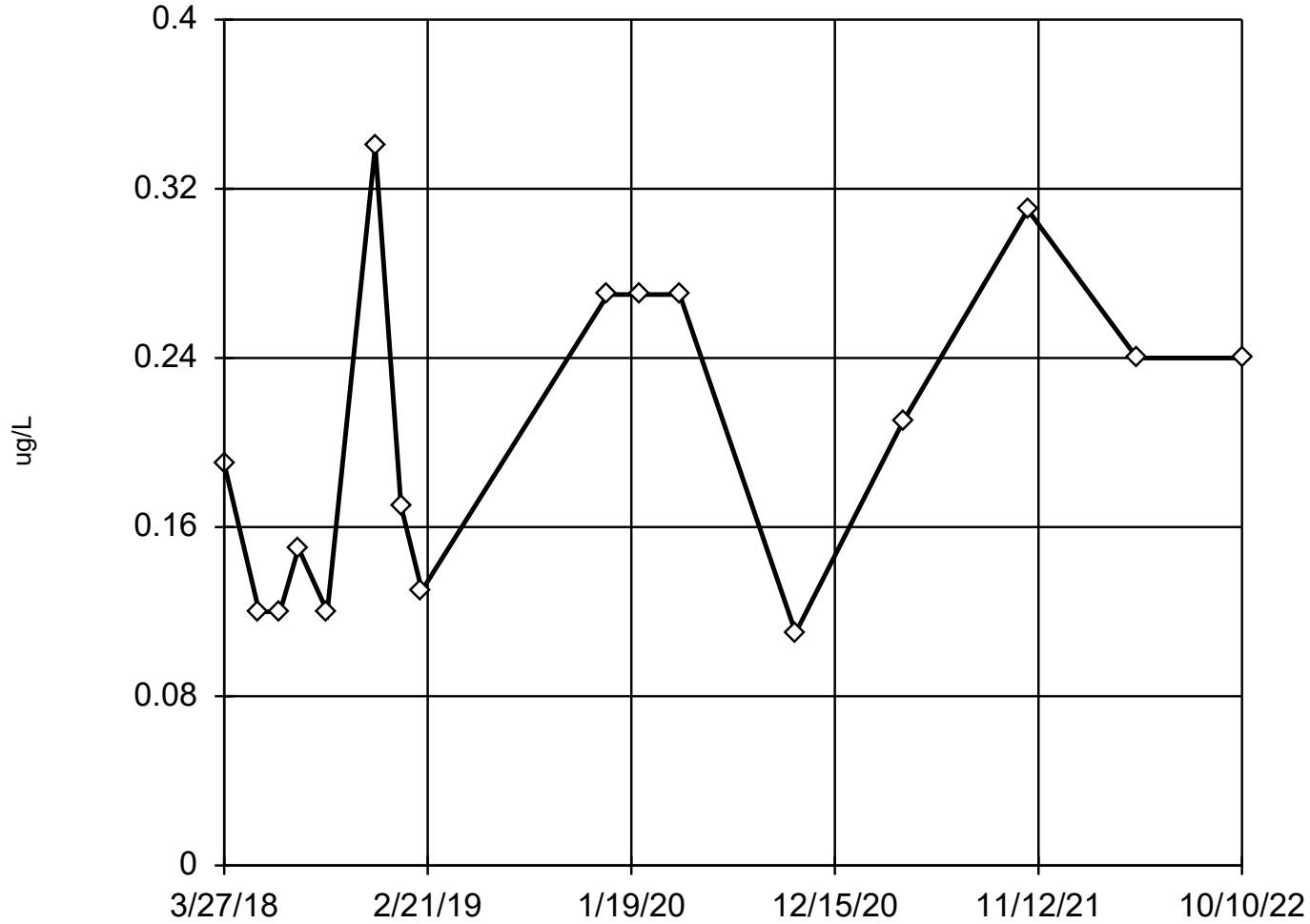
Constituent: Lead (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.33 (J)
5/23/2018	2.5
6/26/2018	1.5
7/26/2018	1.6
9/11/2018	19.1 (XO)
11/28/2018	0.58 (J)
1/9/2019	0.73 (J)
2/12/2019	2
12/11/2019	0.46 (J)
2/3/2020	0.34 (J)
4/7/2020	0.5
10/13/2020	<0.11 (U)
4/6/2021	<0.21 (U)
10/26/2021	0.52 (B)
4/22/2022	0.26 (J)
10/12/2022	<0.24 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.2038, std. dev. 0.07535, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9175
Critical = 0.887
The distribution was found to be normally distributed.

Constituent: Lead Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

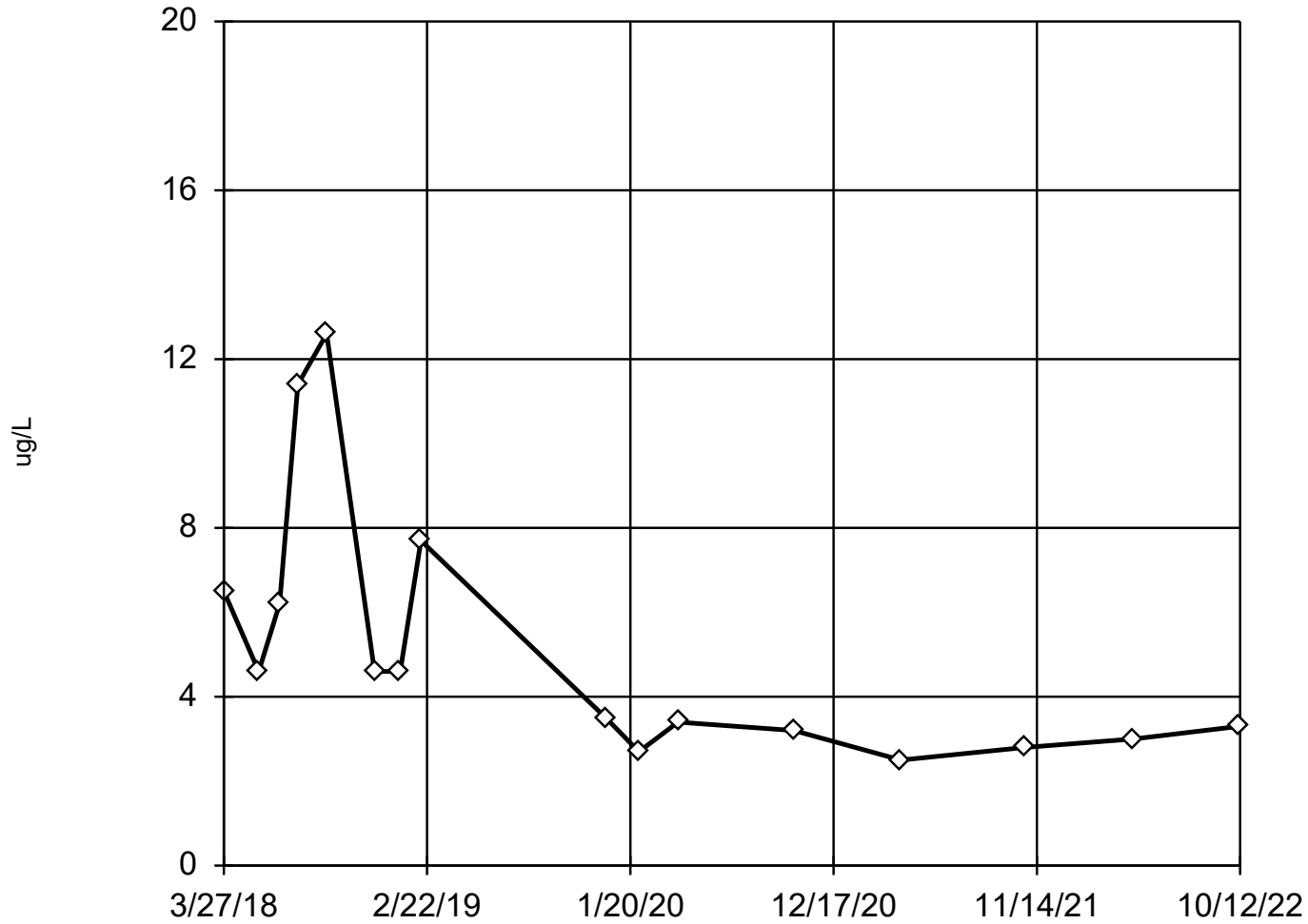
Constituent: Lead (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	0.19 (J)
5/23/2018	<0.12 (U)
6/26/2018	<0.12 (U)
7/26/2018	0.15 (J)
9/11/2018	<0.12 (U)
11/28/2018	0.34 (J)
1/9/2019	0.17 (J)
2/12/2019	<0.13 (U)
12/12/2019	<0.27 (U)
2/3/2020	<0.27 (U)
4/7/2020	<0.27 (U)
10/13/2020	<0.11 (U)
4/6/2021	<0.21 (U)
10/26/2021	0.31 (J,B)
4/22/2022	<0.24 (U)
10/10/2022	<0.24 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 5.162, std. dev. 3.067, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8992
Critical = 0.887 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Lithium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

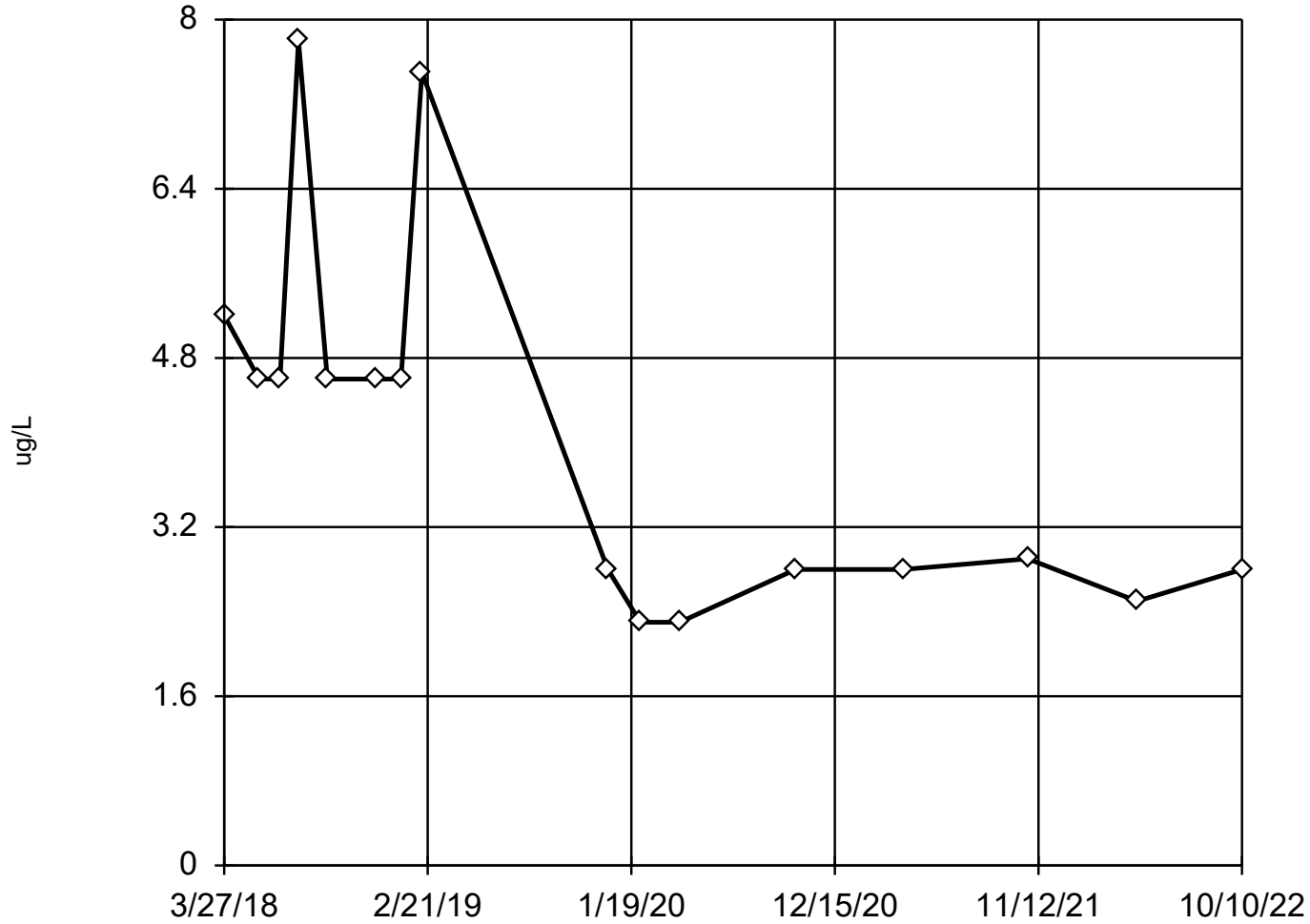
Constituent: Lithium (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	6.5 (J)
5/23/2018	<4.6 (U)
6/26/2018	6.2 (J)
7/26/2018	11.4
9/11/2018	12.6
11/28/2018	<4.6 (U)
1/9/2019	<4.6 (U)
2/12/2019	7.7 (J)
12/11/2019	3.5 (J)
2/3/2020	2.7 (J)
4/7/2020	3.4 (J)
10/13/2020	3.2 (J)
4/6/2021	2.5 (J)
10/26/2021	2.8 (J)
4/22/2022	3 (J)
10/12/2022	3.3 (J)

Tukey's Outlier Screening

MW-302 (bg)



n = 16

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 20.4, low cutoff = 0.6315, based on IQR multiplier of 3.

Constituent: Lithium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tukey's Outlier Screening

Constituent: Lithium (ug/L) Analysis Run 1/1/2023 1:11 PM

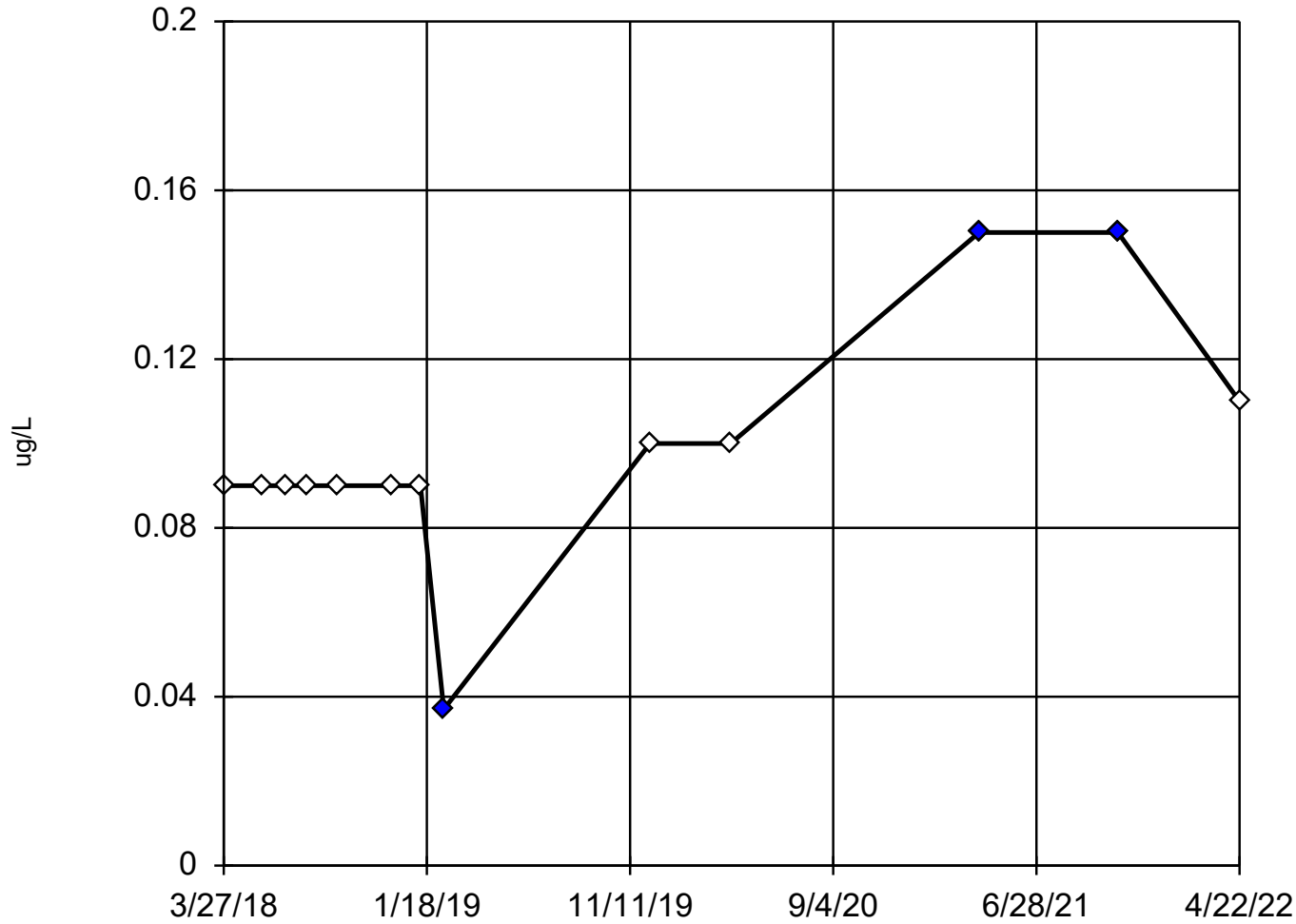
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

MW-302 (bg)

3/27/2018	5.2 (J)
5/23/2018	<4.6 (U)
6/26/2018	<4.6 (U)
7/26/2018	7.8 (J)
9/11/2018	<4.6 (U)
11/28/2018	<4.6 (U)
1/9/2019	<4.6 (U)
2/12/2019	7.5 (J)
12/12/2019	2.8 (J)
2/3/2020	<2.3 (U)
4/7/2020	<2.3 (U)
10/13/2020	2.8 (J)
4/6/2021	2.8 (J)
10/26/2021	2.9 (J)
4/22/2022	2.5 (J)
10/10/2022	2.8 (J)

Tukey's Outlier Screening

MW-301 (bg)



n = 13

Outliers are drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.15, low cutoff = 0.045, based on IQR multiplier of 3.

Constituent: Mercury Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tukey's Outlier Screening

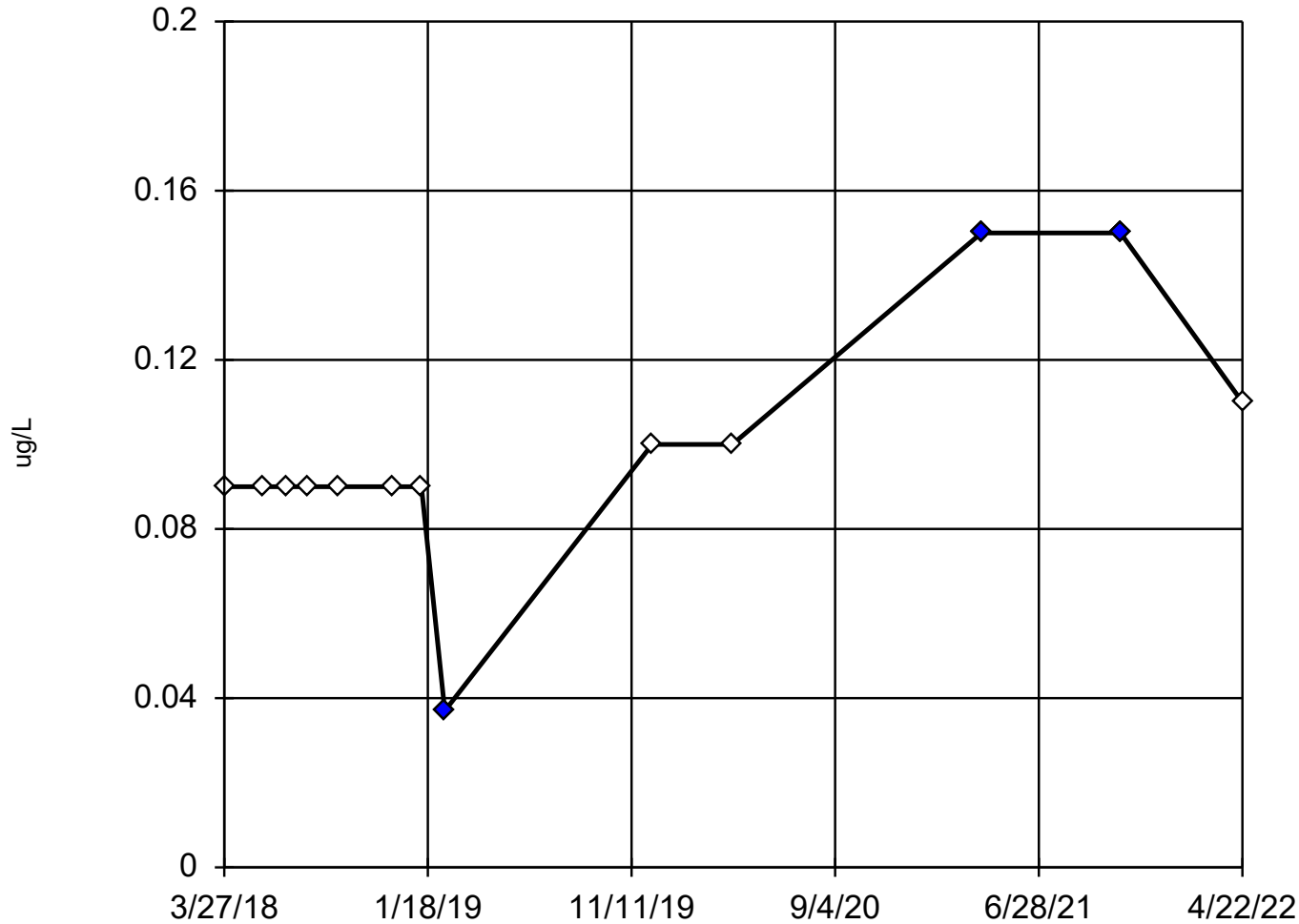
Constituent: Mercury (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	<0.09 (U)
5/23/2018	<0.09 (U)
6/26/2018	<0.09 (U)
7/26/2018	<0.09 (U)
9/11/2018	<0.09 (U)
11/28/2018	<0.09 (U)
1/9/2019	<0.09 (U)
2/12/2019	<0.037 (UO)
12/11/2019	<0.1 (U)
4/7/2020	<0.1 (U)
4/6/2021	<0.15 (UO)
10/26/2021	<0.15 (UO)
4/22/2022	<0.11 (U)

Tukey's Outlier Screening

MW-302 (bg)



n = 13

Outliers are drawn as solid.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.15, low cutoff = 0.045, based on IQR multiplier of 3.

Constituent: Mercury Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tukey's Outlier Screening

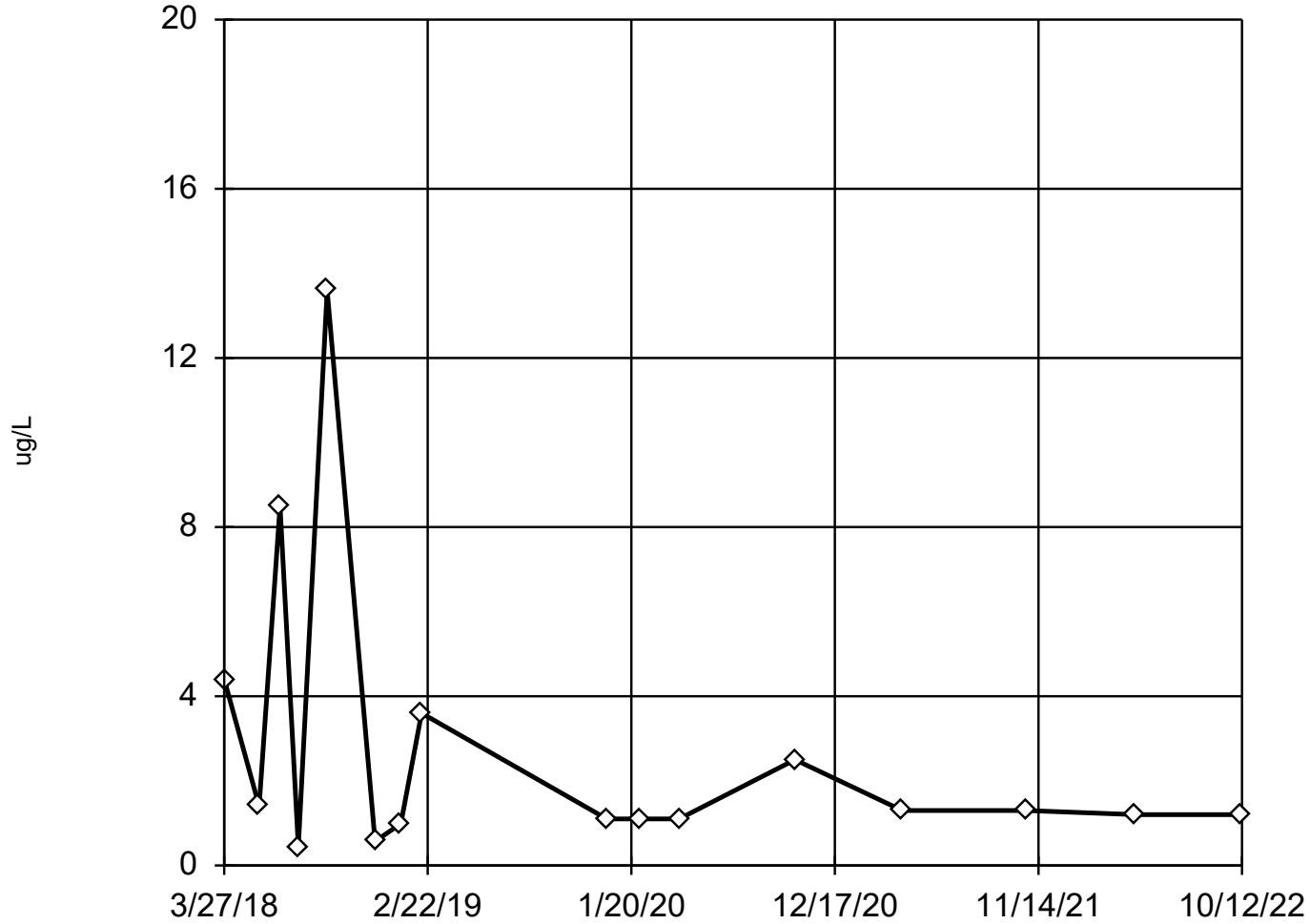
Constituent: Mercury (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	<0.09 (U)
5/23/2018	<0.09 (U)
6/26/2018	<0.09 (U)
7/26/2018	<0.09 (U)
9/11/2018	<0.09 (U)
11/28/2018	<0.09 (U)
1/9/2019	<0.09 (U)
2/12/2019	<0.037 (UO)
12/12/2019	<0.1 (U)
4/7/2020	<0.1 (U)
4/6/2021	<0.15 (UO)
10/26/2021	<0.15 (UO)
4/22/2022	<0.11 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 2.769, std. dev. 3.526, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8895
Critical = 0.887 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Molybdenum Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

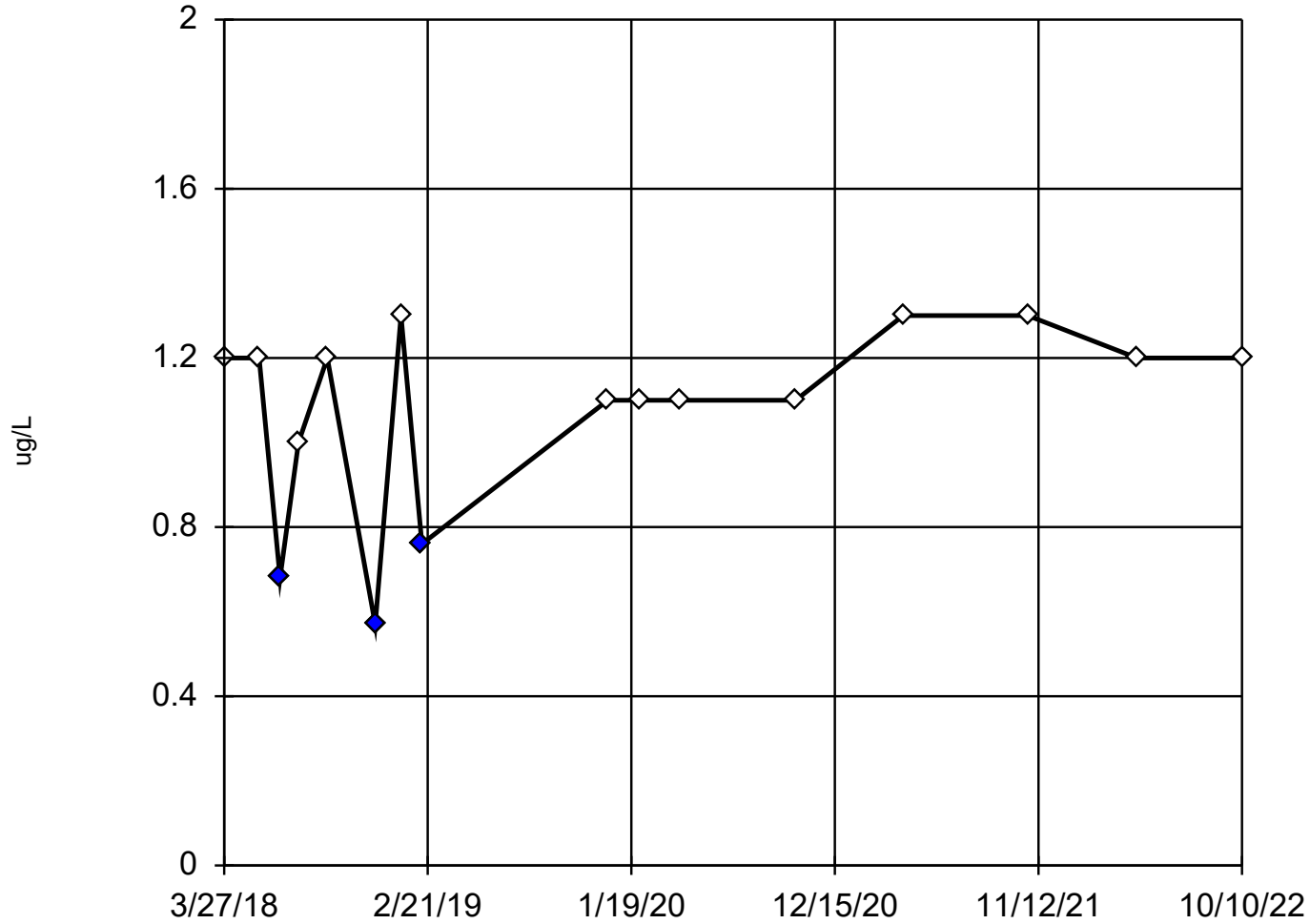
Constituent: Molybdenum (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	4.4
5/23/2018	1.4
6/26/2018	8.5
7/26/2018	0.44 (J)
9/11/2018	13.6
11/28/2018	<0.57 (U)
1/9/2019	0.99 (J)
2/12/2019	3.6
12/11/2019	<1.1 (U)
2/3/2020	<1.1 (U)
4/7/2020	<1.1 (U)
10/13/2020	2.5
4/6/2021	<1.3 (U)
10/26/2021	<1.3 (U)
4/22/2022	<1.2 (U)
10/12/2022	<1.2 (U)

Dixon's Outlier Test

MW-302 (bg)



n = 16
Statistical outliers are drawn as solid.
Testing for 3 low outliers.
Mean = 1.082.
Std. Dev. = 0.2233.
0.76 (J): c = 0.6296
tab1 = 0.507.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.894
Critical = 0.866
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Molybdenum Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

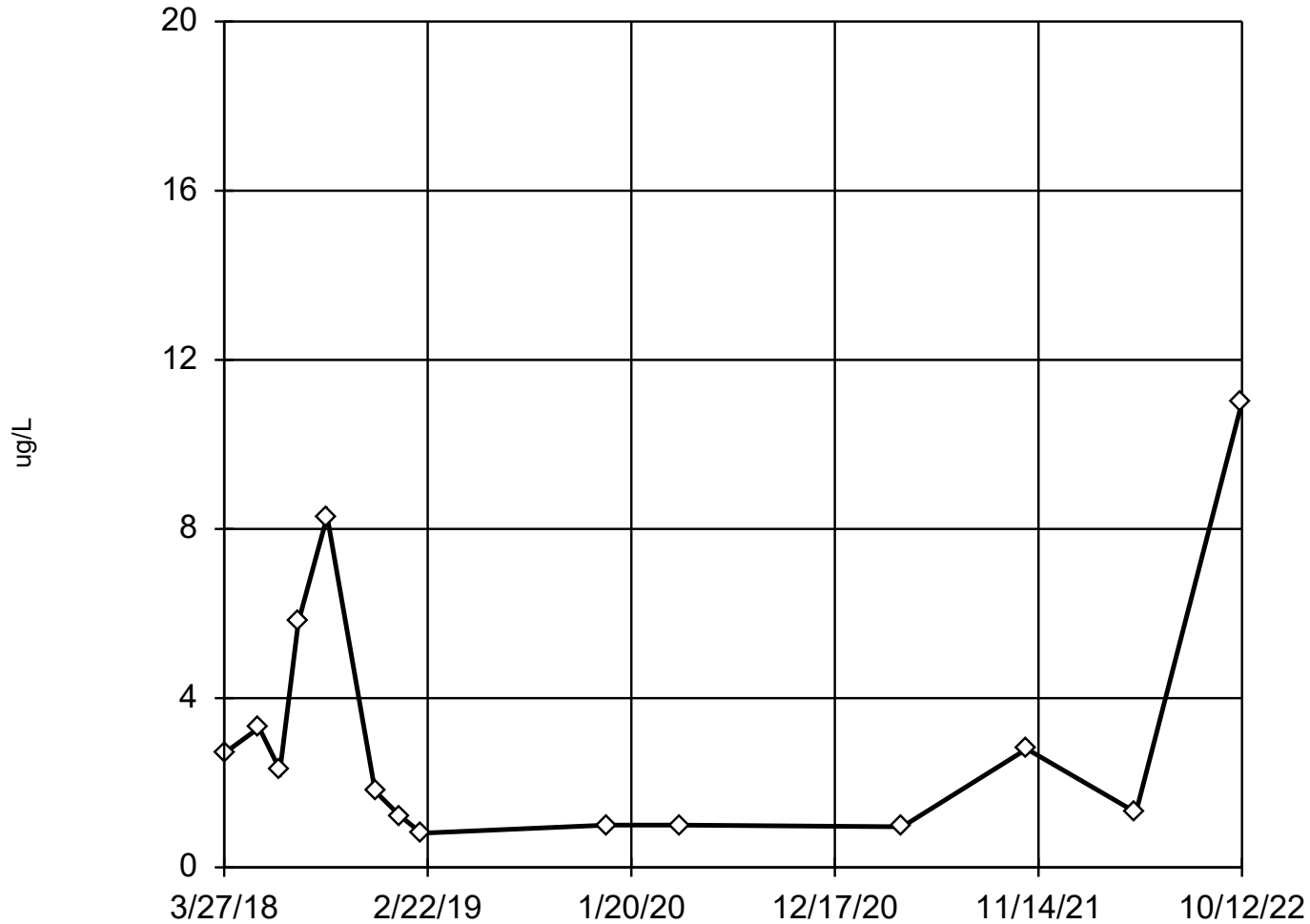
Constituent: Molybdenum (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	1.2
5/23/2018	1.2
6/26/2018	0.68 (JO)
7/26/2018	1
9/11/2018	1.2
11/28/2018	<0.57 (UO)
1/9/2019	1.3
2/12/2019	0.76 (JO)
12/12/2019	<1.1 (U)
2/3/2020	<1.1 (U)
4/7/2020	<1.1 (U)
10/13/2020	<1.1 (U)
4/6/2021	<1.3 (U)
10/26/2021	<1.3 (U)
4/22/2022	<1.2 (U)
10/10/2022	<1.2 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 14

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 3.162, std. dev. 3.098, critical Tn 2.371

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.915
Critical = 0.874 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Selenium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

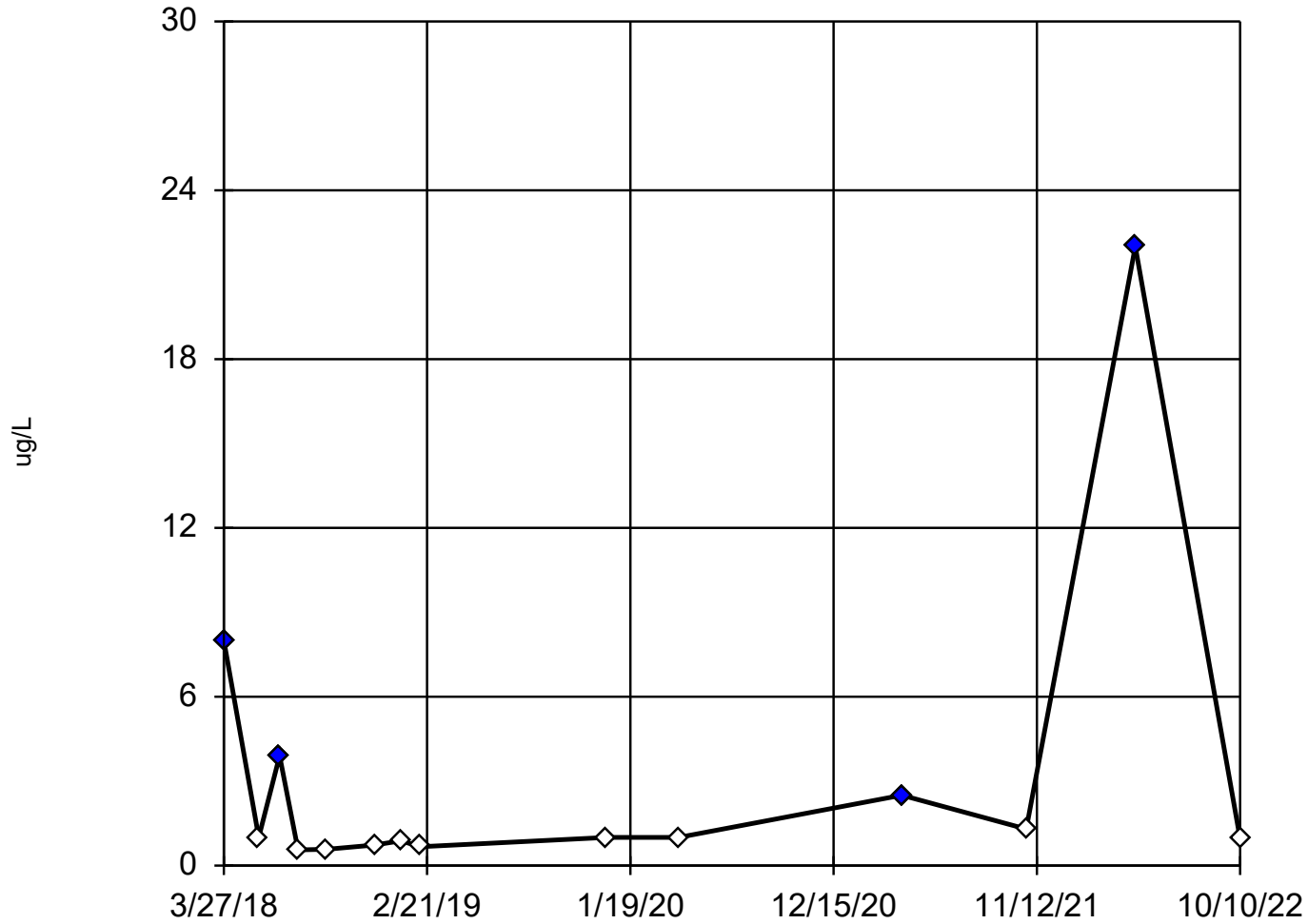
Constituent: Selenium (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	2.7
5/23/2018	3.3
6/26/2018	2.3
7/26/2018	5.8
9/11/2018	8.3
11/28/2018	1.8
1/9/2019	1.2
2/12/2019	0.81 (J)
12/11/2019	<1 (U)
4/7/2020	<1 (U)
4/6/2021	<0.96 (U)
10/26/2021	2.8 (J)
4/22/2022	1.3 (J)
10/12/2022	11

Dixon's Outlier Test

MW-302 (bg)



n = 14

Statistical outliers are drawn as solid.
Testing for 4 high outliers.
Mean = 3.22.
Std. Dev. = 5.767.
2.5 (J): c = 0.8197
tab1 = 0.546.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9278
Critical = 0.842
The distribution, after removal of suspect values, was found to be normally distributed.

Constituent: Selenium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

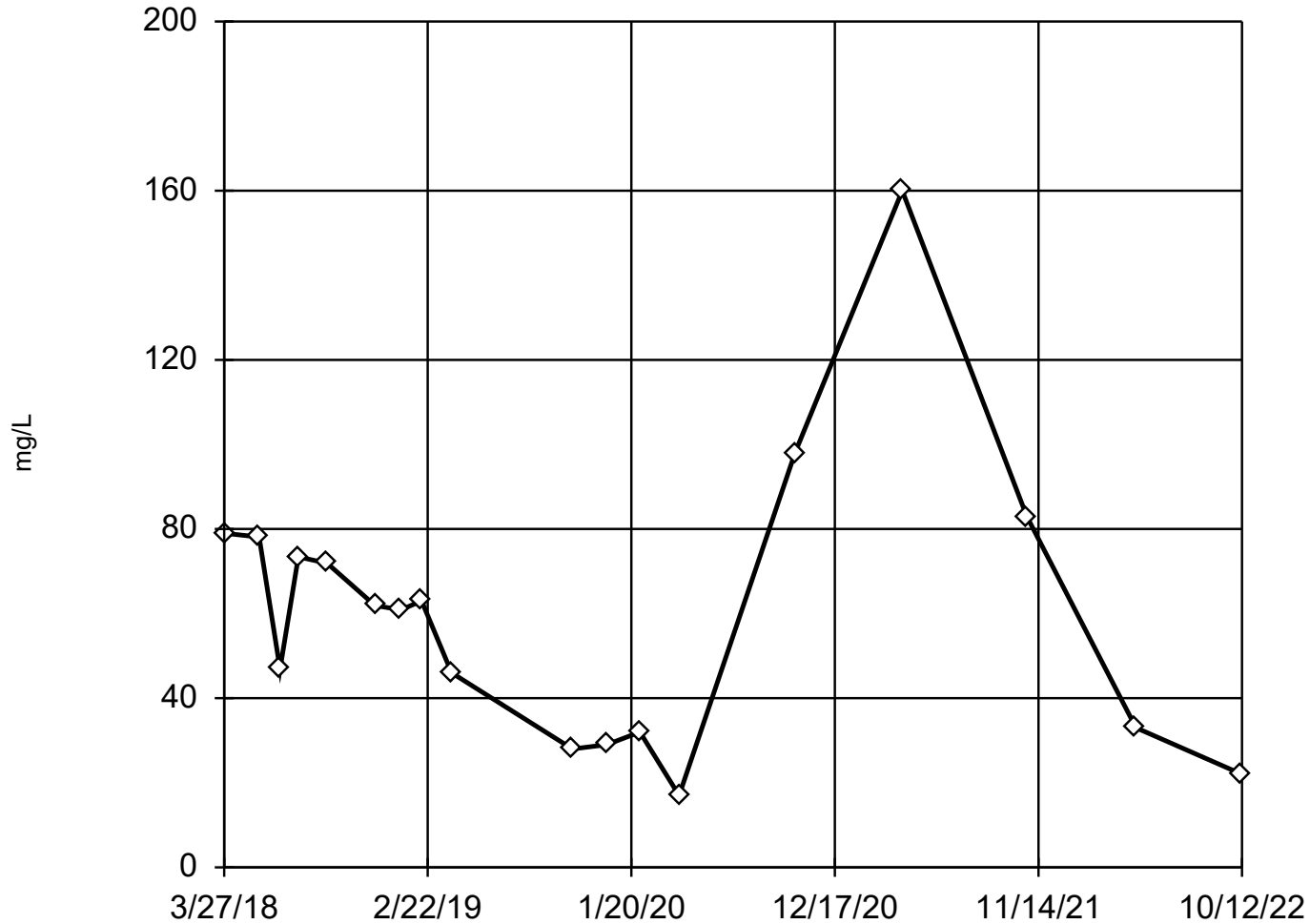
Constituent: Selenium (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	8 (O)
5/23/2018	1
6/26/2018	3.9 (O)
7/26/2018	0.56 (J)
9/11/2018	0.58 (J)
11/28/2018	0.73 (J)
1/9/2019	0.88 (J)
2/12/2019	0.67 (J)
12/12/2019	<1 (U)
4/7/2020	<1 (U)
4/6/2021	2.5 (JO)
10/26/2021	1.3 (J)
4/22/2022	22 (XO)
10/10/2022	<0.96 (U)

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 60.17, std. dev. 34.43, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9665
Critical = 0.897 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Sulfate Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

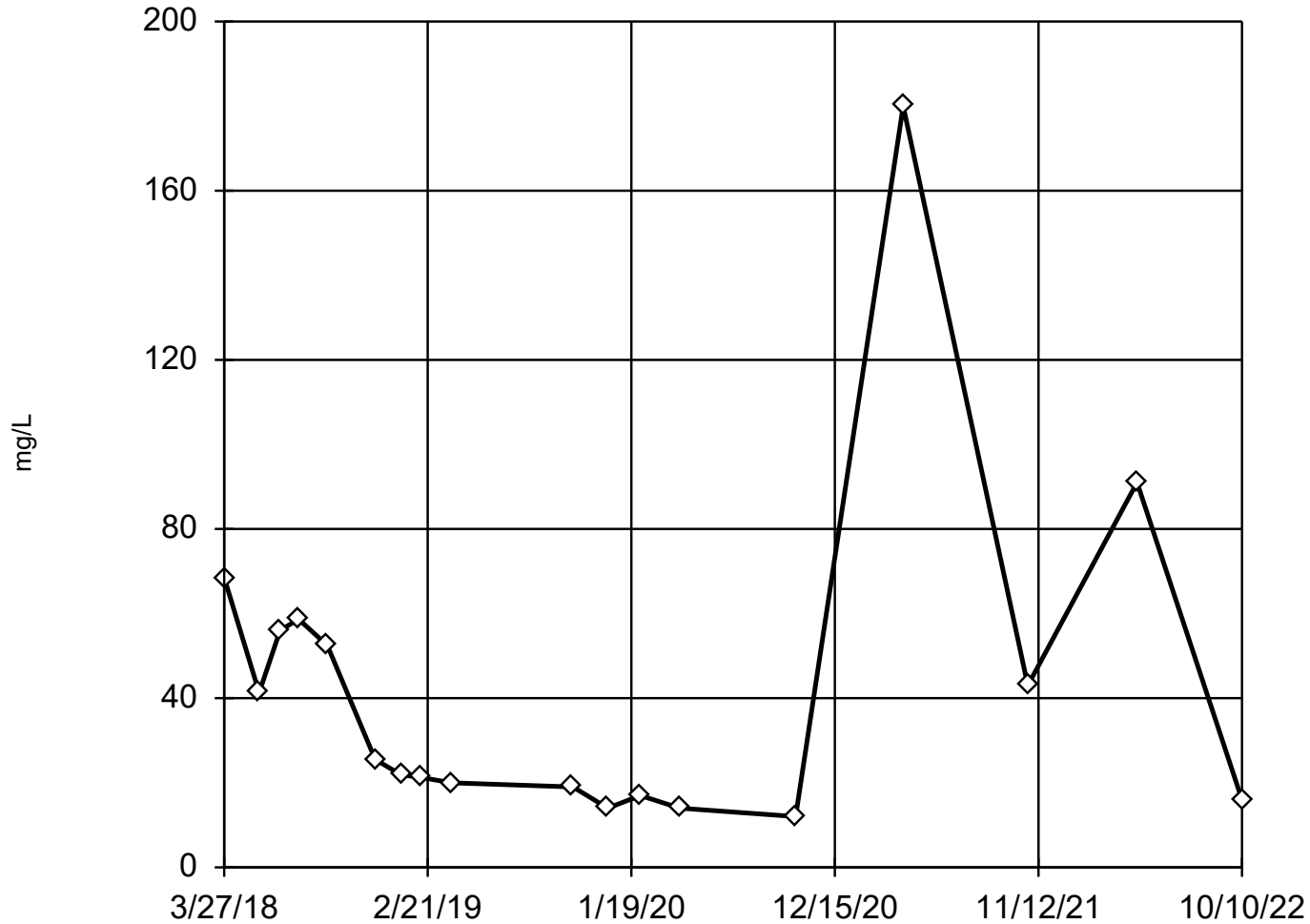
Constituent: Sulfate (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	79
5/23/2018	78.1
6/26/2018	46.9
7/26/2018	73.4
9/11/2018	71.9
11/28/2018	61.9
1/9/2019	60.9
2/12/2019	63
4/2/2019	46
10/16/2019	28
12/11/2019	29
2/3/2020	32
4/7/2020	17
10/13/2020	98
4/6/2021	160
10/26/2021	83
4/22/2022	33
10/12/2022	22

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 42.87, std. dev. 41.02, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9256
Critical = 0.897 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Sulfate Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

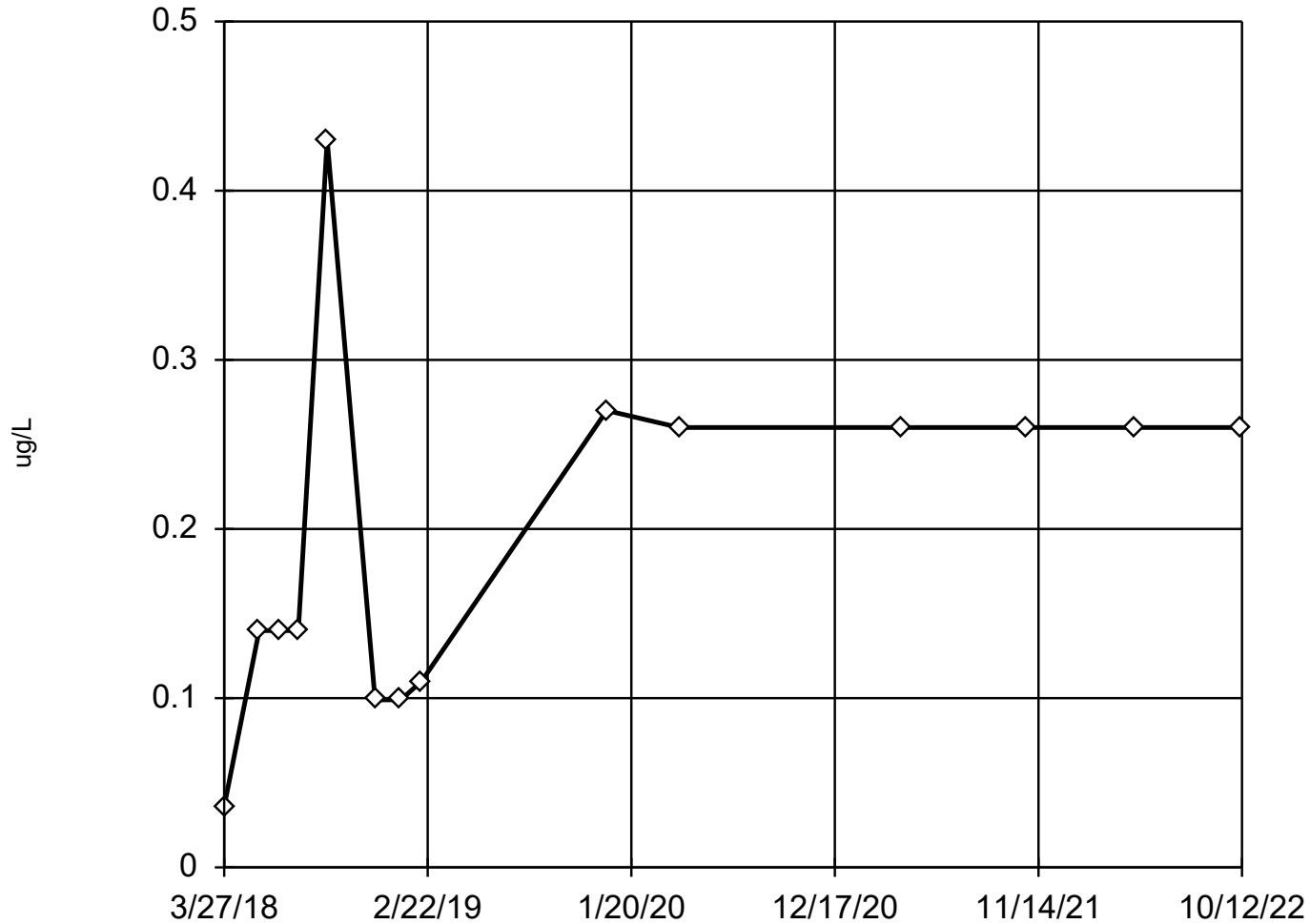
Constituent: Sulfate (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	68.5
5/23/2018	41.3
6/26/2018	56
7/26/2018	58.7
9/11/2018	52.5
11/28/2018	25.5
1/9/2019	21.9
2/12/2019	21.2
4/2/2019	20
10/16/2019	19
12/12/2019	14
2/3/2020	17
4/7/2020	14
10/13/2020	12
4/6/2021	180
10/26/2021	43
4/22/2022	91
10/10/2022	16

Dixon's Outlier Test

MW-301 (bg)



n = 14

No statistical outliers.
Testing for 1 low outlier.
Mean = 0.1974.
Std. Dev. = 0.1045.
-3.324 (U); c = 0.5116
tab1 = 0.546.
Alpha = 0.05.

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8694
Critical = 0.866 (after
natural log transforma-
tion)
The distribution was found
to be log-normal.

Constituent: Thallium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

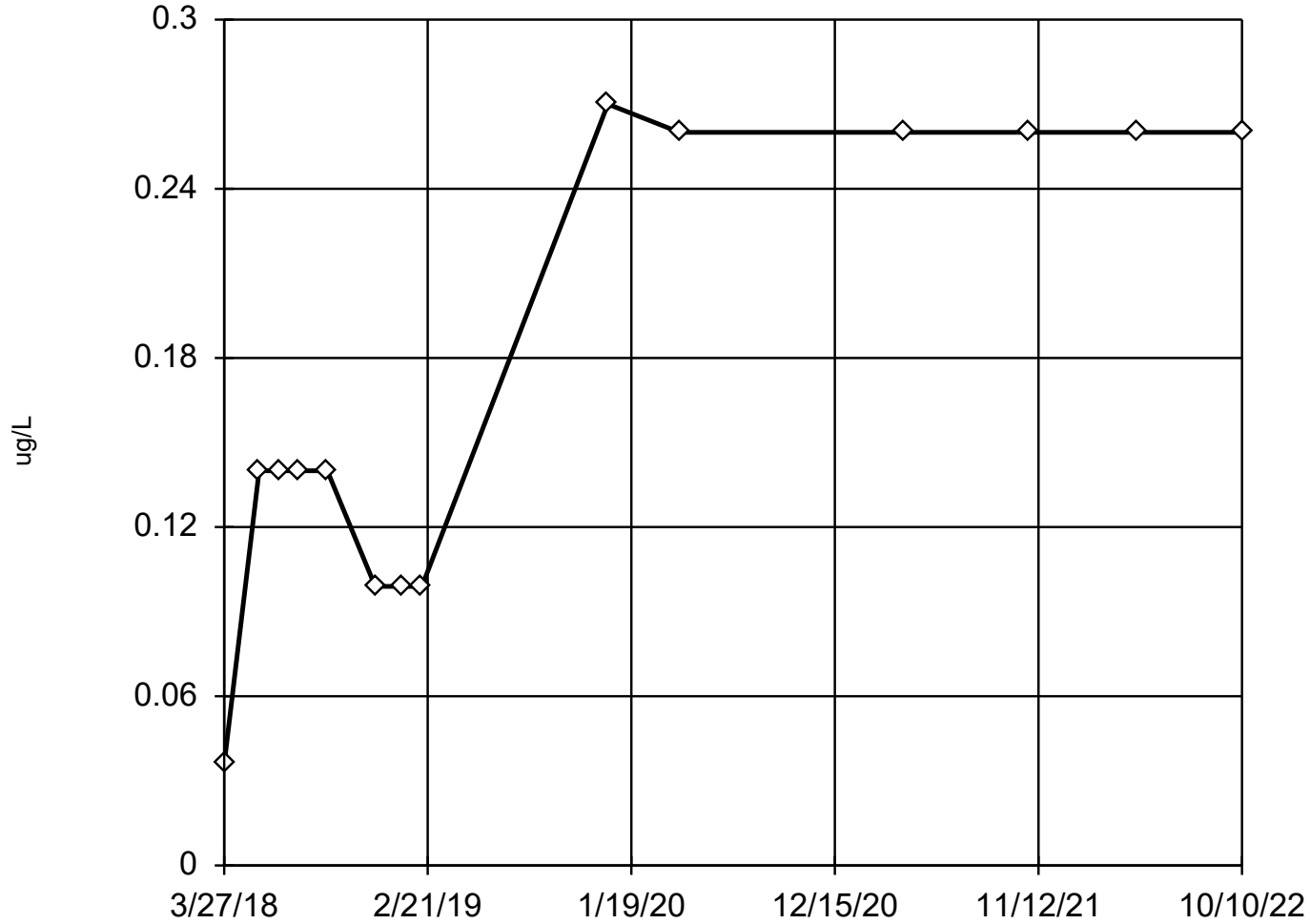
Constituent: Thallium (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	<0.036 (U)
5/23/2018	<0.14 (U)
6/26/2018	<0.14 (U)
7/26/2018	<0.14 (U)
9/11/2018	0.43 (J)
11/28/2018	<0.099 (U)
1/9/2019	<0.099 (U)
2/12/2019	0.11 (J)
12/11/2019	<0.27 (U)
4/7/2020	<0.26 (U)
4/6/2021	<0.26 (U)
10/26/2021	<0.26 (U)
4/22/2022	<0.26 (U)
10/12/2022	<0.26 (U)

Tukey's Outlier Screening

MW-302 (bg)



n = 14

No outliers found.
Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

Data were square root transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because both the lower and upper quartiles represent reporting limits.

Constituent: Thallium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tukey's Outlier Screening

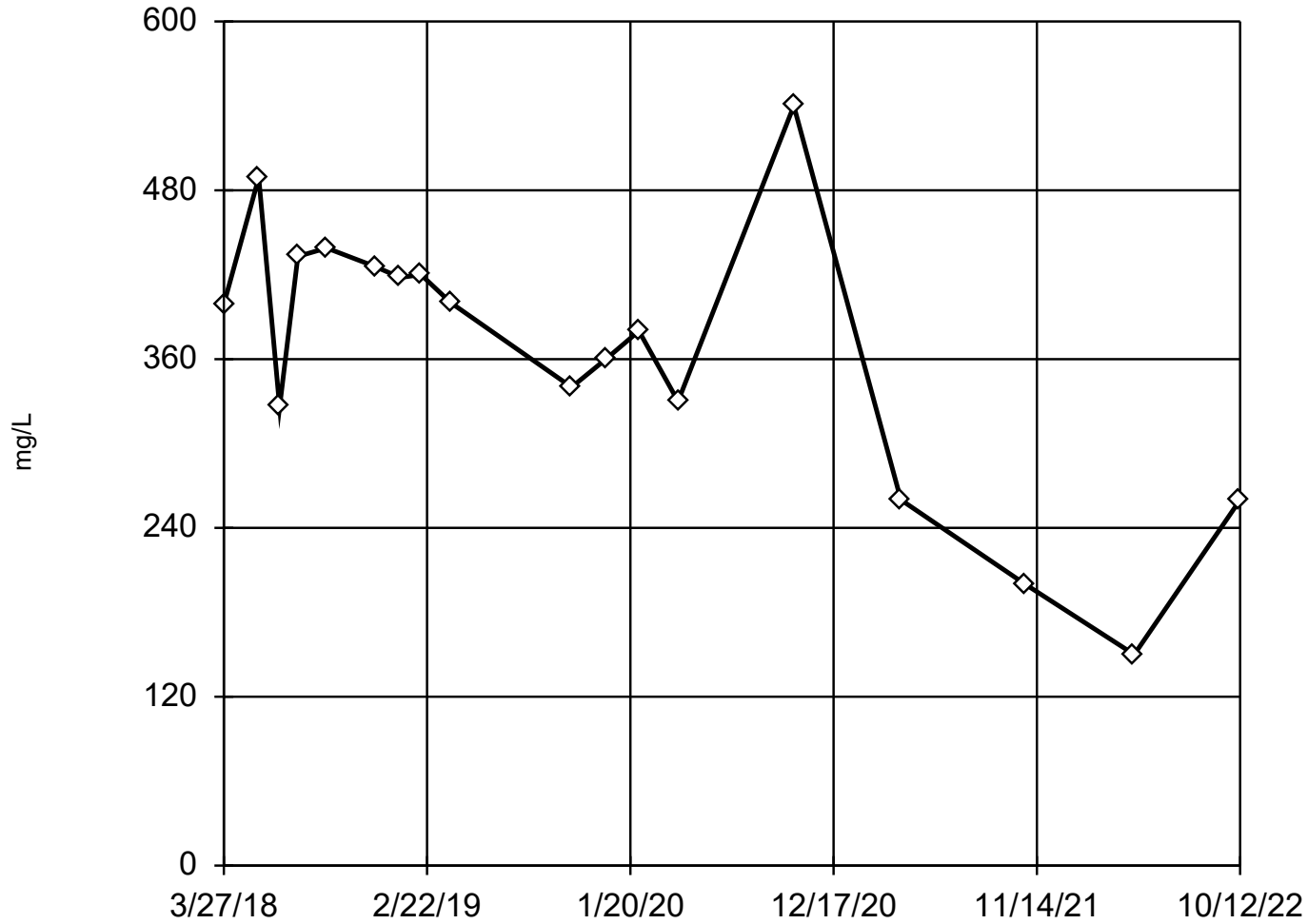
Constituent: Thallium (ug/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	<0.036 (U)
5/23/2018	<0.14 (U)
6/26/2018	<0.14 (U)
7/26/2018	<0.14 (U)
9/11/2018	<0.14 (U)
11/28/2018	<0.099 (U)
1/9/2019	<0.099 (U)
2/12/2019	<0.099 (U)
12/12/2019	<0.27 (U)
4/7/2020	<0.26 (U)
4/6/2021	<0.26 (U)
10/26/2021	<0.26 (U)
4/22/2022	<0.26 (U)
10/10/2022	<0.26 (U)

Dixon's Outlier Test

MW-301 (bg)



n = 18
 No statistical outliers.
 Testing for 1 low outlier.
 Mean = 365.
 Std. Dev. = 99.16.
 150: c = 0.3806
 tab1 = 0.475.
 Alpha = 0.05.
 Normality test used:
 Shapiro Wilk@alpha = 0.05
 Calculated = 0.9723
 Critical = 0.892
 The distribution was found to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Dixon's Outlier Test

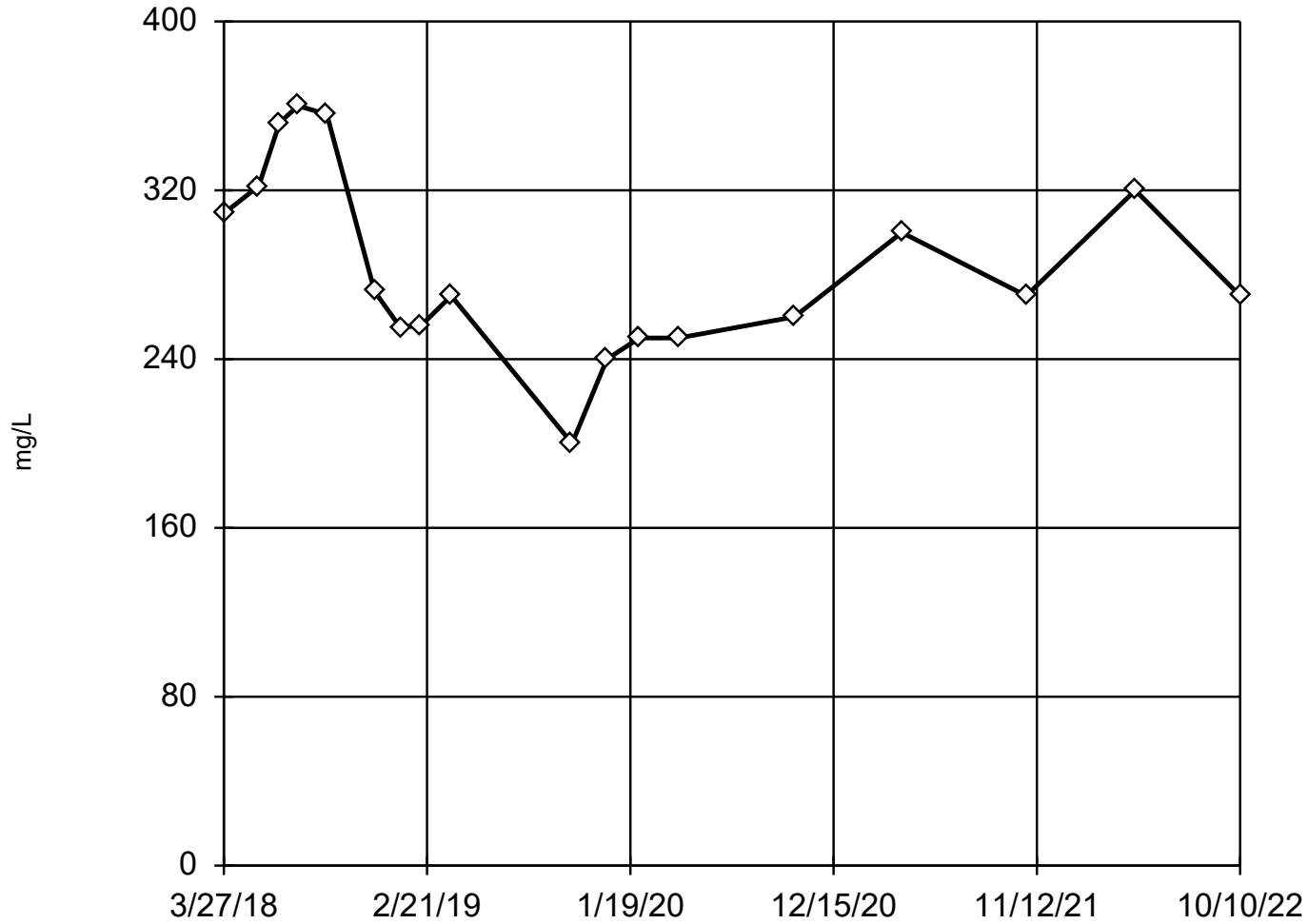
Constituent: Total Dissolved Solids (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	399
5/23/2018	489
6/26/2018	326
7/26/2018	433
9/11/2018	439
11/28/2018	426
1/9/2019	418
2/12/2019	420
4/2/2019	400
10/16/2019	340
12/11/2019	360
2/3/2020	380
4/7/2020	330
10/13/2020	540
4/6/2021	260
10/26/2021	200
4/22/2022	150
10/12/2022	260

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 18

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 284, std. dev. 44.35, critical Tn 2.504

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9331
Critical = 0.897
The distribution was found to be normally distributed.

Constituent: Total Dissolved Solids Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

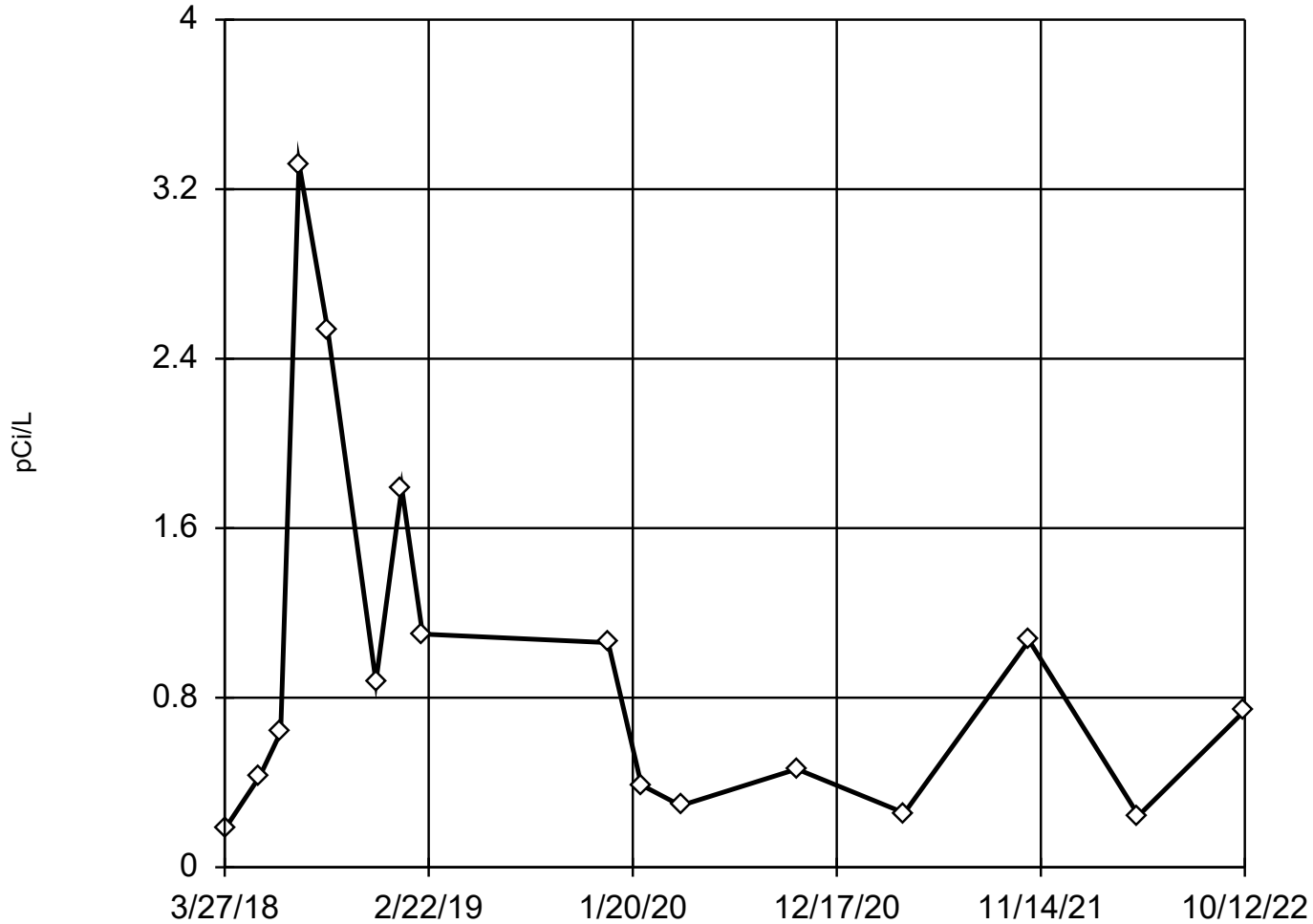
Constituent: Total Dissolved Solids (mg/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	309
5/23/2018	322
6/26/2018	352
7/26/2018	360
9/11/2018	356
11/28/2018	272
1/9/2019	255
2/12/2019	256
4/2/2019	270
10/16/2019	200
12/12/2019	240
2/3/2020	250
4/7/2020	250
10/13/2020	260
4/6/2021	300
10/26/2021	270
4/22/2022	320
10/10/2022	270

EPA Screening (suspected outliers for Dixon's Test)

MW-301 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.9608, std. dev. 0.8887, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.9673
Critical = 0.887 (after natural log transformation)
The distribution was found to be log-normal.

Constituent: Total Radium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

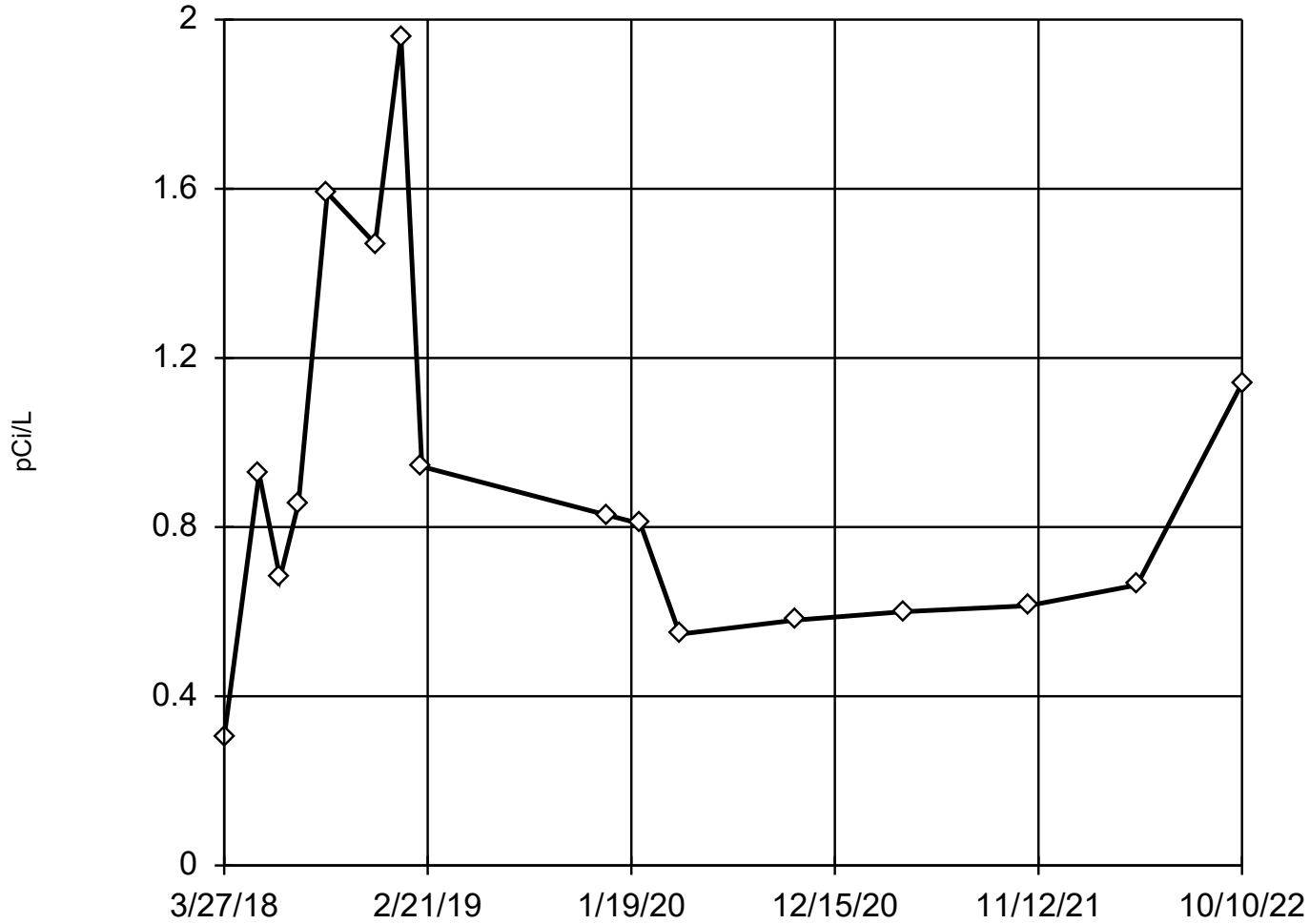
Constituent: Total Radium (pCi/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301 (bg)
3/27/2018	0.18
5/23/2018	0.429
6/26/2018	0.637
7/26/2018	3.32
9/11/2018	2.53
11/28/2018	0.875
1/9/2019	1.79
2/12/2019	1.1
12/11/2019	1.06
2/3/2020	0.388
4/7/2020	0.291
10/13/2020	0.463
4/6/2021	0.256
10/26/2021	1.07
4/22/2022	0.244
10/12/2022	0.739

EPA Screening (suspected outliers for Dixon's Test)

MW-302 (bg)



n = 16

Dixon's will not be run.
No suspect values identified or unable to establish suspect values.
Mean 0.9068, std. dev. 0.4365, critical Tn 2.443

Normality test used:
Shapiro Wilk@alpha = 0.05
Calculated = 0.8894
Critical = 0.887
The distribution was found to be normally distributed.

Constituent: Total Radium Analysis Run 1/1/2023 1:09 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

EPA 1989 Outlier Screening

Constituent: Total Radium (pCi/L) Analysis Run 1/1/2023 1:11 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302 (bg)
3/27/2018	0.304
5/23/2018	0.926
6/26/2018	0.68
7/26/2018	0.856
9/11/2018	1.59
11/28/2018	1.47
1/9/2019	1.96
2/12/2019	0.943
12/12/2019	0.828
2/3/2020	0.808
4/7/2020	0.547
10/13/2020	0.58
4/6/2021	0.6
10/26/2021	0.614
4/22/2022	0.663
10/10/2022	1.14

Attachment 3

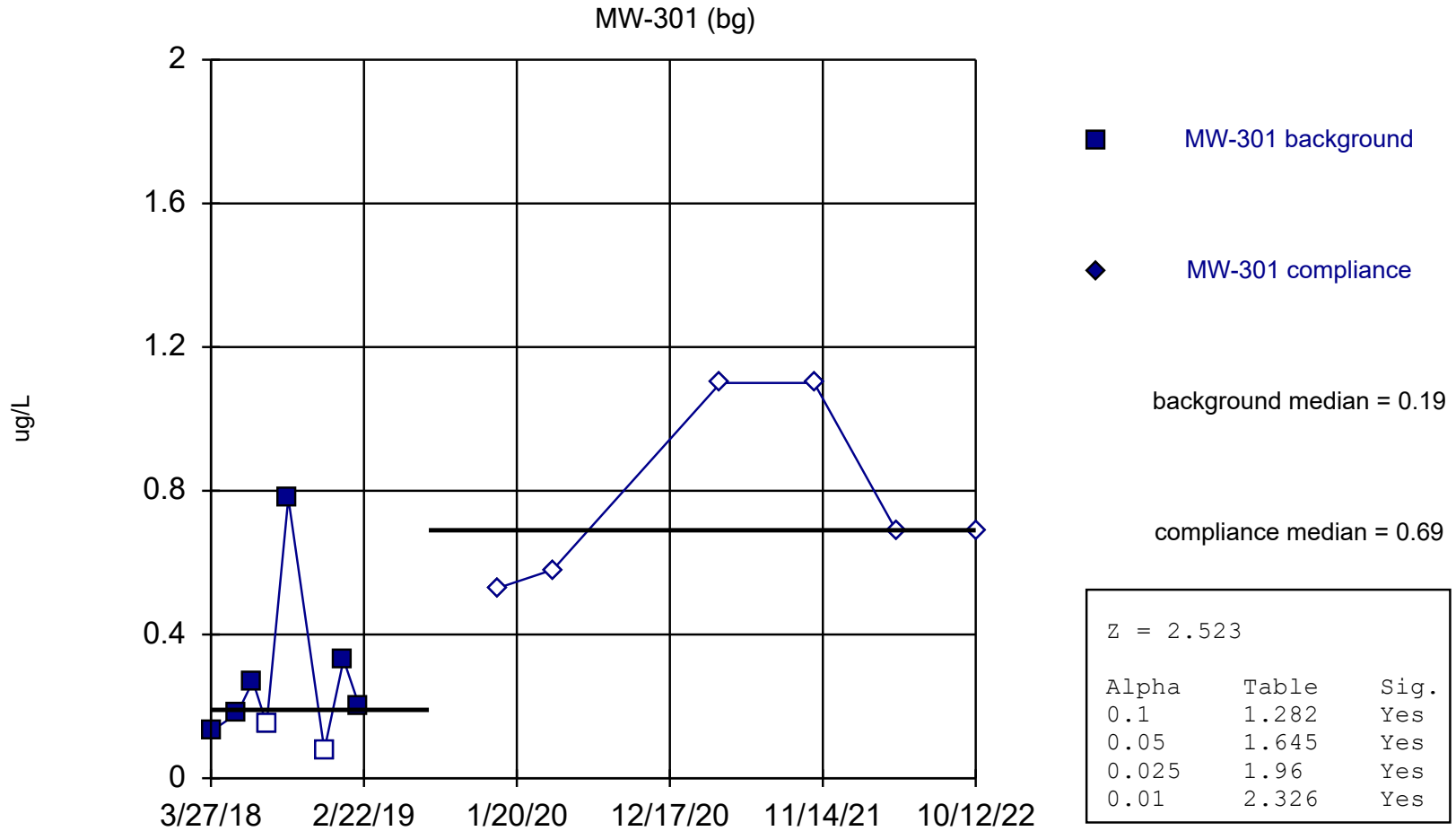
Welch's/Mann-Whitney Comparison

Welch's t-test/Mann-Whitney

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 1/1/2023, 2:01 PM

<u>Constituent</u>	<u>Well</u>	<u>Calc.</u>	<u>0.1</u>	<u>0.05</u>	<u>0.025</u>	<u>0.01</u>	<u>Alpha</u>	<u>Sig.</u>	<u>Bg. Wells</u>	<u>Method</u>
Antimony (ug/L)	MW-301 (bg)	2.523	Yes	Yes	Yes	Yes	0.01	Yes	(intrawell)	Mann-W
Antimony (ug/L)	MW-302 (bg)	1.745	Yes	Yes	No	No	0.01	No	(intrawell)	Mann-W
Arsenic (ug/L)	MW-301 (bg)	-2.072	No	No	No	No	0.01	No	(intrawell)	Mann-W
Arsenic (ug/L)	MW-302 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Barium (ug/L)	MW-301 (bg)	-2.259	No	No	No	No	0.01	No	(intrawell)	Mann-W
Barium (ug/L)	MW-302 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Beryllium (ug/L)	MW-301 (bg)	1.463	Yes	No	No	No	0.01	No	(intrawell)	Mann-W
Beryllium (ug/L)	MW-302 (bg)	3.382	Yes	Yes	Yes	Yes	0.01	Yes	(intrawell)	Mann-W
Boron (ug/L)	MW-301 (bg)	-2	No	No	No	No	0.01	No	(intrawell)	Mann-W
Boron (ug/L)	MW-302 (bg)	3.164	Yes	Yes	Yes	Yes	0.01	Yes	(intrawell)	Mann-W
Cadmium (ug/L)	MW-301 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Cadmium (ug/L)	MW-302 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Calcium (mg/L)	MW-301 (bg)	-1.38	No	No	No	No	0.01	No	(intrawell)	Mann-W
Calcium (mg/L)	MW-302 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Chloride (mg/L)	MW-301 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Chloride (mg/L)	MW-302 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Chromium (ug/L)	MW-301 (bg)	-1.437	No	No	No	No	0.01	No	(intrawell)	Mann-W
Chromium (ug/L)	MW-302 (bg)	3.29	Yes	Yes	Yes	Yes	0.01	Yes	(intrawell)	Mann-W
Cobalt (ug/L)	MW-301 (bg)	-2.432	No	No	No	No	0.01	No	(intrawell)	Mann-W
Cobalt (ug/L)	MW-302 (bg)	-1.892	No	No	No	No	0.01	No	(intrawell)	Mann-W
Field pH (Std. Units)	MW-301 (bg)	-1.2	No	No	No	No	0.01	No	(intrawell)	Mann-W
Field pH (Std. Units)	MW-302 (bg)	0.0...	No	No	No	No	0.01	No	(intrawell)	Mann-W
Fluoride (mg/L)	MW-301 (bg)	2.214	Yes	Yes	Yes	No	0.01	No	(intrawell)	Mann-W
Fluoride (mg/L)	MW-302 (bg)	1.854	Yes	Yes	No	No	0.01	No	(intrawell)	Mann-W
Lead (ug/L)	MW-301 (bg)	-2.835	No	No	No	No	0.01	No	(intrawell)	Mann-W
Lead (ug/L)	MW-302 (bg)	1.744	Yes	Yes	No	No	0.01	No	(intrawell)	Mann-W
Lithium (ug/L)	MW-301 (bg)	-3.423	No	No	No	No	0.01	No	(intrawell)	Mann-W
Lithium (ug/L)	MW-302 (bg)	-3.494	No	No	No	No	0.01	No	(intrawell)	Mann-W
Mercury (ug/L)	MW-301 (bg)	3.113	Yes	Yes	Yes	Yes	0.01	Yes	(intrawell)	Mann-W
Mercury (ug/L)	MW-302 (bg)	3.113	Yes	Yes	Yes	Yes	0.01	Yes	(intrawell)	Mann-W
Molybdenum (ug/L)	MW-301 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Molybdenum (ug/L)	MW-302 (bg)	1.222	No	No	No	No	0.01	No	(intrawell)	Mann-W
Selenium (ug/L)	MW-301 (bg)	-0....	No	No	No	No	0.01	No	(intrawell)	Mann-W
Selenium (ug/L)	MW-302 (bg)	1.491	Yes	No	No	No	0.01	No	(intrawell)	Mann-W
Sulfate (mg/L)	MW-301 (bg)	-1.466	No	No	No	No	0.01	No	(intrawell)	Mann-W
Sulfate (mg/L)	MW-302 (bg)	-1.822	No	No	No	No	0.01	No	(intrawell)	Mann-W
Thallium (ug/L)	MW-301 (bg)	2.324	Yes	Yes	Yes	No	0.01	No	(intrawell)	Mann-W
Thallium (ug/L)	MW-302 (bg)	3.154	Yes	Yes	Yes	Yes	0.01	Yes	(intrawell)	Mann-W
Total Dissolved Solids (mg/L)	MW-301 (bg)	-2.356	No	No	No	No	0.01	No	(intrawell)	Mann-W
Total Dissolved Solids (mg/L)	MW-302 (bg)	-2.272	No	No	No	No	0.01	No	(intrawell)	Mann-W
Total Radium (pCi/L)	MW-301 (bg)	-1.628	No	No	No	No	0.01	No	(intrawell)	Mann-W
Total Radium (pCi/L)	MW-302 (bg)	-1.943	No	No	No	No	0.01	No	(intrawell)	Mann-W

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Antimony Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

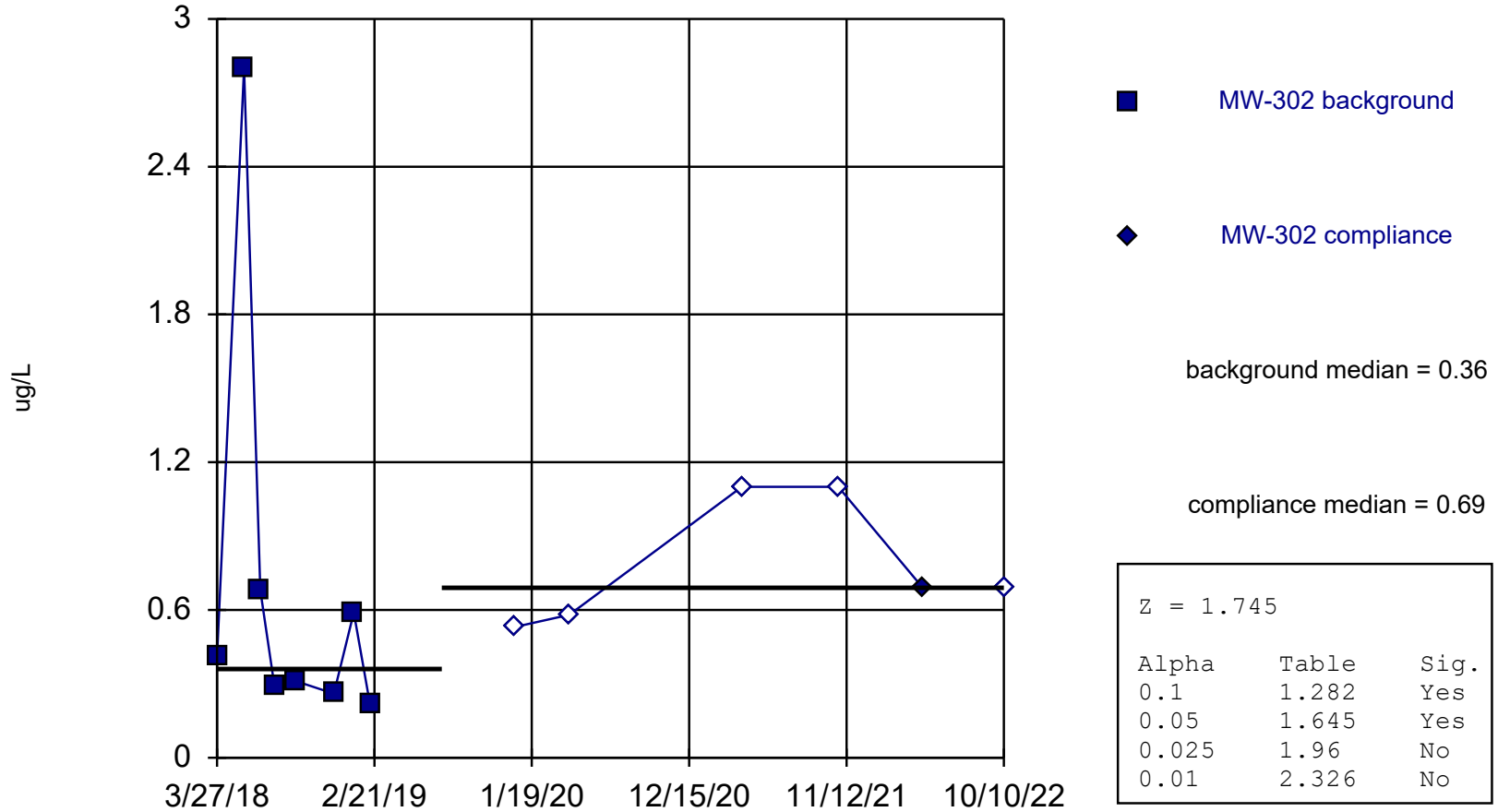
Constituent: Antimony (ug/L) Analysis Run 1/1/2023 2:00 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.13 (J)	
5/23/2018	0.18 (J)	
6/26/2018	0.27 (J)	
7/26/2018	<0.15 (U)	
9/11/2018	0.78 (J)	
11/28/2018	<0.078 (U)	
1/9/2019	0.33 (J)	
2/12/2019	0.2 (J)	
12/11/2019		<0.53 (U)
4/7/2020		<0.58 (U)
4/6/2021		<1.1 (U)
10/26/2021		<1.1 (U)
4/22/2022		<0.69 (U)
10/12/2022		<0.69 (U)

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Antimony Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

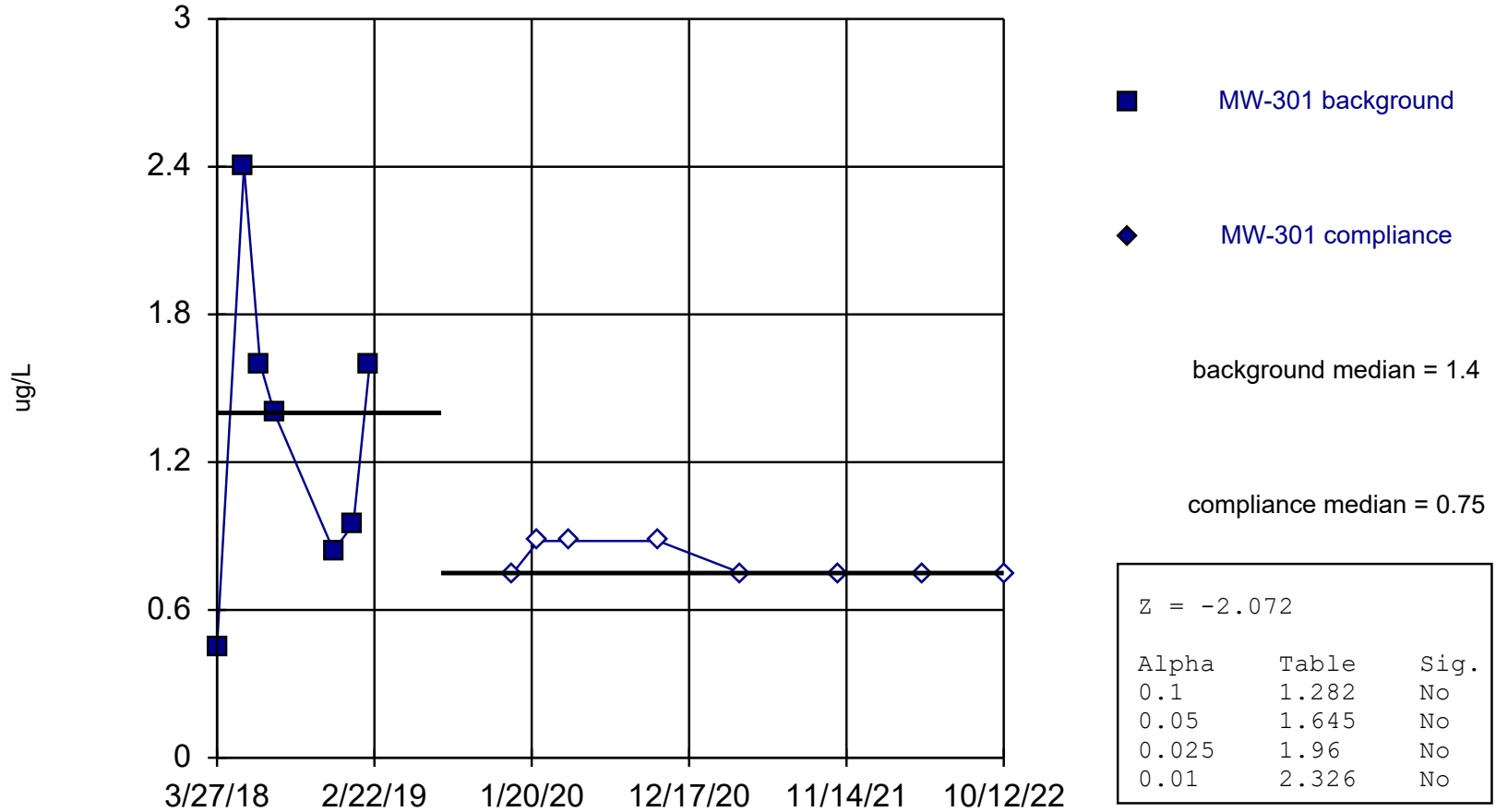
Constituent: Antimony (ug/L) Analysis Run 1/1/2023 2:00 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	0.41 (J)	
5/23/2018	2.8	
6/26/2018	0.68 (J)	
7/26/2018	0.29 (J)	
9/11/2018	0.31 (J)	
11/28/2018	0.26 (J)	
1/9/2019	0.59 (J)	
2/12/2019	0.22 (J)	
12/12/2019		<0.53 (U)
4/7/2020		<0.58 (U)
4/6/2021		<1.1 (U)
10/26/2021		<1.1 (U)
4/22/2022		0.69 (J)
10/10/2022		<0.69 (U)

Mann-Whitney (Wilcoxon Rank Sum)

MW-301 (bg)



Constituent: Arsenic Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

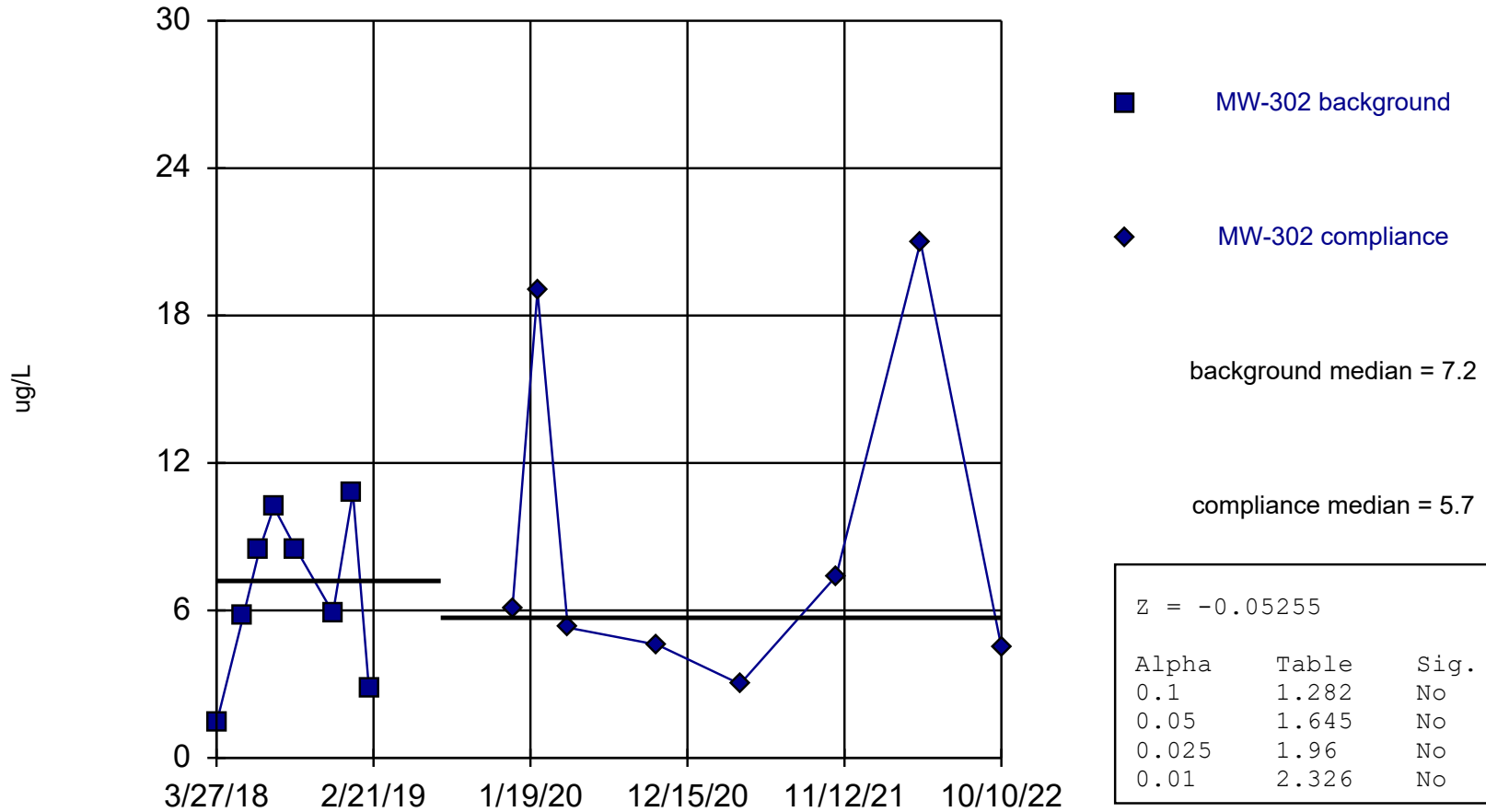
Constituent: Arsenic (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.45 (J)	
5/23/2018	2.4	
6/26/2018	1.6	
7/26/2018	1.4	
9/11/2018	16.2 (X)	
11/28/2018	0.84 (J)	
1/9/2019	0.95 (J)	
2/12/2019	1.6	
12/11/2019		<0.75 (U)
2/3/2020		<0.88 (U)
4/7/2020		<0.88 (U)
10/13/2020		<0.88 (U)
4/6/2021		<0.75 (U)
10/26/2021		<0.75 (U)
4/22/2022		<0.75 (U)
10/12/2022		<0.75 (U)

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Arsenic Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

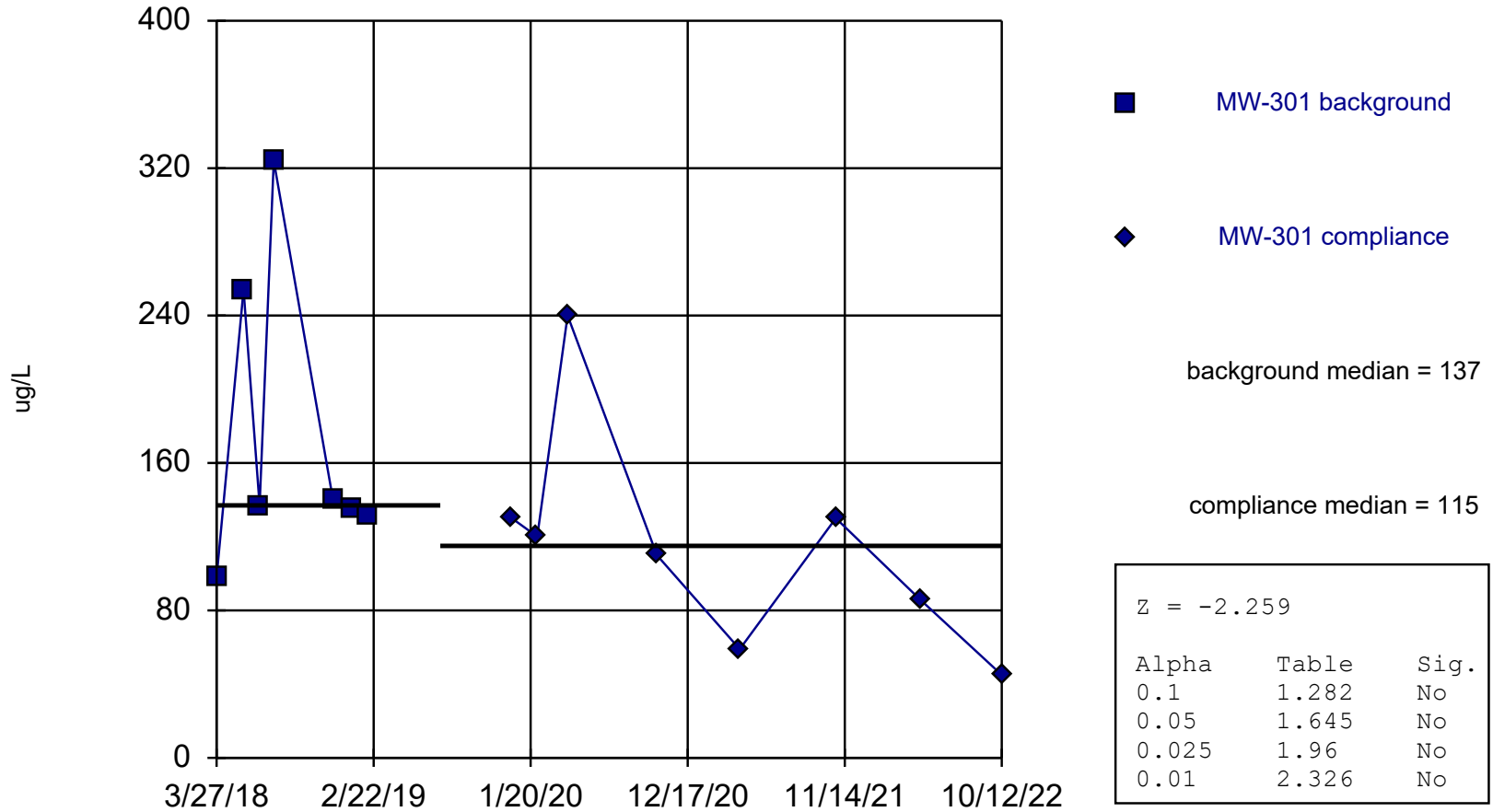
Constituent: Arsenic (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	1.4	
5/23/2018	5.8	
6/26/2018	8.5	
7/26/2018	10.2	
9/11/2018	8.5	
11/28/2018	5.9	
1/9/2019	10.8	
2/12/2019	2.8	
12/12/2019		6.1
2/3/2020		19
4/7/2020		5.3
10/13/2020		4.6
4/6/2021		3
10/26/2021		7.4
4/22/2022		21
10/10/2022		4.5

Mann-Whitney (Wilcoxon Rank Sum)

MW-301 (bg)



Constituent: Barium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

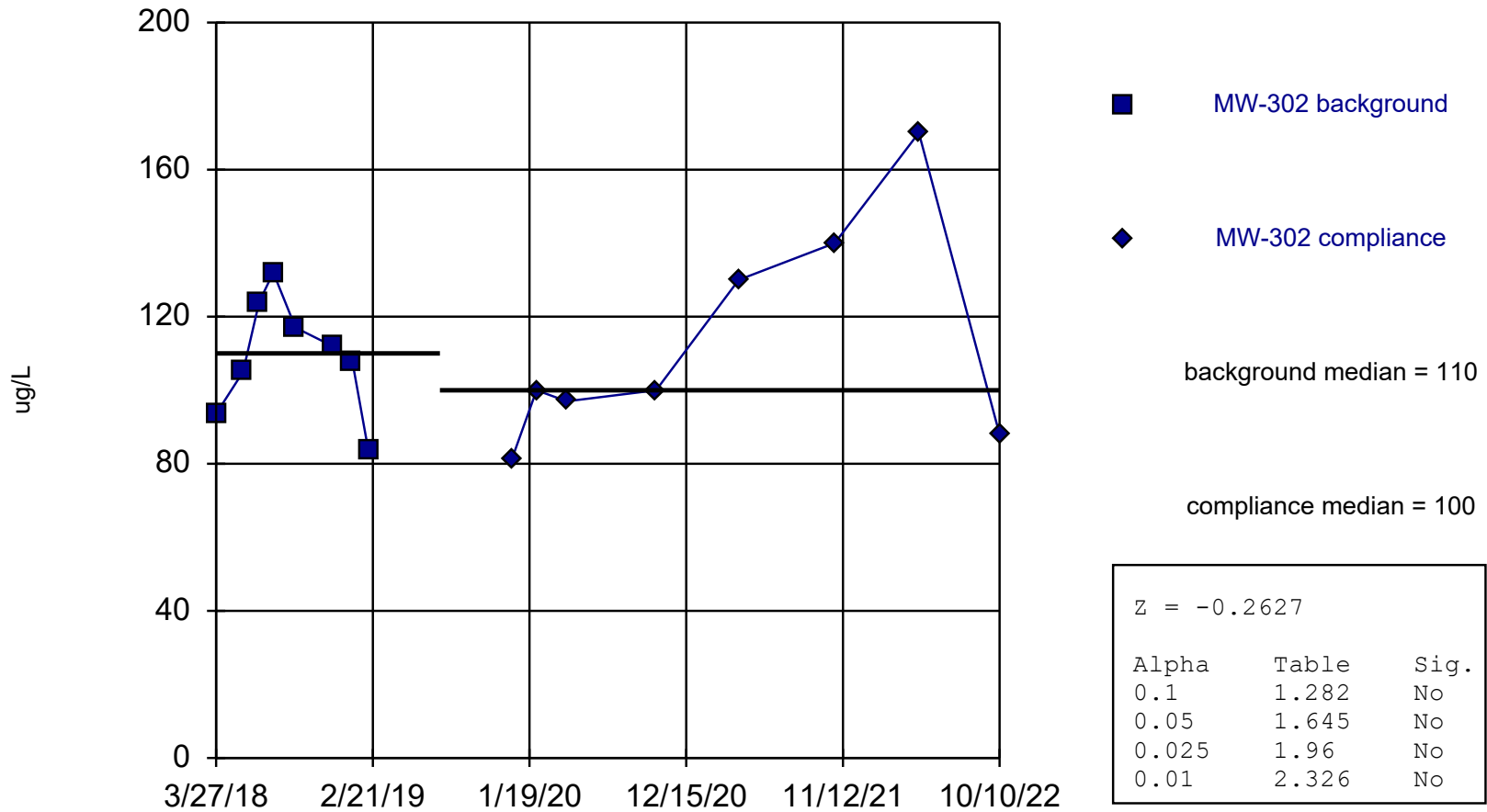
Constituent: Barium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	98	
5/23/2018	254	
6/26/2018	137	
7/26/2018	324	
9/11/2018	1110 (X)	
11/28/2018	140	
1/9/2019	135	
2/12/2019	132	
12/11/2019		130
2/3/2020		120
4/7/2020		240
10/13/2020		110
4/6/2021		59
10/26/2021		130
4/22/2022		86
10/12/2022		45

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Barium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

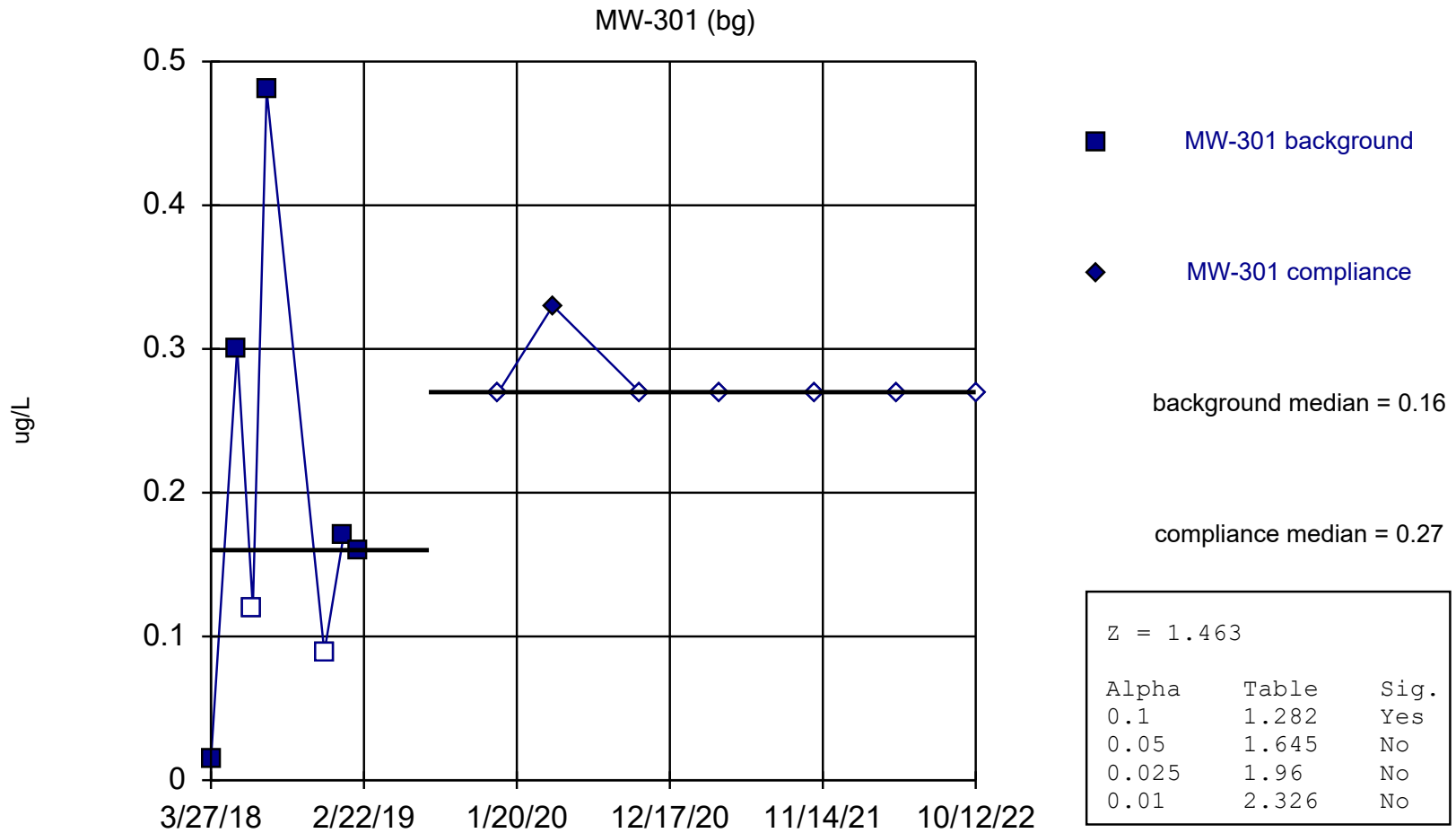
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Barium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	93.6	
5/23/2018	105	
6/26/2018	124	
7/26/2018	132	
9/11/2018	117	
11/28/2018	112	
1/9/2019	108	
2/12/2019	83.7	
12/12/2019		81
2/3/2020		100
4/7/2020		97
10/13/2020		100
4/6/2021		130
10/26/2021		140
4/22/2022		170
10/10/2022		88

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Beryllium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

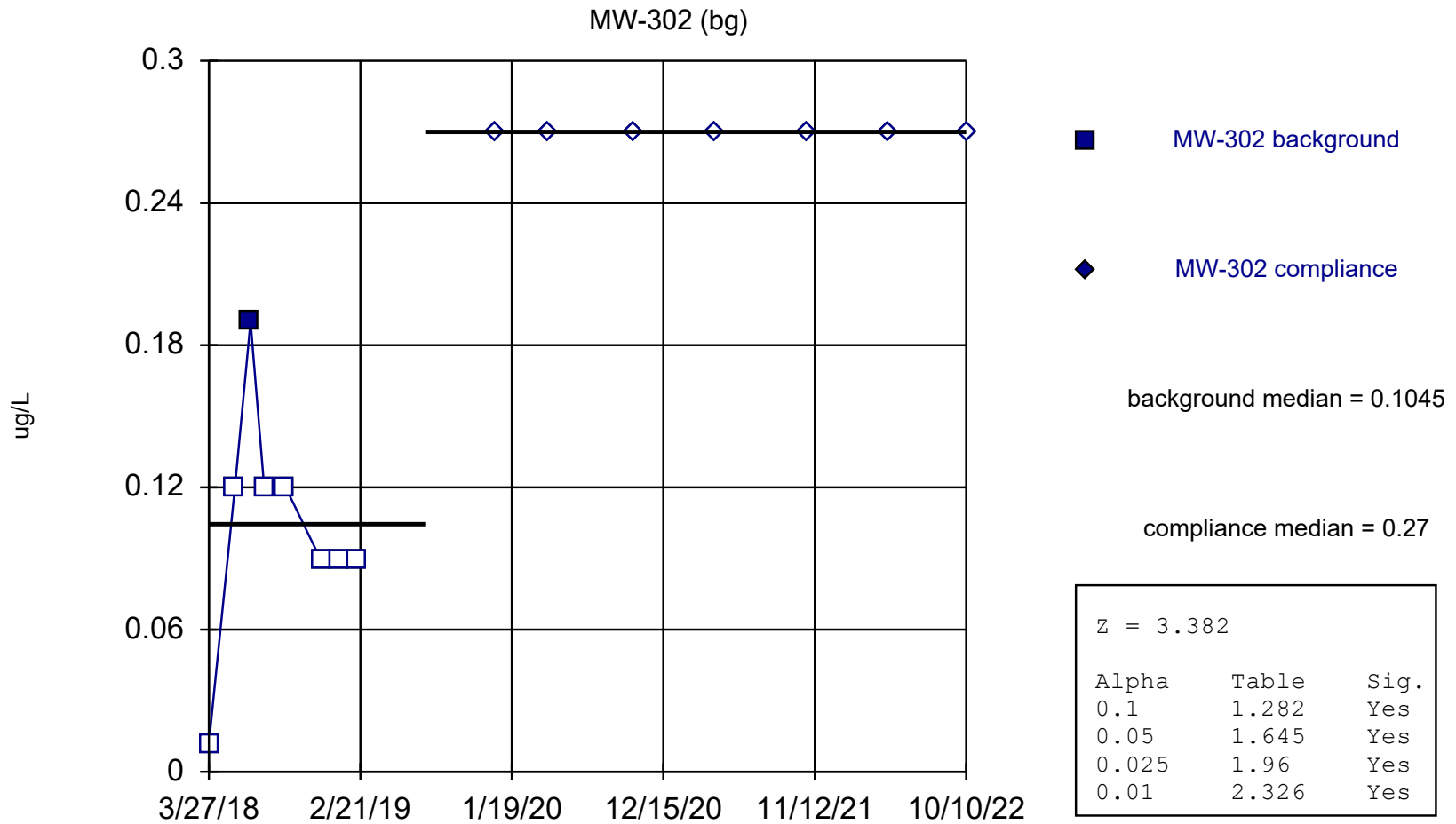
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Beryllium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.014 (J)	
5/23/2018	0.3 (J)	
6/26/2018	<0.12 (U)	
7/26/2018	0.48 (J)	
9/11/2018	1.3 (X)	
11/28/2018	<0.089 (U)	
1/9/2019	0.17 (J)	
2/12/2019	0.16 (J)	
12/11/2019		<0.27 (U)
4/7/2020		0.33 (J)
10/13/2020		<0.27 (U)
4/6/2021		<0.27 (U)
10/26/2021		<0.27 (U)
4/22/2022		<0.27 (U)
10/12/2022		<0.27 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Beryllium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

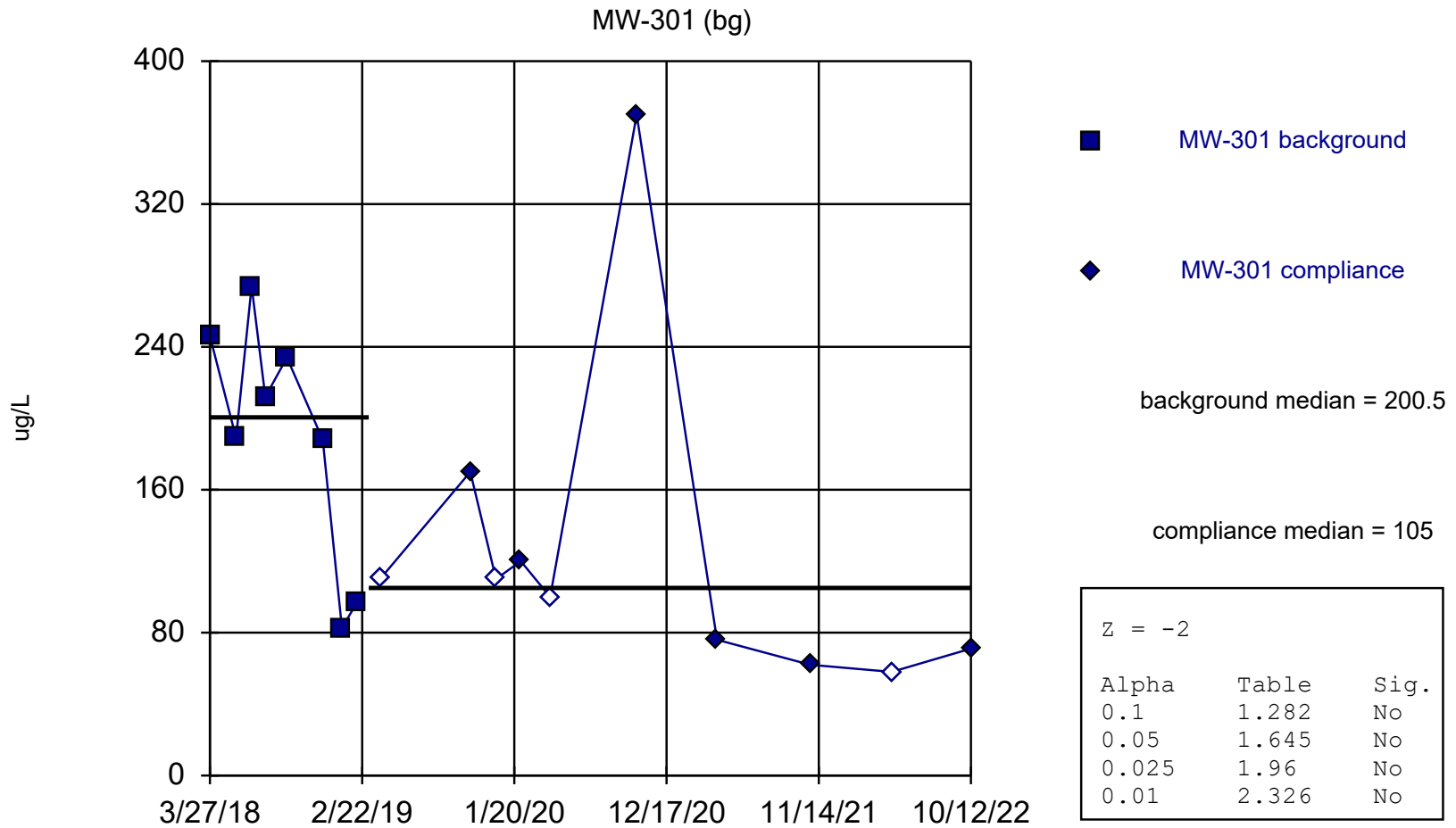
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Beryllium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	<0.012 (U)	
5/23/2018	<0.12 (U)	
6/26/2018	0.19 (J)	
7/26/2018	<0.12 (U)	
9/11/2018	<0.12 (U)	
11/28/2018	<0.089 (U)	
1/9/2019	<0.089 (U)	
2/12/2019	<0.089 (U)	
12/12/2019		<0.27 (U)
4/7/2020		<0.27 (U)
10/13/2020		<0.27 (U)
4/6/2021		<0.27 (U)
10/26/2021		<0.27 (U)
4/22/2022		<0.27 (U)
10/10/2022		<0.27 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Boron Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

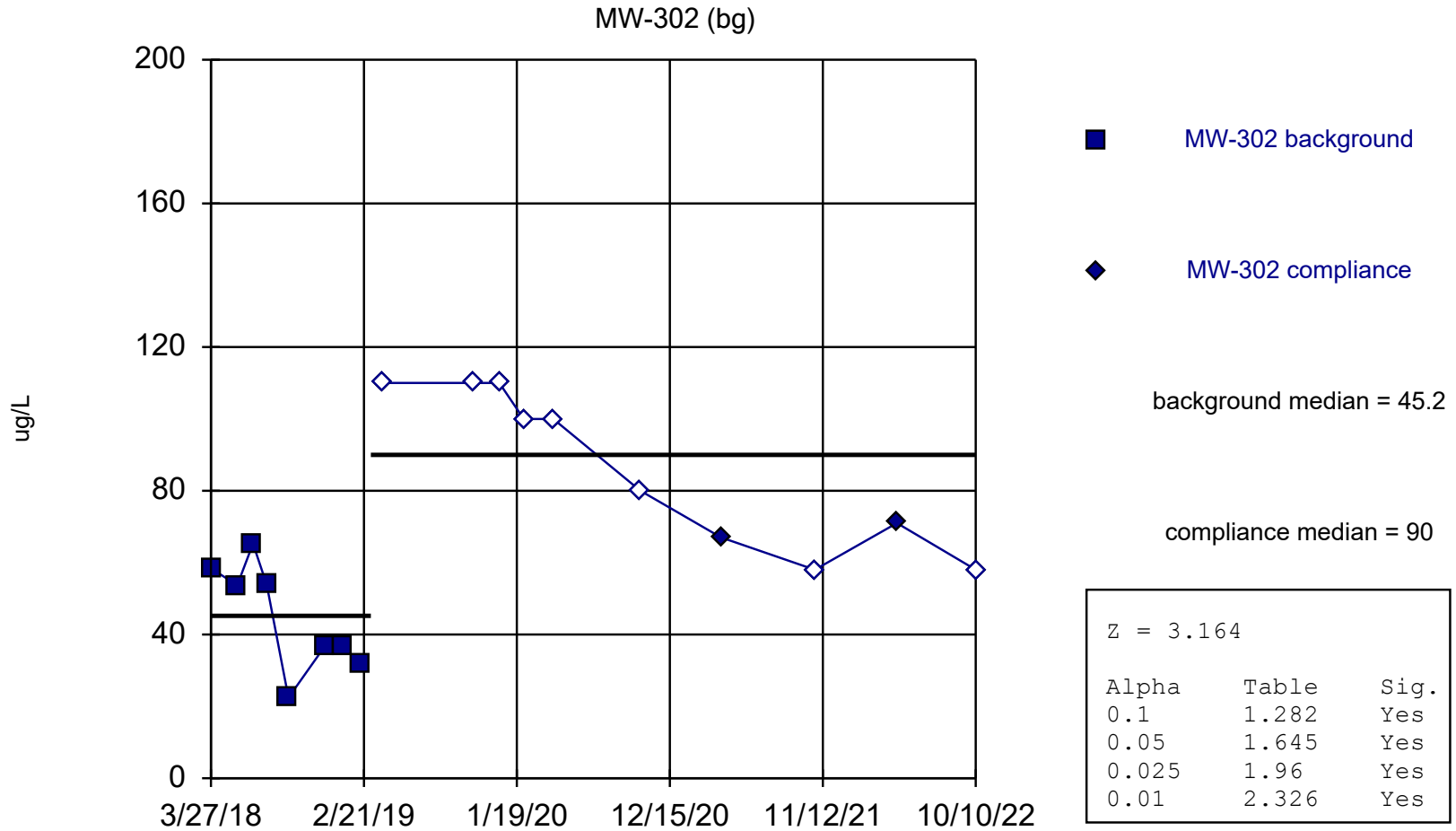
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	246	
5/23/2018	189	
6/26/2018	274	
7/26/2018	212	
9/11/2018	234	
11/28/2018	188	
1/9/2019	82.7 (J)	
2/12/2019	97.3 (J)	
4/2/2019		<110 (U)
10/16/2019		170 (J)
12/11/2019		<110 (U)
2/3/2020		120 (J)
4/7/2020		<100 (U)
10/13/2020		370
4/6/2021		76 (J)
10/26/2021		62 (J)
4/22/2022		<58 (U)
10/12/2022		71 (J)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Boron Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

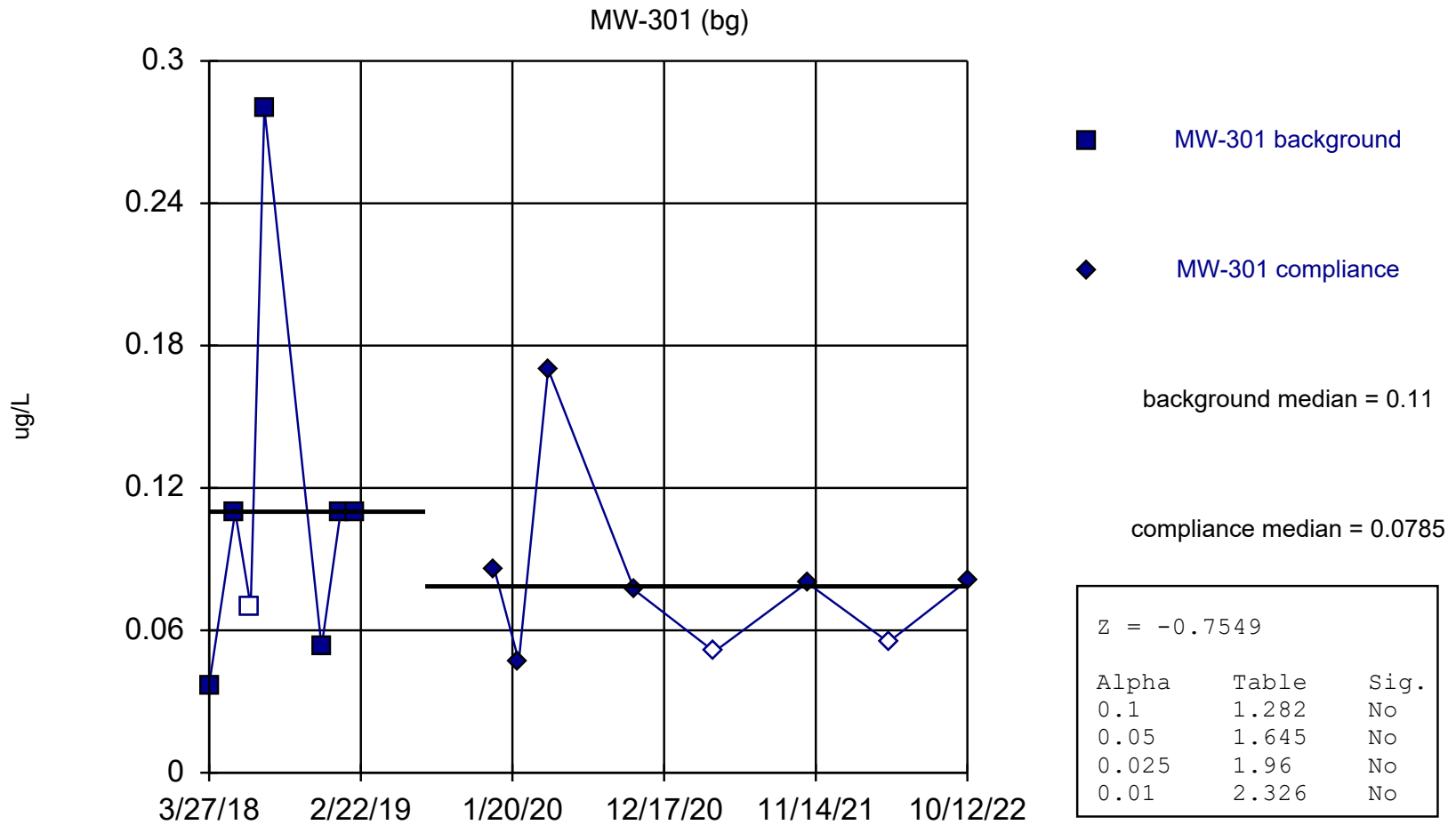
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Boron (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	58.4 (J)	
5/23/2018	53.7 (J)	
6/26/2018	65.3 (J)	
7/26/2018	53.8 (J)	
9/11/2018	22.4 (J)	
11/28/2018	36.6 (J)	
1/9/2019	36.7 (J)	
2/12/2019	31.5 (J)	
4/2/2019		<110 (U)
10/16/2019		<110 (U)
12/12/2019		<110 (U)
2/3/2020		<100 (U)
4/7/2020		<100 (U)
10/13/2020		<80 (U)
4/6/2021	67 (J)	
10/26/2021		<58 (U)
4/22/2022	71 (J)	
10/10/2022		<58 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Cadmium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

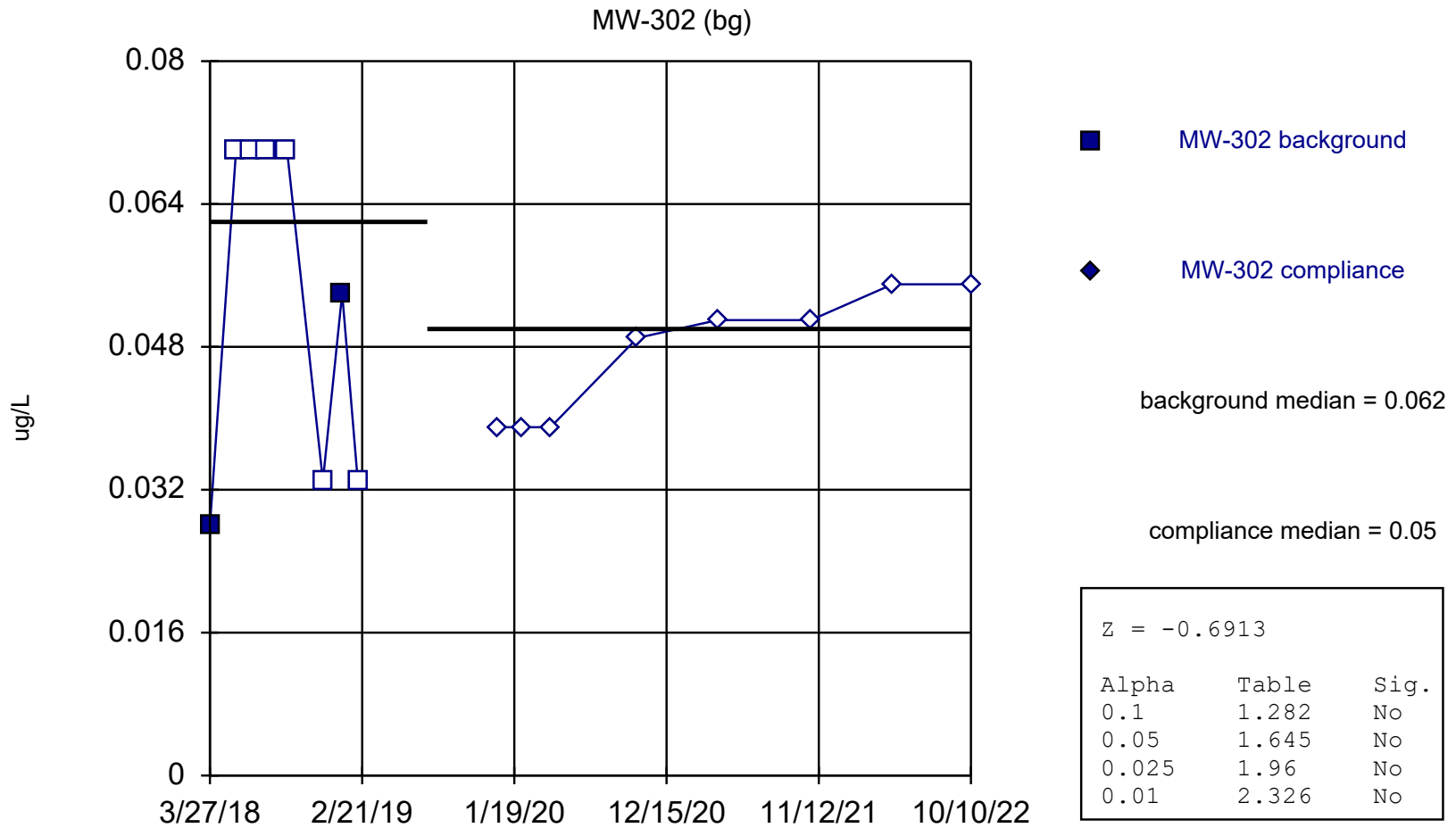
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Cadmium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.037 (J)	
5/23/2018	0.11 (J)	
6/26/2018	<0.07 (U)	
7/26/2018	0.28 (J)	
9/11/2018	0.6 (X)	
11/28/2018	0.053 (J)	
1/9/2019	0.11 (J)	
2/12/2019	0.11 (J)	
12/11/2019		0.086 (J)
2/3/2020		0.047 (J)
4/7/2020		0.17
10/13/2020		0.077 (J)
4/6/2021		<0.051 (U)
10/26/2021		0.08 (J)
4/22/2022		<0.055 (U)
10/12/2022		0.081 (J)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Cadmium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

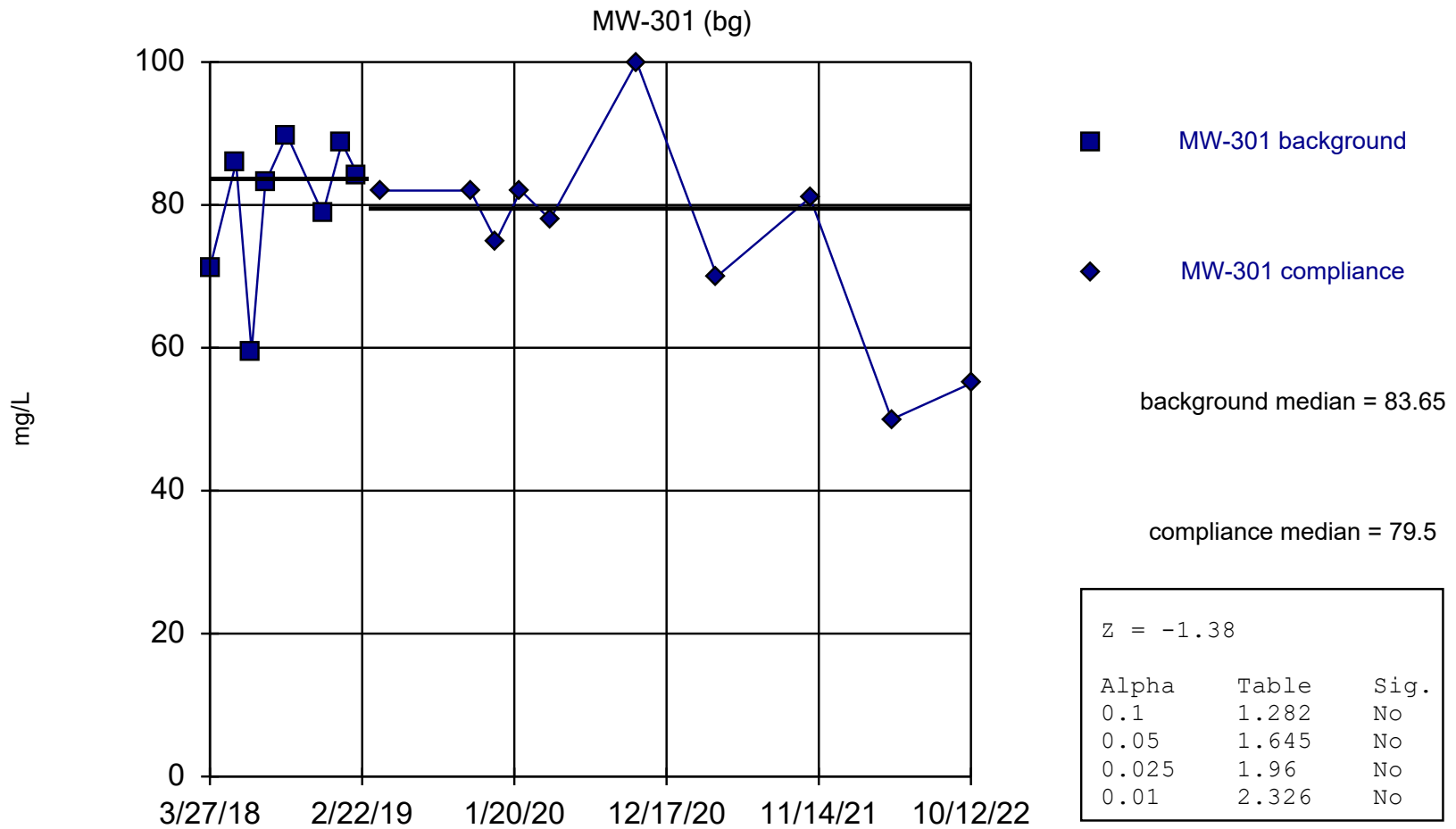
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Cadmium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	0.028 (J)	
5/23/2018	<0.07 (U)	
6/26/2018	<0.07 (U)	
7/26/2018	<0.07 (U)	
9/11/2018	<0.07 (U)	
11/28/2018	<0.033 (U)	
1/9/2019	0.054 (J)	
2/12/2019	<0.033 (U)	
12/12/2019		<0.039 (U)
2/3/2020		<0.039 (U)
4/7/2020		<0.039 (U)
10/13/2020		<0.049 (U)
4/6/2021		<0.051 (U)
10/26/2021		<0.051 (U)
4/22/2022		<0.055 (U)
10/10/2022		<0.055 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Calcium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

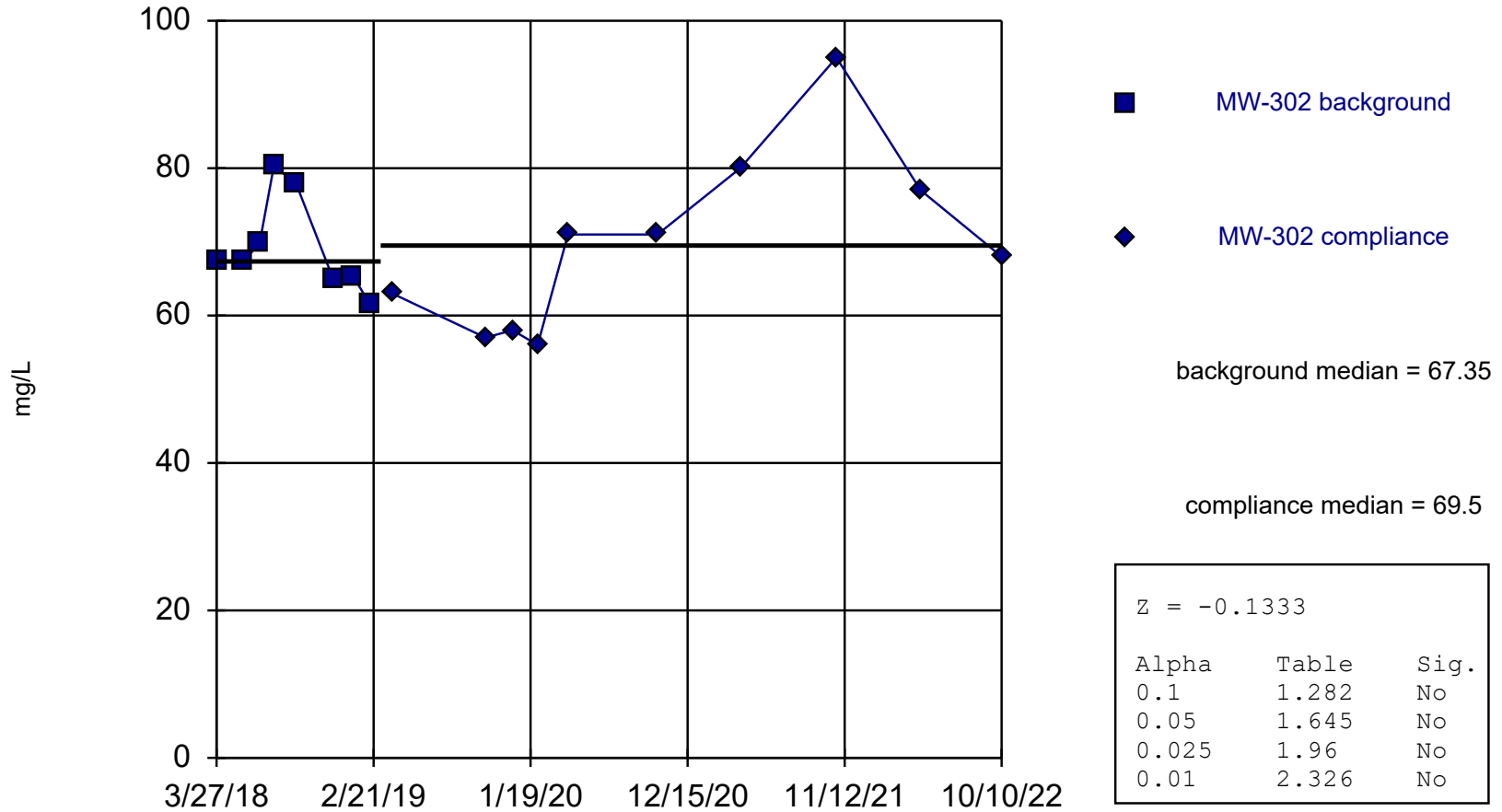
Constituent: Calcium (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	71.2	
5/23/2018	85.9	
6/26/2018	59.5	
7/26/2018	83.1	
9/11/2018	89.8	
11/28/2018	78.8	
1/9/2019	88.7	
2/12/2019	84.2	
4/2/2019		82
10/16/2019		82
12/11/2019		75
2/3/2020		82
4/7/2020		78
10/13/2020		100
4/6/2021		70
10/26/2021		81
4/22/2022		50
10/12/2022		55

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Calcium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

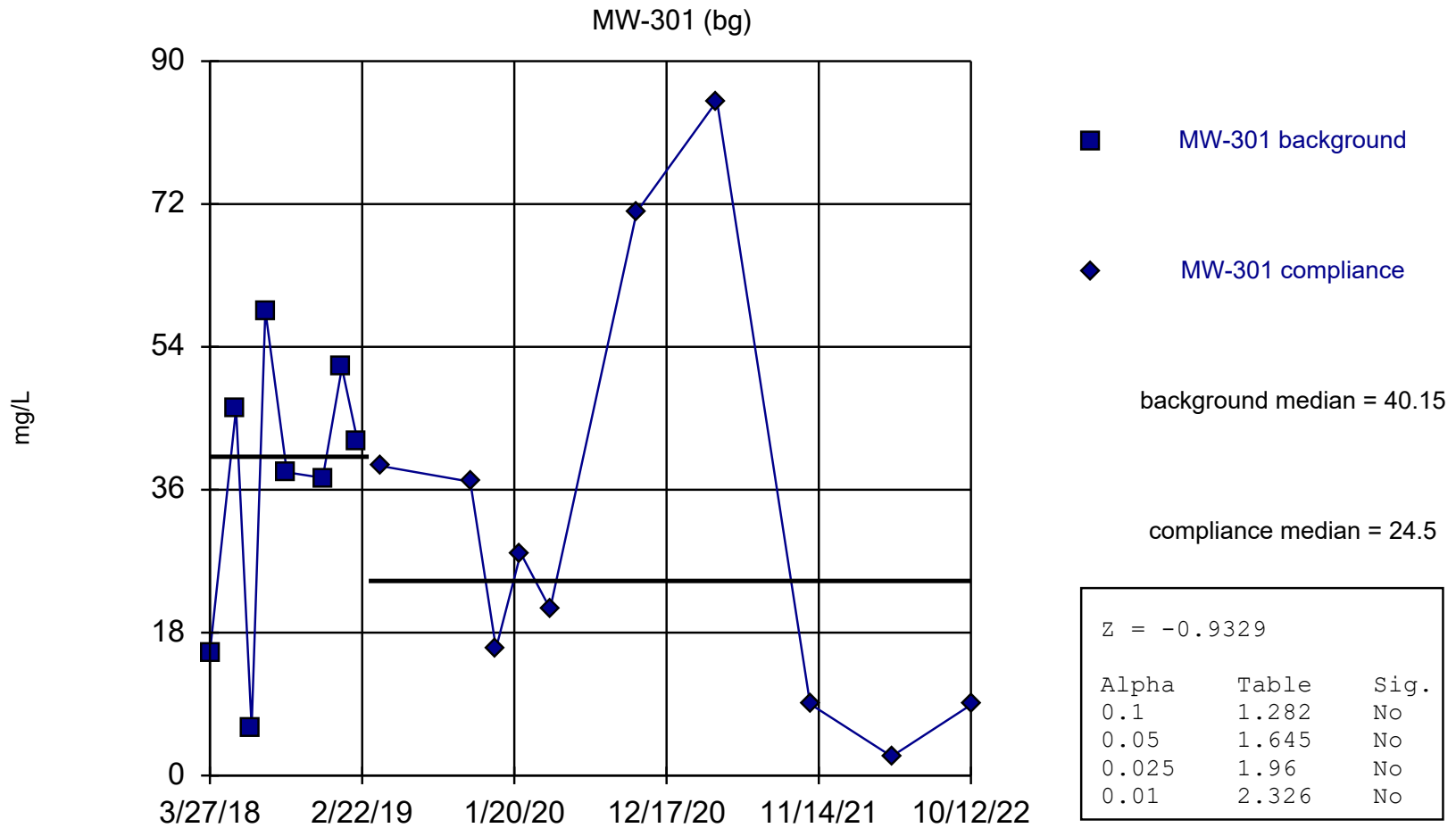
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Calcium (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	67.4	
5/23/2018	67.3	
6/26/2018	69.9	
7/26/2018	80.3	
9/11/2018	77.9	
11/28/2018	65	
1/9/2019	65.4	
2/12/2019	61.7	
4/2/2019		63
10/16/2019		57
12/12/2019		58
2/3/2020		56
4/7/2020		71
10/13/2020		71
4/6/2021		80
10/26/2021		95
4/22/2022		77
10/10/2022		68

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Chloride Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

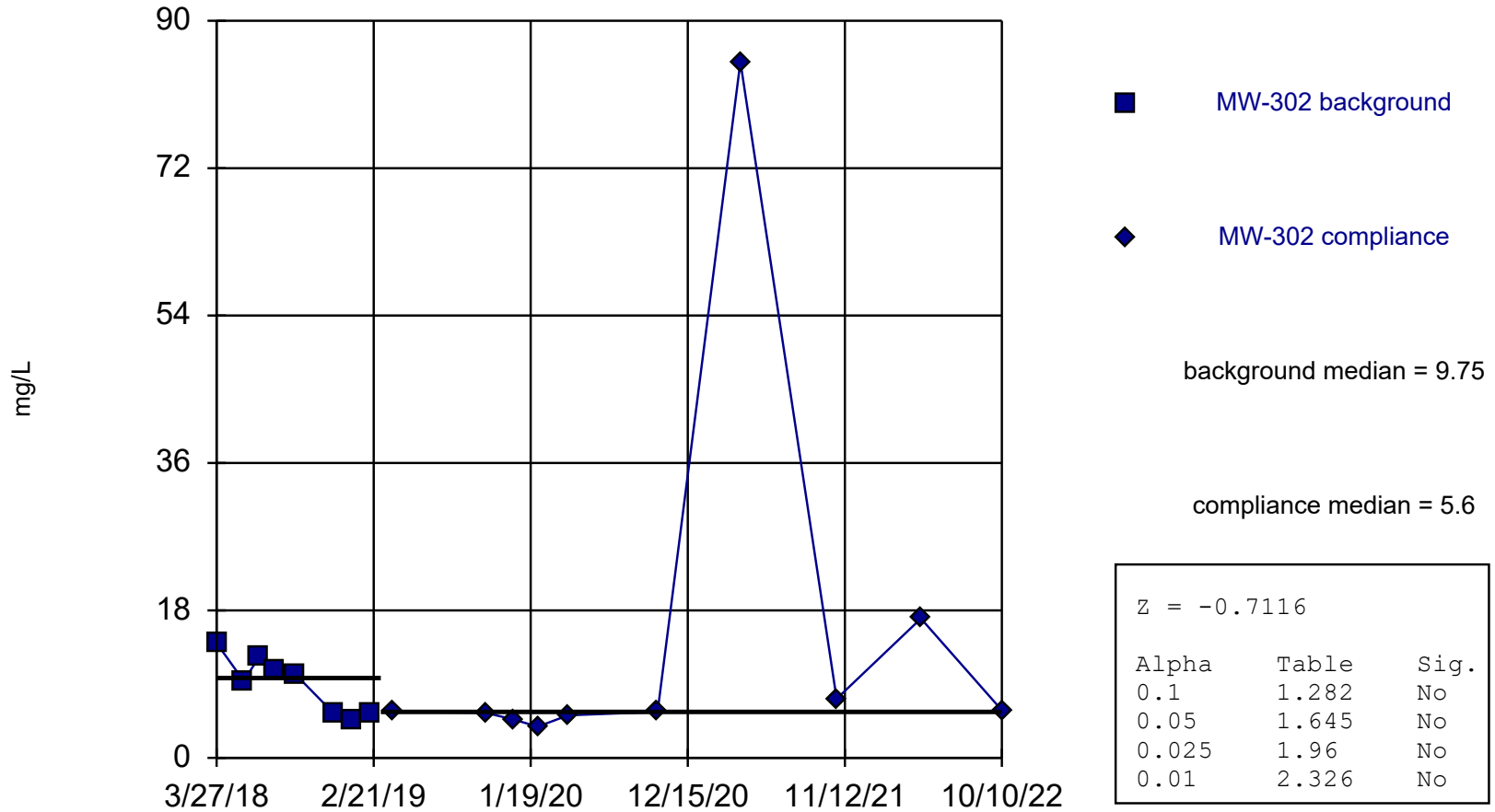
Constituent: Chloride (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	15.5	
5/23/2018	46.2	
6/26/2018	6	
7/26/2018	58.6	
9/11/2018	38.2	
11/28/2018	37.5	
1/9/2019	51.4	
2/12/2019	42.1	
4/2/2019		39
10/16/2019		37
12/11/2019		16
2/3/2020		28
4/7/2020		21
10/13/2020		71
4/6/2021		85
10/26/2021		9
4/22/2022		2.4 (J)
10/12/2022		8.9

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Chloride Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

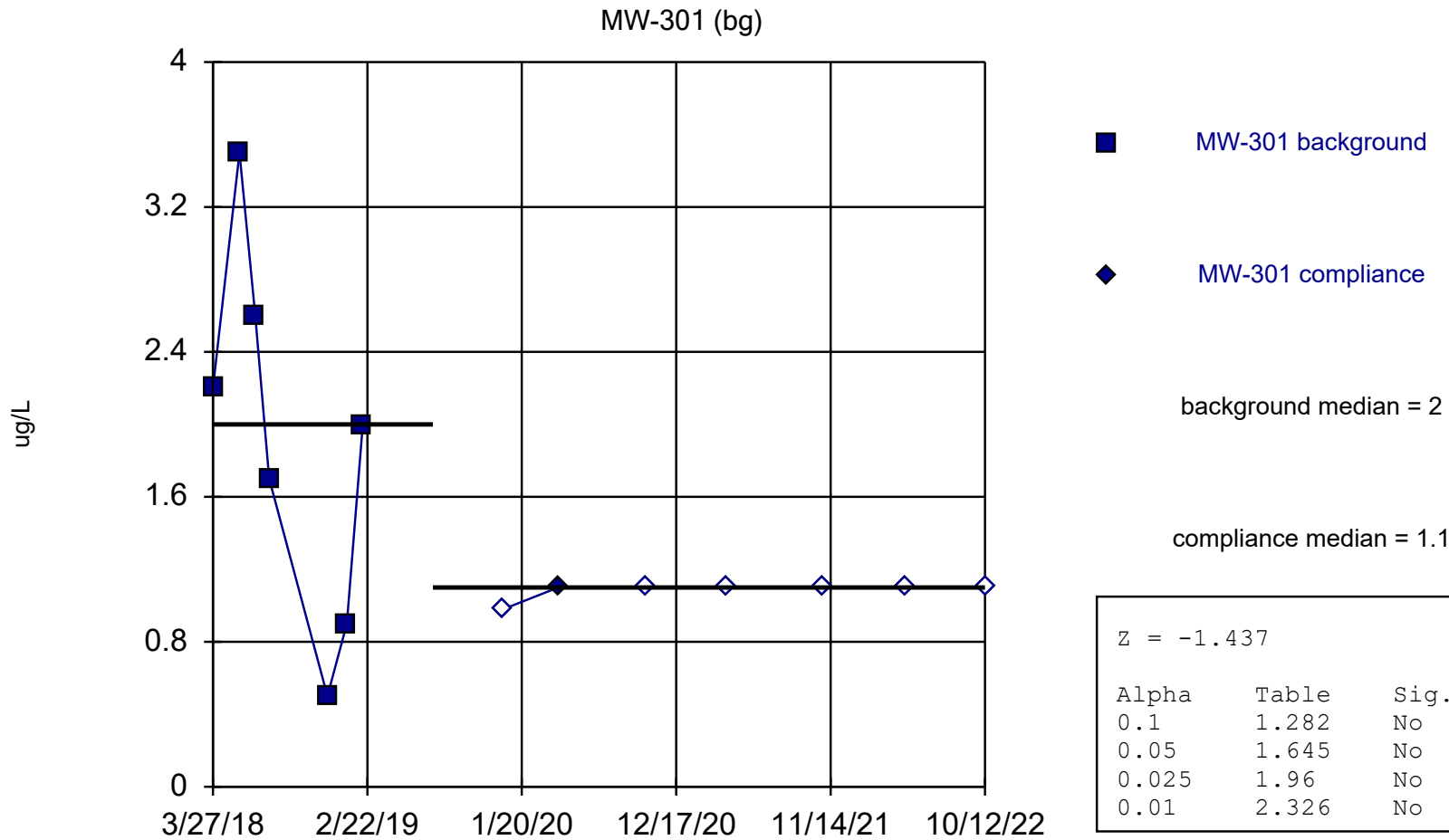
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Chloride (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	14	
5/23/2018	9.4	
6/26/2018	12.4	
7/26/2018	10.7	
9/11/2018	10.1	
11/28/2018	5.5	
1/9/2019	4.5	
2/12/2019	5.3	
4/2/2019		5.6
10/16/2019		5.5
12/12/2019		4.7 (J)
2/3/2020		3.8 (J)
4/7/2020		5.2
10/13/2020		5.6
4/6/2021		85
10/26/2021		7.2
4/22/2022		17
10/10/2022		5.8

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Chromium Analysis Run 1/1/2023 1:58 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

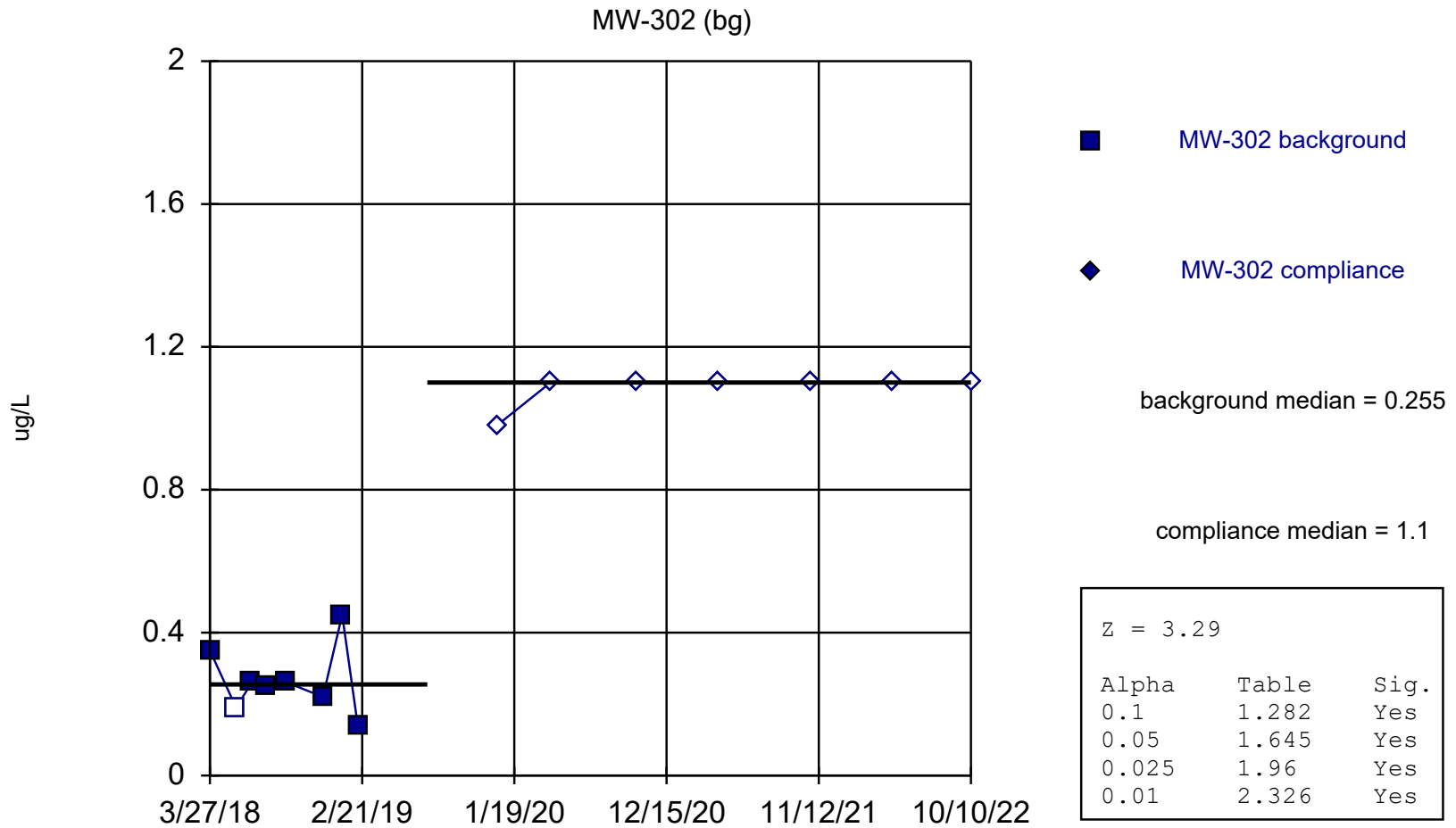
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Chromium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	2.2	
5/23/2018	3.5	
6/26/2018	2.6	
7/26/2018	1.7	
9/11/2018	20.8 (X)	
11/28/2018	0.5 (J)	
1/9/2019	0.9 (J)	
2/12/2019	2	
12/11/2019		<0.98 (U)
4/7/2020		1.1 (J)
10/13/2020		<1.1 (U)
4/6/2021		<1.1 (U)
10/26/2021		<1.1 (U)
4/22/2022		<1.1 (U)
10/12/2022		<1.1 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Chromium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

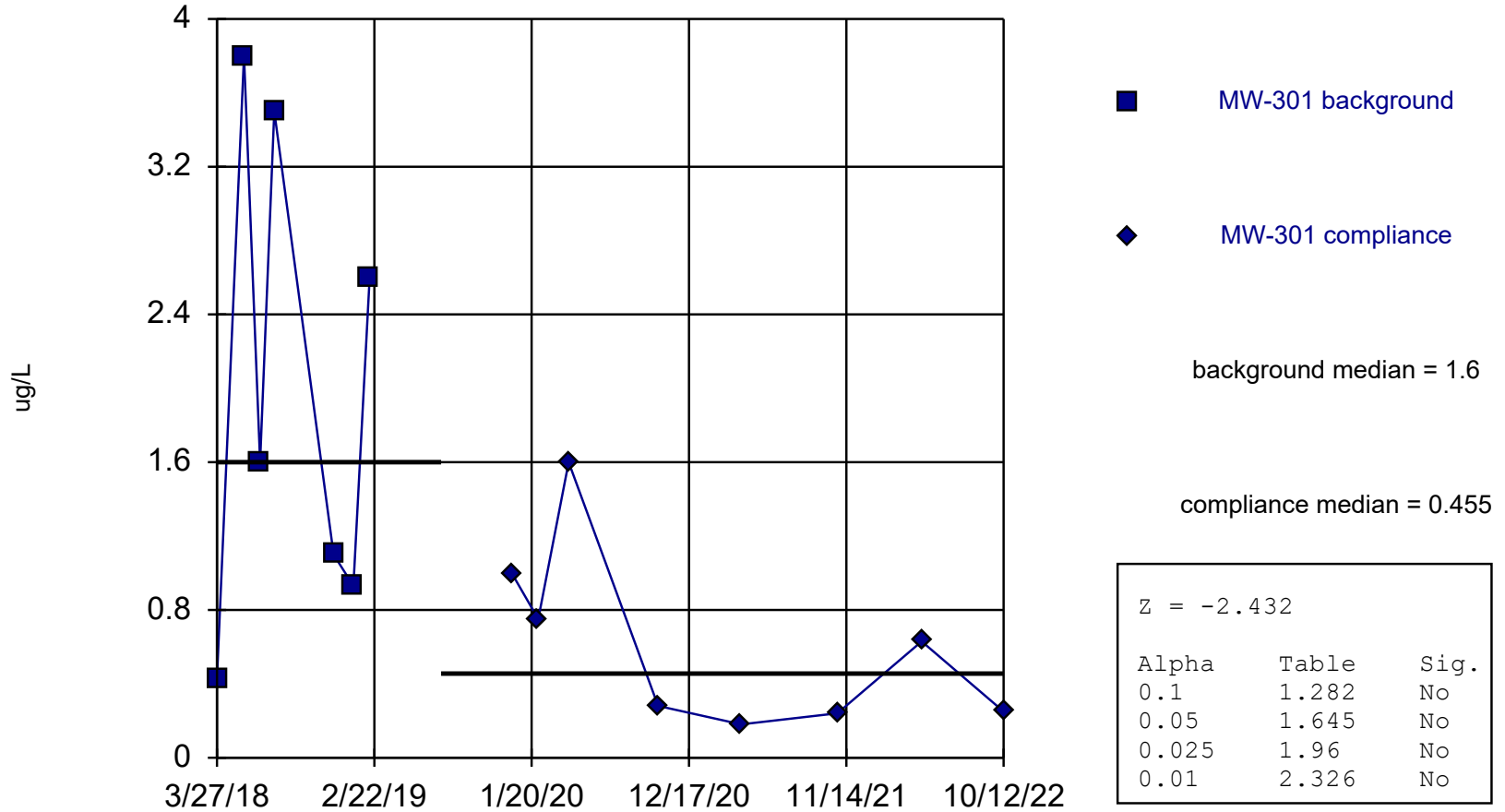
Constituent: Chromium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	0.35 (J)	
5/23/2018	<0.19 (U)	
6/26/2018	0.26 (J)	
7/26/2018	0.25 (J)	
9/11/2018	0.26 (J)	
11/28/2018	0.22 (J)	
1/9/2019	0.45 (J)	
2/12/2019	0.14 (J)	
12/12/2019		<0.98 (U)
4/7/2020		<1.1 (U)
10/13/2020		<1.1 (U)
4/6/2021		<1.1 (U)
10/26/2021		<1.1 (U)
4/22/2022		<1.1 (U)
10/10/2022		<1.1 (U)

Mann-Whitney (Wilcoxon Rank Sum)

MW-301 (bg)



Constituent: Cobalt Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

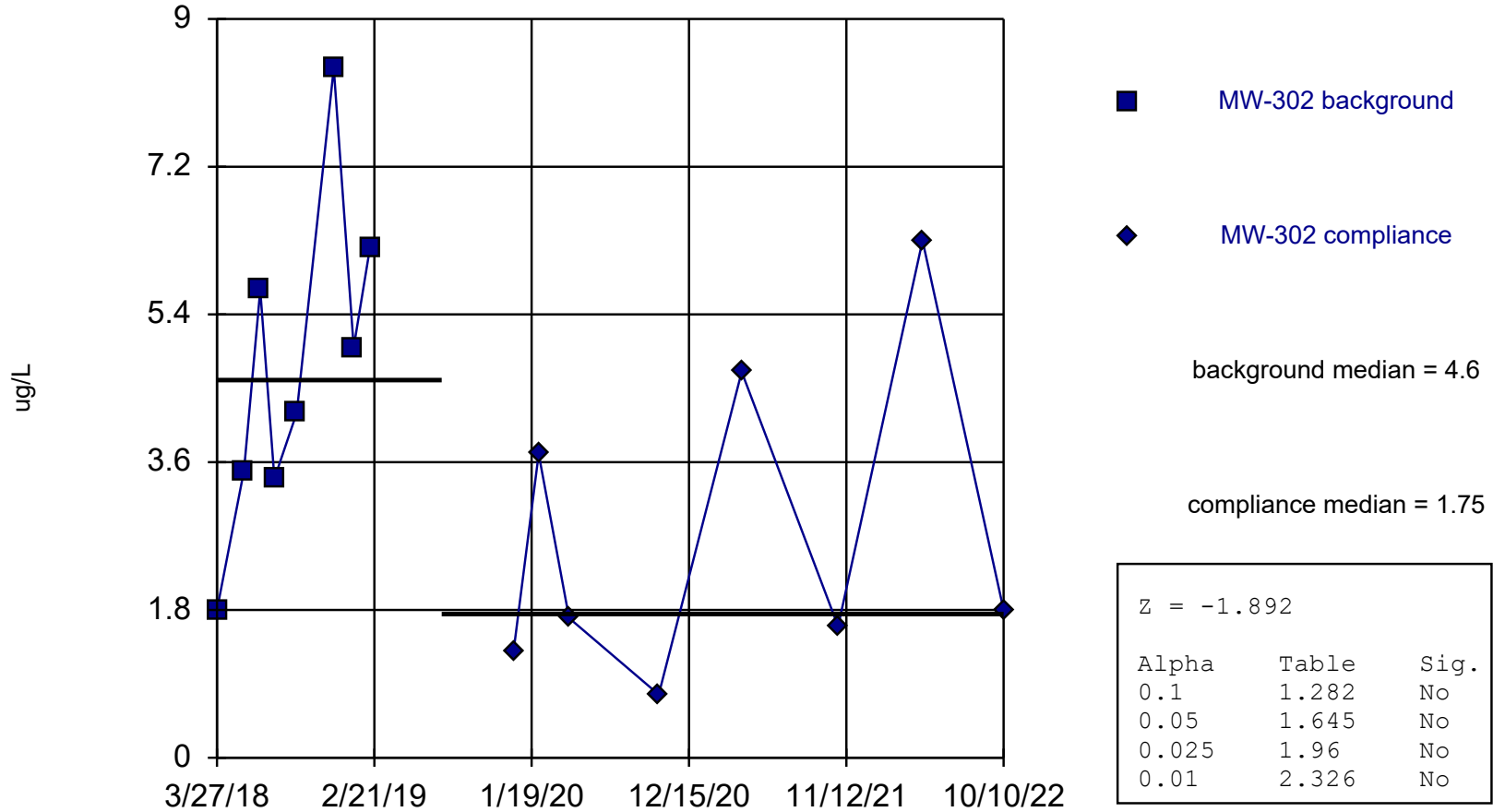
Constituent: Cobalt (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.43 (J)	
5/23/2018	3.8	
6/26/2018	1.6	
7/26/2018	3.5	
9/11/2018	21.7 (X)	
11/28/2018	1.1	
1/9/2019	0.93 (J)	
2/12/2019	2.6	
12/11/2019		0.99
2/3/2020		0.75
4/7/2020		1.6
10/13/2020		0.28 (J)
4/6/2021		0.18 (J)
10/26/2021		0.24 (J)
4/22/2022		0.63
10/12/2022		0.25 (J)

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Cobalt Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

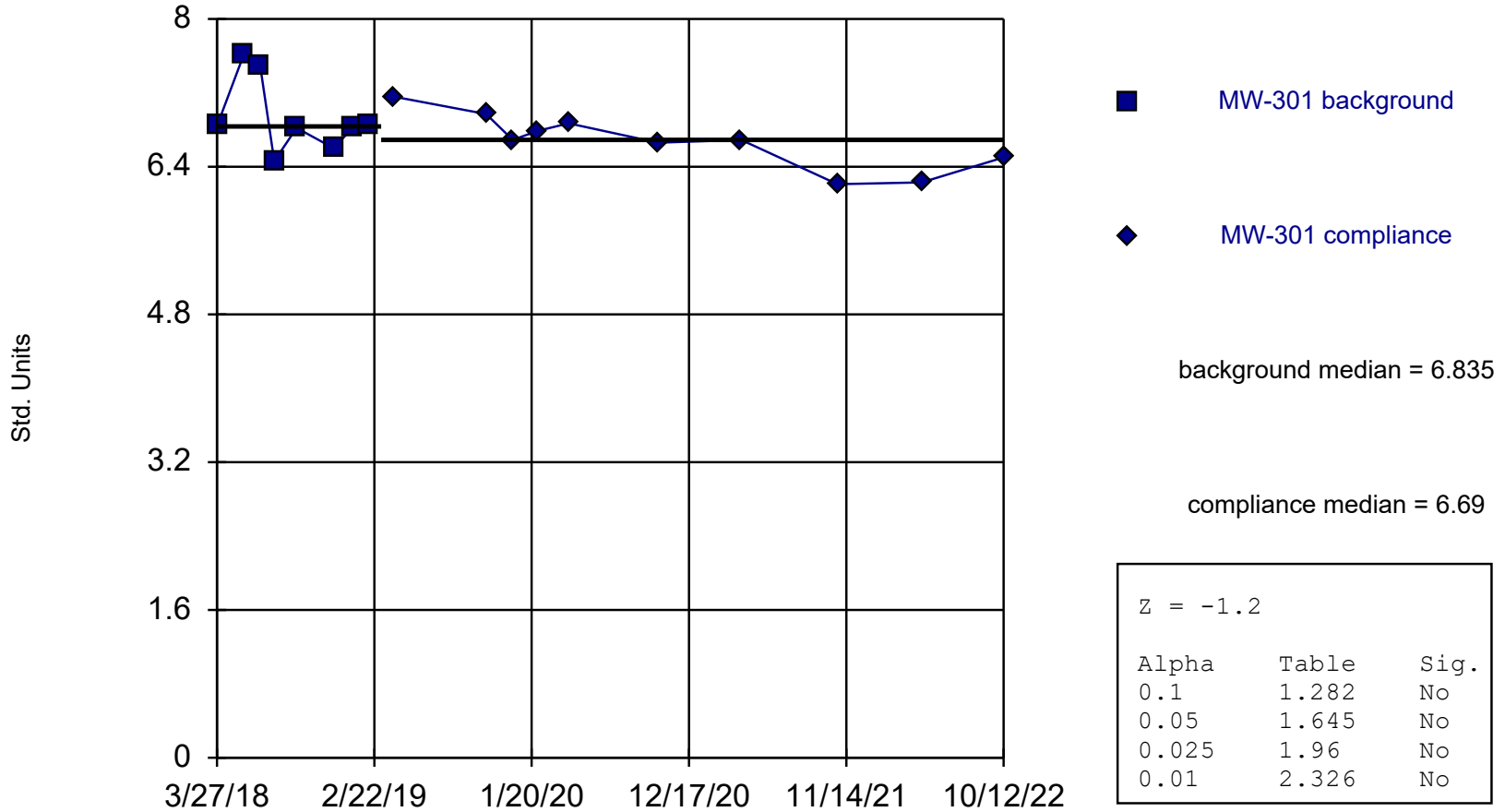
Constituent: Cobalt (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	1.8	
5/23/2018	3.5	
6/26/2018	5.7	
7/26/2018	3.4	
9/11/2018	4.2	
11/28/2018	8.4	
1/9/2019	5	
2/12/2019	6.2	
12/12/2019		1.3
2/3/2020		3.7
4/7/2020		1.7
10/13/2020		0.77
4/6/2021		4.7
10/26/2021		1.6
4/22/2022		6.3
10/10/2022		1.8

Mann-Whitney (Wilcoxon Rank Sum)

MW-301 (bg)



Constituent: Field pH Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

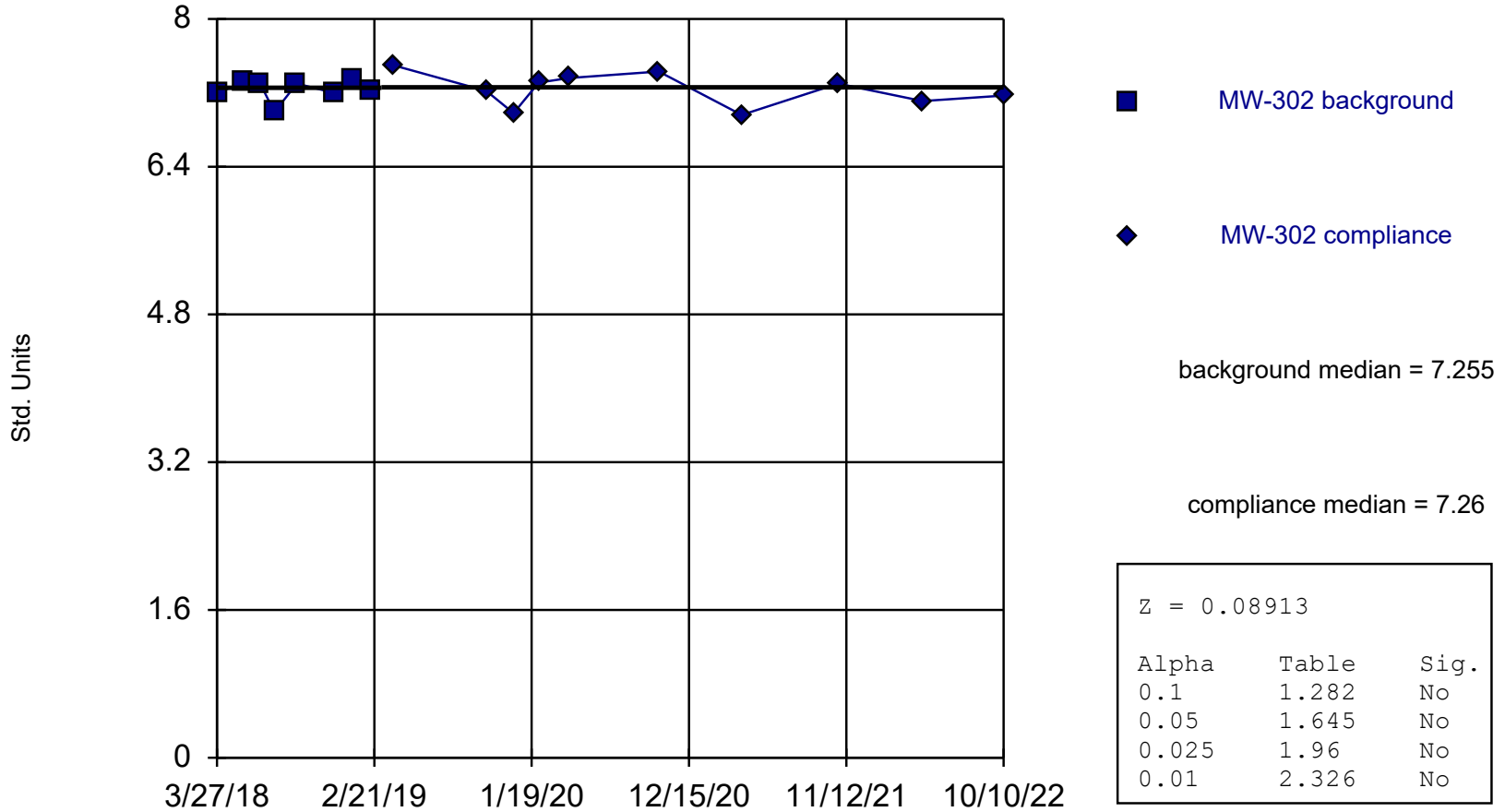
Constituent: Field pH (Std. Units) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	6.84	
5/23/2018	7.62	
6/26/2018	7.5	
7/26/2018	6.46	
9/11/2018	6.82	
11/28/2018	6.6	
1/9/2019	6.83	
2/12/2019	6.85	
4/2/2019		7.16
10/16/2019		6.97
12/11/2019		6.69
2/3/2020		6.79
4/7/2020		6.87
10/13/2020		6.66
4/6/2021		6.69
10/26/2021		6.21
4/22/2022		6.23
10/12/2022		6.5

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Field pH Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

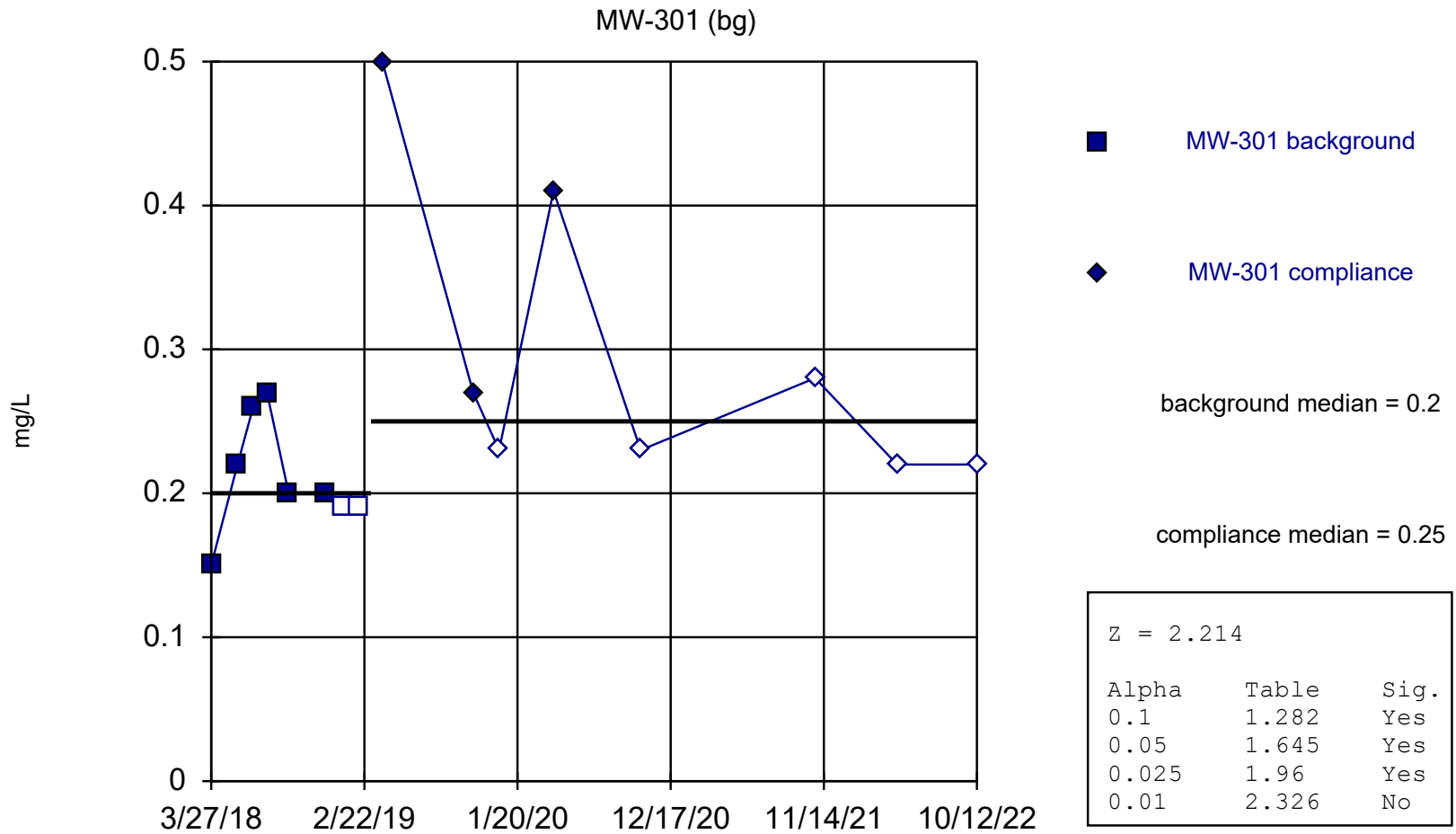
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Field pH (Std. Units) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	7.2	
5/23/2018	7.31	
6/26/2018	7.3	
7/26/2018	6.99	
9/11/2018	7.3	
11/28/2018	7.2	
1/9/2019	7.34	
2/12/2019	7.21	
4/2/2019		7.5
10/16/2019		7.22
12/12/2019		6.98
2/3/2020		7.31
4/7/2020		7.36
10/13/2020		7.43
4/6/2021		6.96
10/26/2021		7.3
4/22/2022		7.11
10/10/2022		7.17

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Fluoride Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

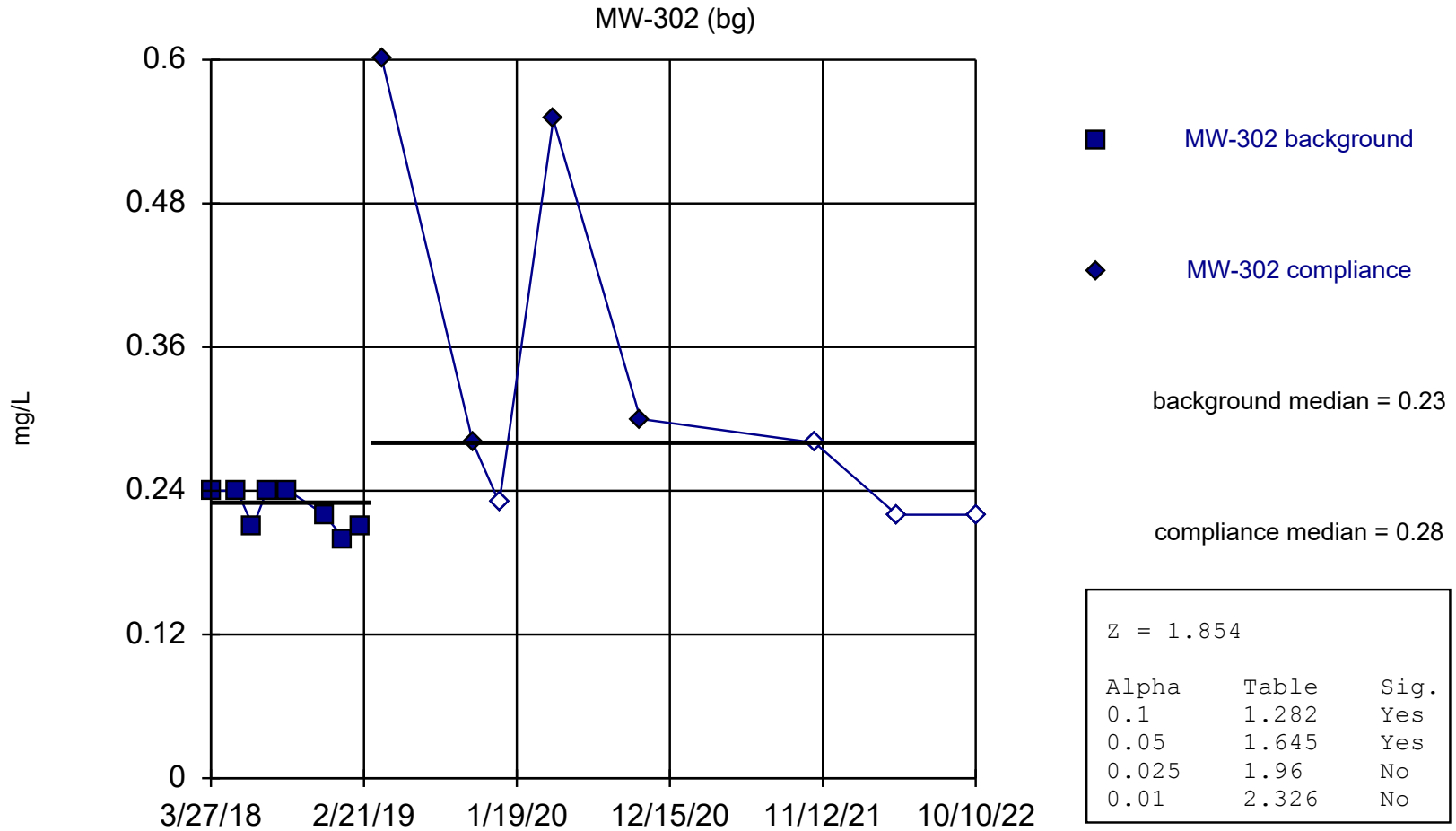
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Fluoride (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.15 (J)	
5/23/2018	0.22	
6/26/2018	0.26	
7/26/2018	0.27	
9/11/2018	0.2 (J)	
11/28/2018	0.2	
1/9/2019	<0.19 (U)	
2/12/2019	<0.19 (U)	
4/2/2019		0.5
10/16/2019		0.27 (J)
12/11/2019		<0.23 (U)
4/7/2020		0.41 (J)
10/13/2020		<0.23 (U)
4/6/2021	2.5 (X)	
10/26/2021		<0.28 (U)
4/22/2022		<0.22 (U)
10/12/2022		<0.22 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Fluoride Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

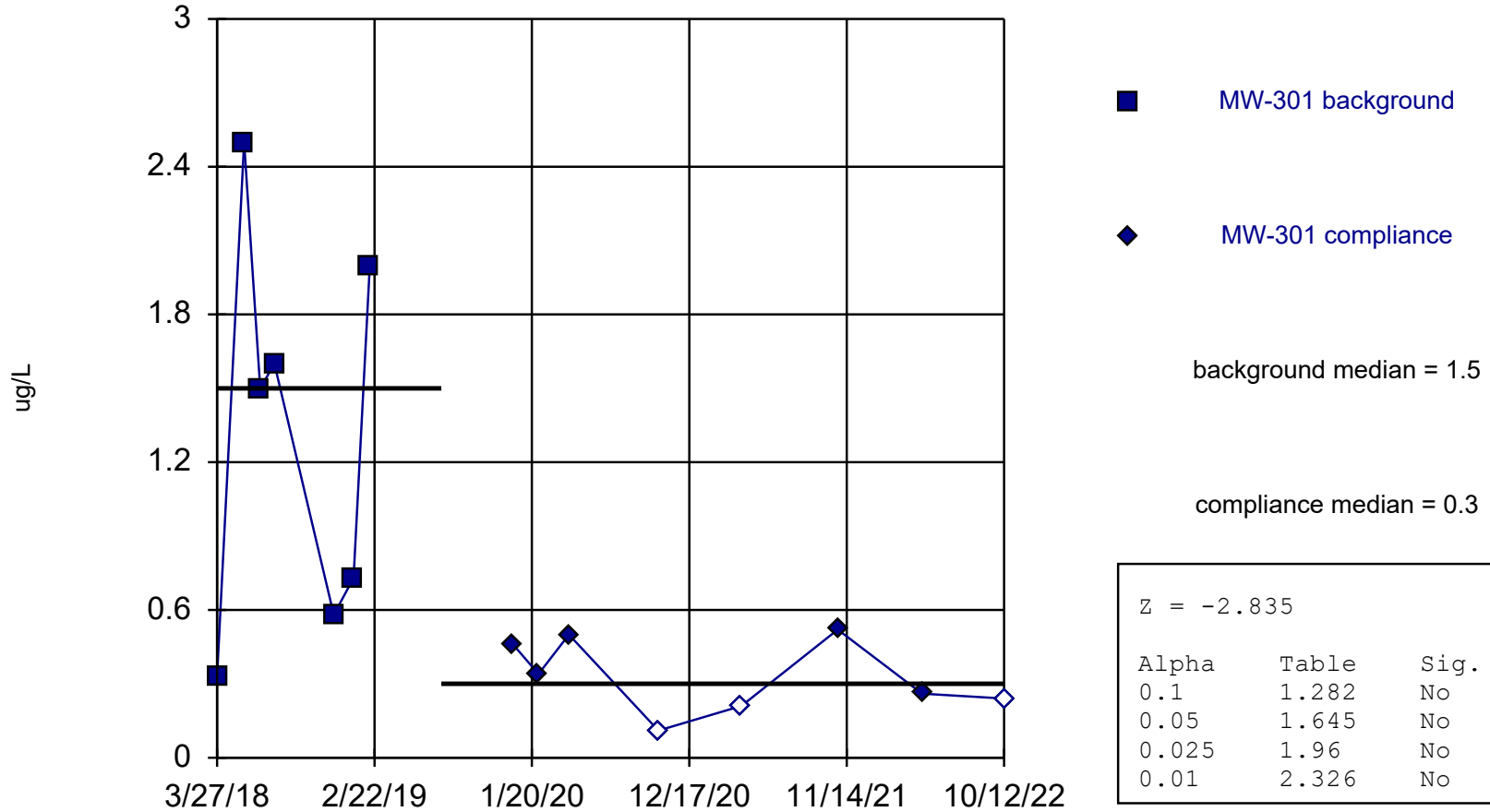
Constituent: Fluoride (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	0.24	
5/23/2018	0.24	
6/26/2018	0.21	
7/26/2018	0.24	
9/11/2018	0.24	
11/28/2018	0.22	
1/9/2019	0.2	
2/12/2019	0.21	
4/2/2019		0.6
10/16/2019		0.28 (J)
12/12/2019		<0.23 (U)
4/7/2020		0.55
10/13/2020		0.3 (J)
4/6/2021	2.5 (X)	
10/26/2021		<0.28 (U)
4/22/2022		<0.22 (U)
10/10/2022		<0.22 (U)

Mann-Whitney (Wilcoxon Rank Sum)

MW-301 (bg)



Constituent: Lead Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

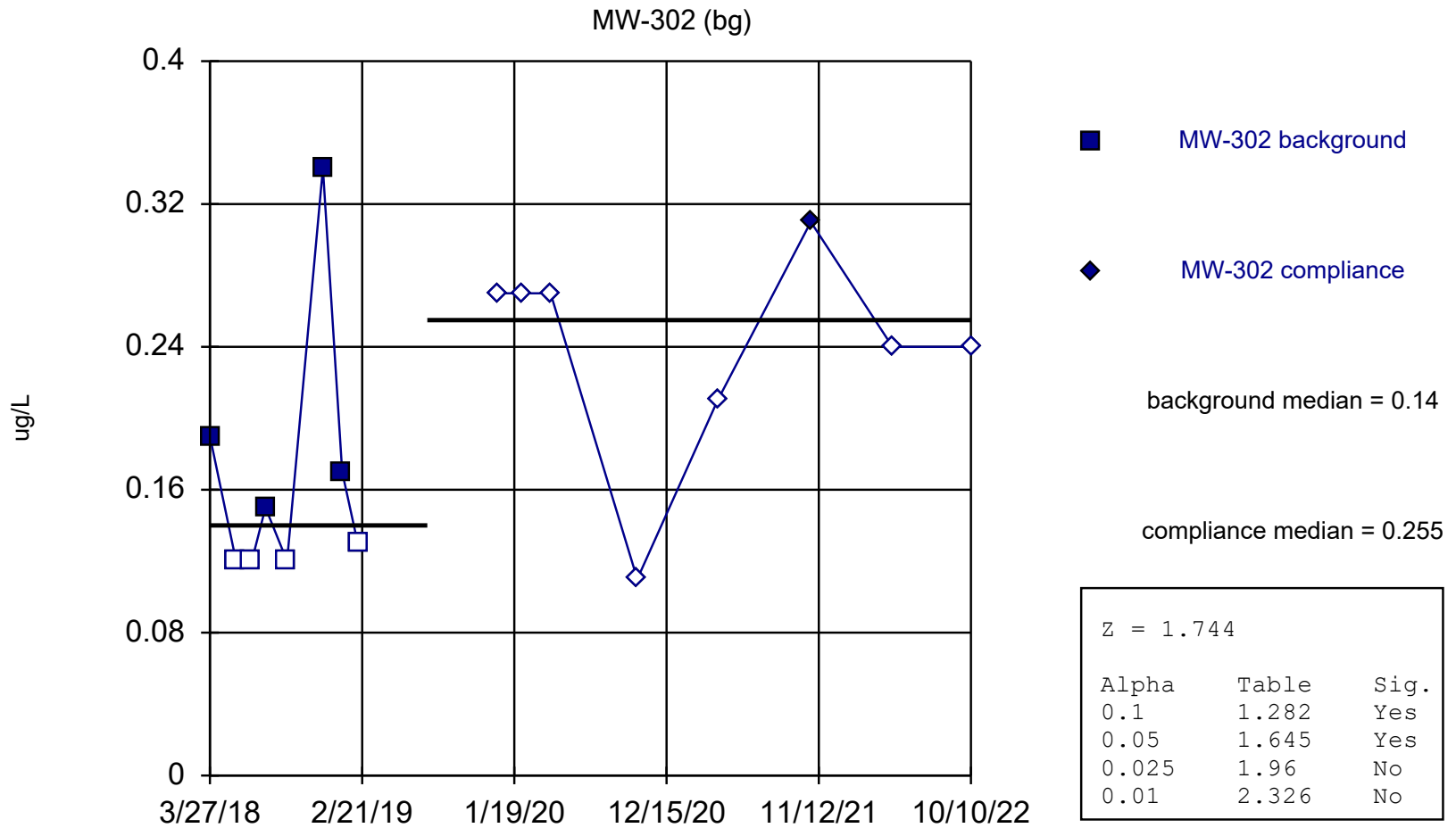
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Lead (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.33 (J)	
5/23/2018	2.5	
6/26/2018	1.5	
7/26/2018	1.6	
9/11/2018	19.1 (X)	
11/28/2018	0.58 (J)	
1/9/2019	0.73 (J)	
2/12/2019	2	
12/11/2019		0.46 (J)
2/3/2020		0.34 (J)
4/7/2020		0.5
10/13/2020		<0.11 (U)
4/6/2021		<0.21 (U)
10/26/2021		0.52 (B)
4/22/2022		0.26 (J)
10/12/2022		<0.24 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Lead Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

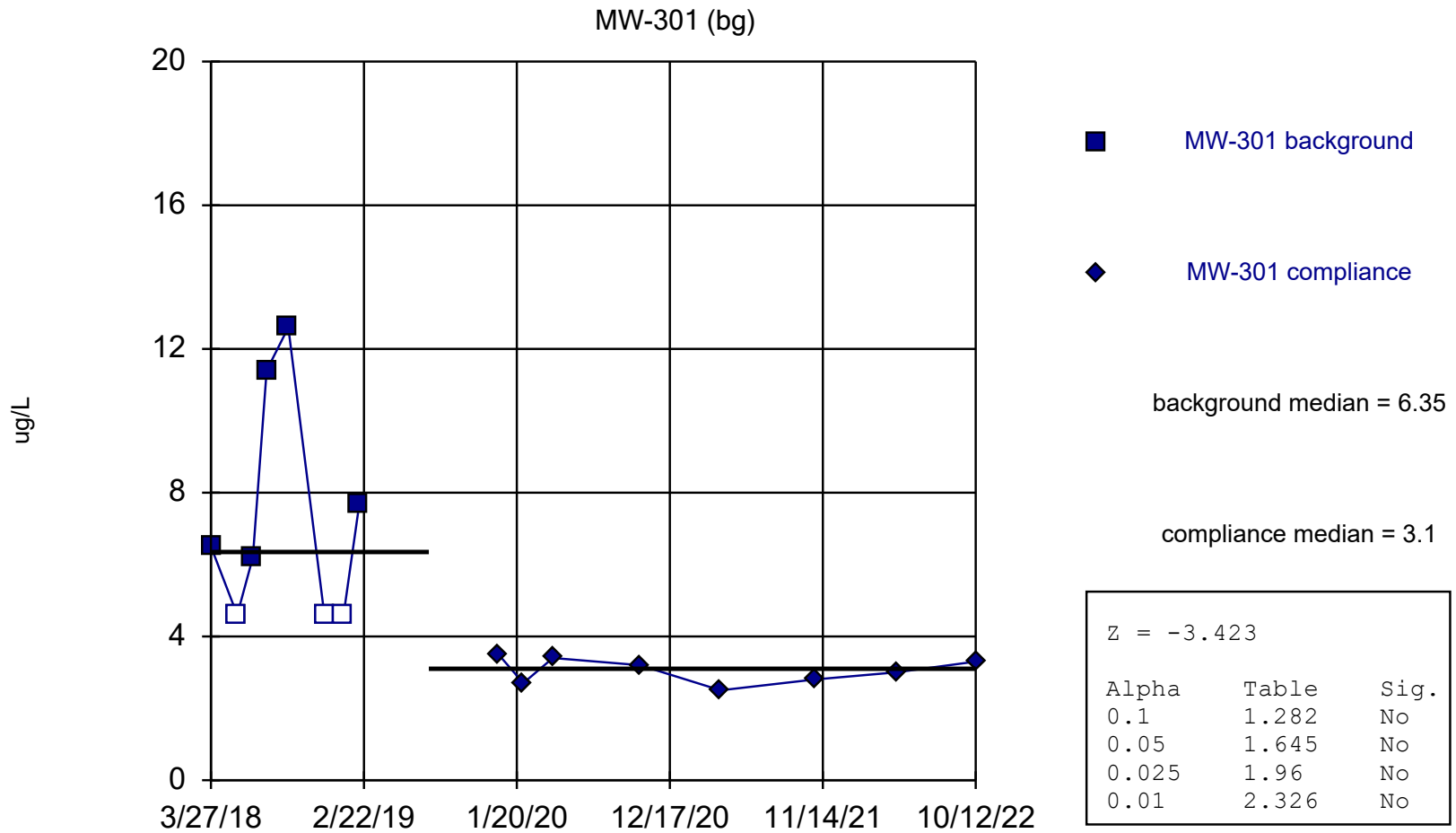
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Lead (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	0.19 (J)	
5/23/2018	<0.12 (U)	
6/26/2018	<0.12 (U)	
7/26/2018	0.15 (J)	
9/11/2018	<0.12 (U)	
11/28/2018	0.34 (J)	
1/9/2019	0.17 (J)	
2/12/2019	<0.13 (U)	
12/12/2019		<0.27 (U)
2/3/2020		<0.27 (U)
4/7/2020		<0.27 (U)
10/13/2020		<0.11 (U)
4/6/2021		<0.21 (U)
10/26/2021		0.31 (J,B)
4/22/2022		<0.24 (U)
10/10/2022		<0.24 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Lithium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

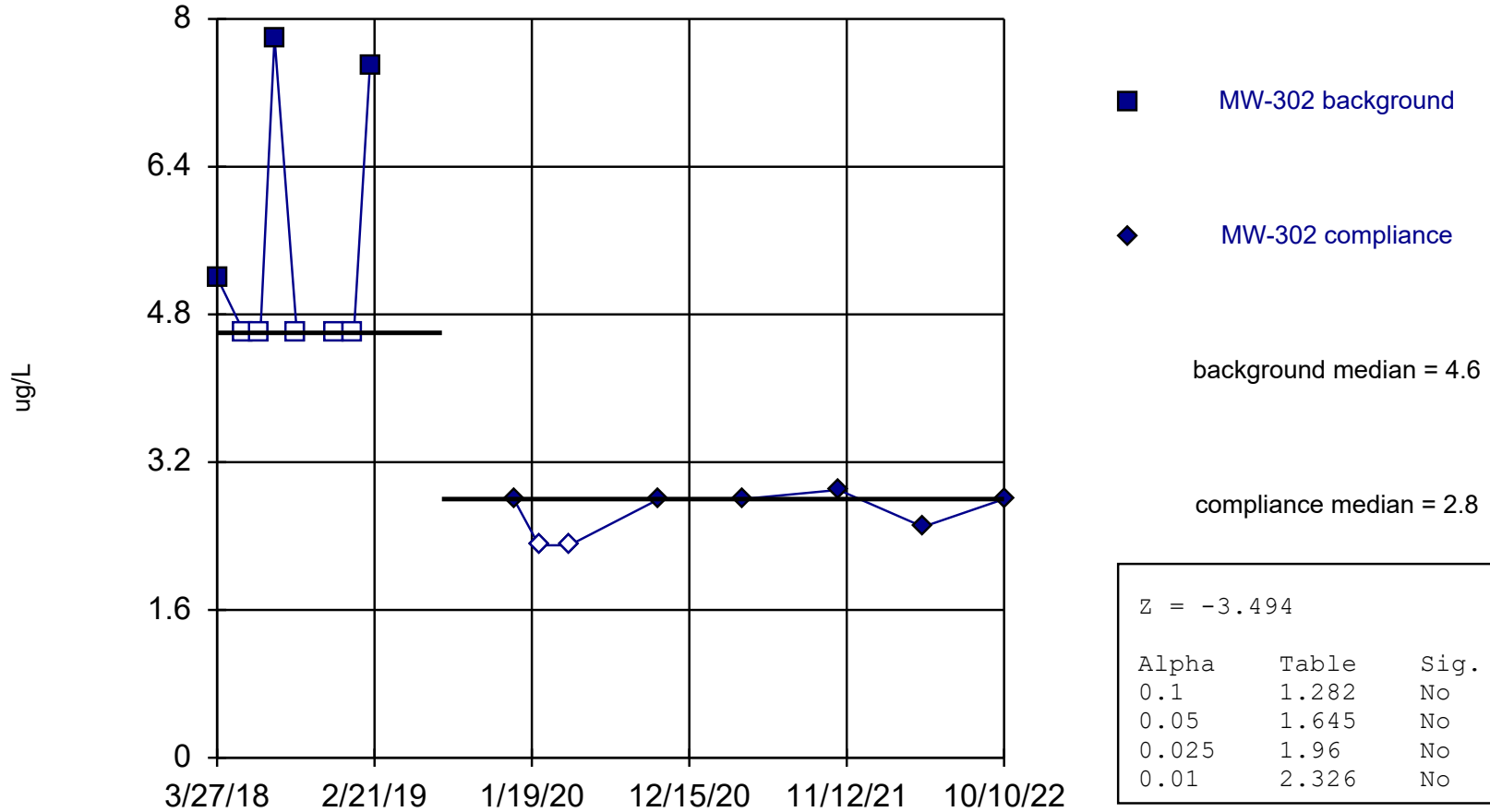
Constituent: Lithium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	6.5 (J)	
5/23/2018	<4.6 (U)	
6/26/2018	6.2 (J)	
7/26/2018	11.4	
9/11/2018	12.6	
11/28/2018	<4.6 (U)	
1/9/2019	<4.6 (U)	
2/12/2019	7.7 (J)	
12/11/2019		3.5 (J)
2/3/2020		2.7 (J)
4/7/2020		3.4 (J)
10/13/2020		3.2 (J)
4/6/2021		2.5 (J)
10/26/2021		2.8 (J)
4/22/2022		3 (J)
10/12/2022		3.3 (J)

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Lithium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

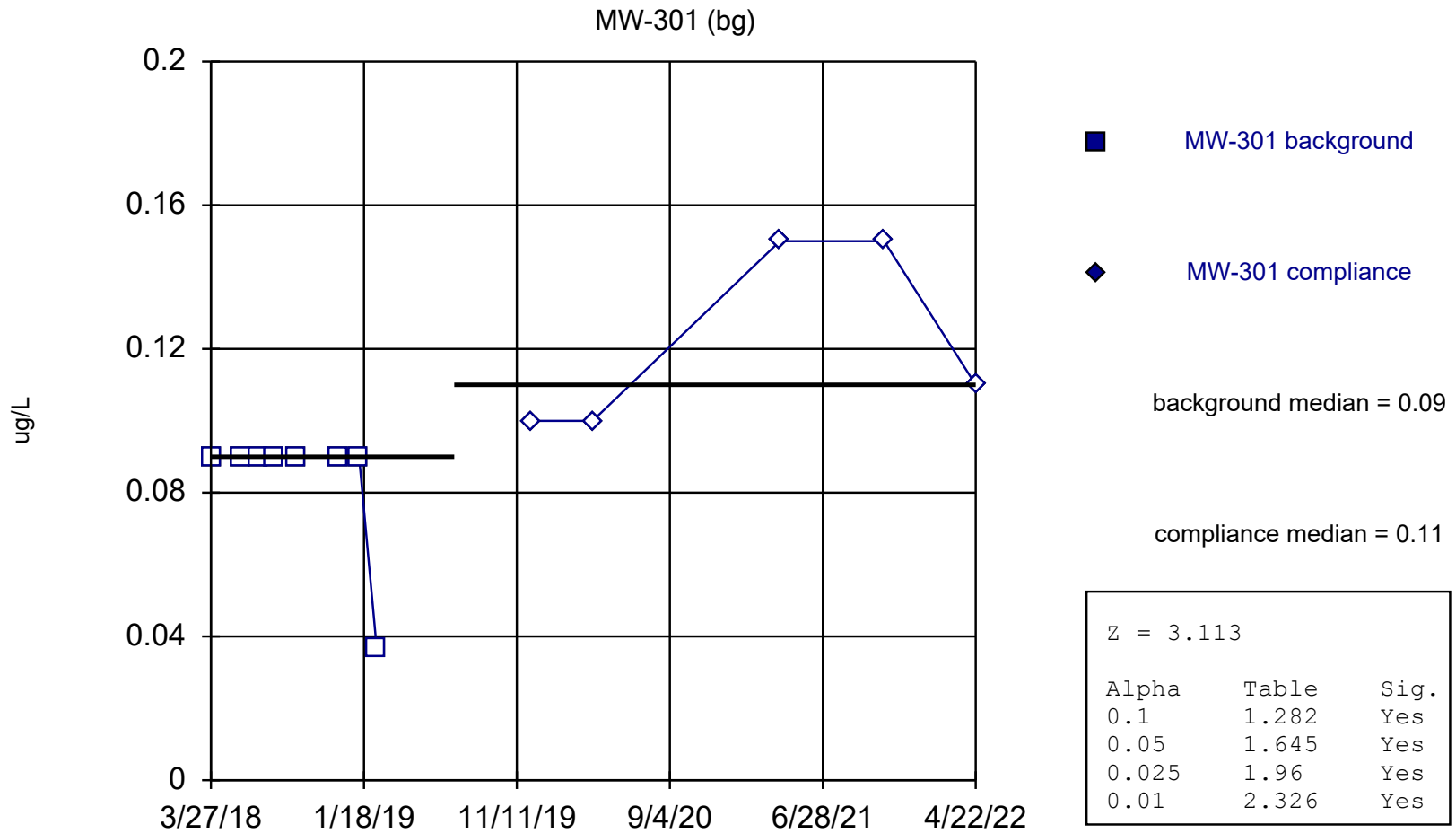
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Lithium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	5.2 (J)	
5/23/2018	<4.6 (U)	
6/26/2018	<4.6 (U)	
7/26/2018	7.8 (J)	
9/11/2018	<4.6 (U)	
11/28/2018	<4.6 (U)	
1/9/2019	<4.6 (U)	
2/12/2019	7.5 (J)	
12/12/2019		2.8 (J)
2/3/2020		<2.3 (U)
4/7/2020		<2.3 (U)
10/13/2020		2.8 (J)
4/6/2021		2.8 (J)
10/26/2021		2.9 (J)
4/22/2022		2.5 (J)
10/10/2022		2.8 (J)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Mercury Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

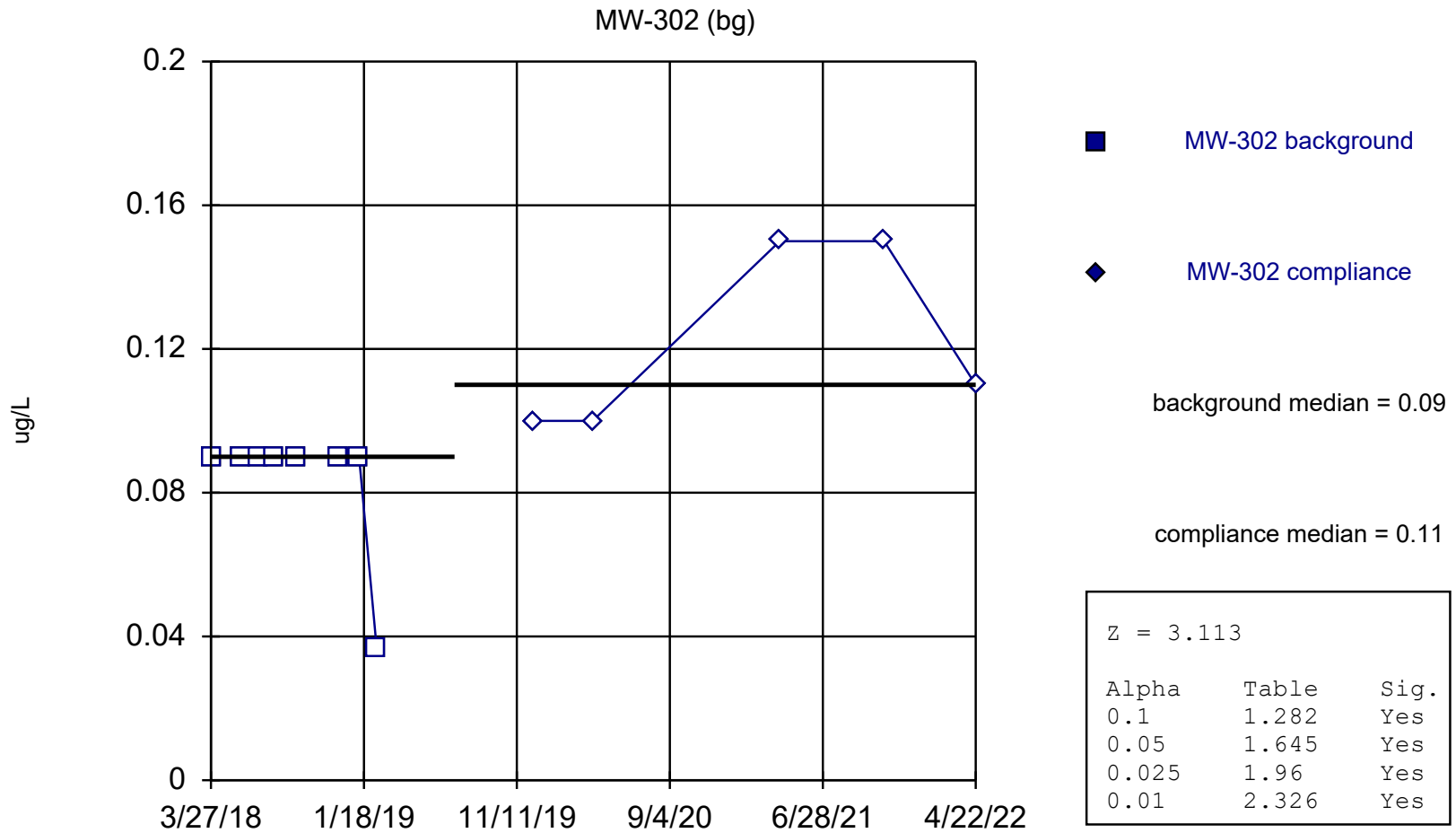
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Mercury (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	<0.09 (U)	
5/23/2018	<0.09 (U)	
6/26/2018	<0.09 (U)	
7/26/2018	<0.09 (U)	
9/11/2018	<0.09 (U)	
11/28/2018	<0.09 (U)	
1/9/2019	<0.09 (U)	
2/12/2019	<0.037 (U)	
12/11/2019		<0.1 (U)
4/7/2020		<0.1 (U)
4/6/2021		<0.15 (U)
10/26/2021		<0.15 (U)
4/22/2022		<0.11 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Mercury Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

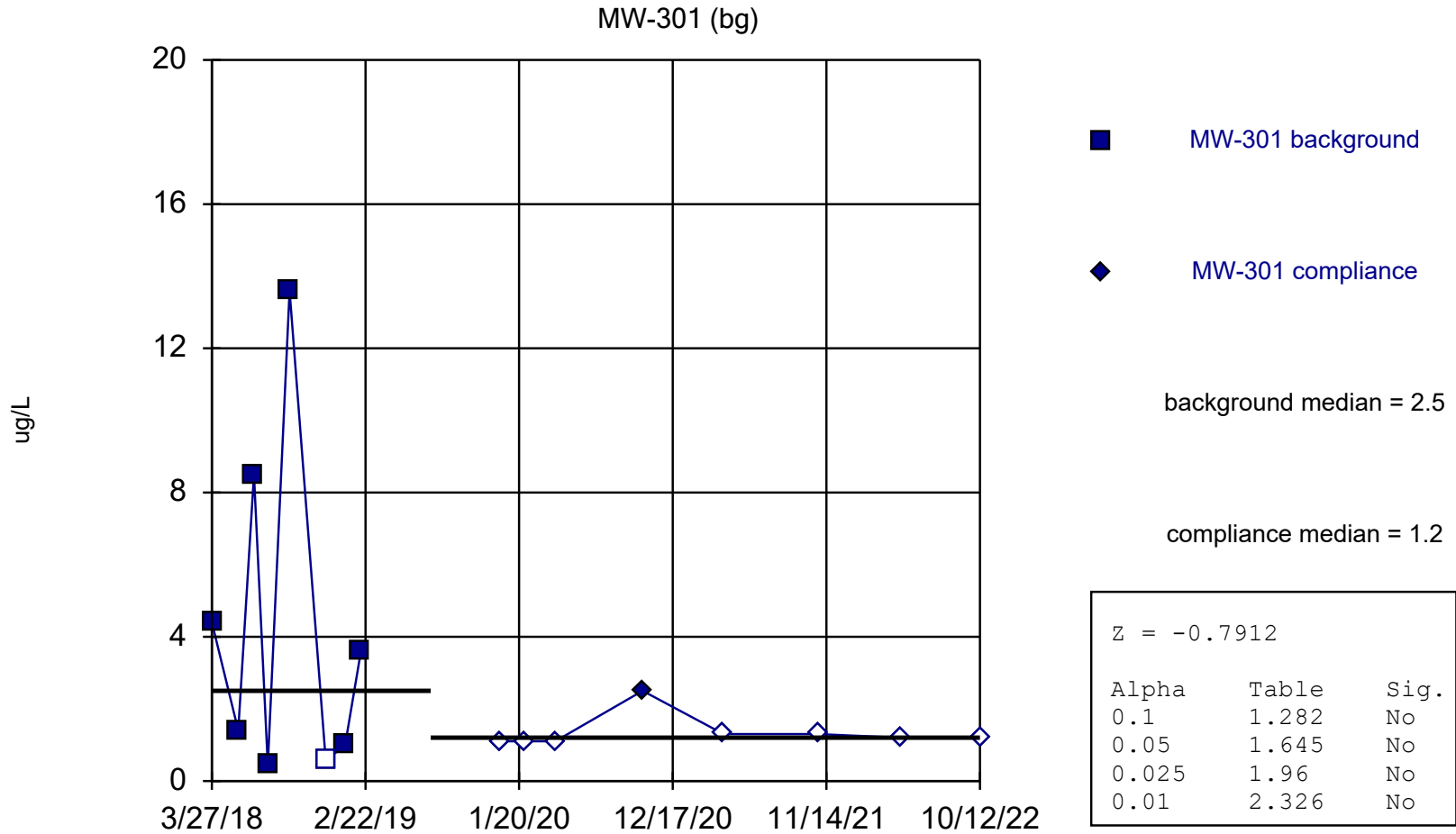
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Mercury (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	<0.09 (U)	
5/23/2018	<0.09 (U)	
6/26/2018	<0.09 (U)	
7/26/2018	<0.09 (U)	
9/11/2018	<0.09 (U)	
11/28/2018	<0.09 (U)	
1/9/2019	<0.09 (U)	
2/12/2019	<0.037 (U)	
12/12/2019		<0.1 (U)
4/7/2020		<0.1 (U)
4/6/2021		<0.15 (U)
10/26/2021		<0.15 (U)
4/22/2022		<0.11 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Molybdenum Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

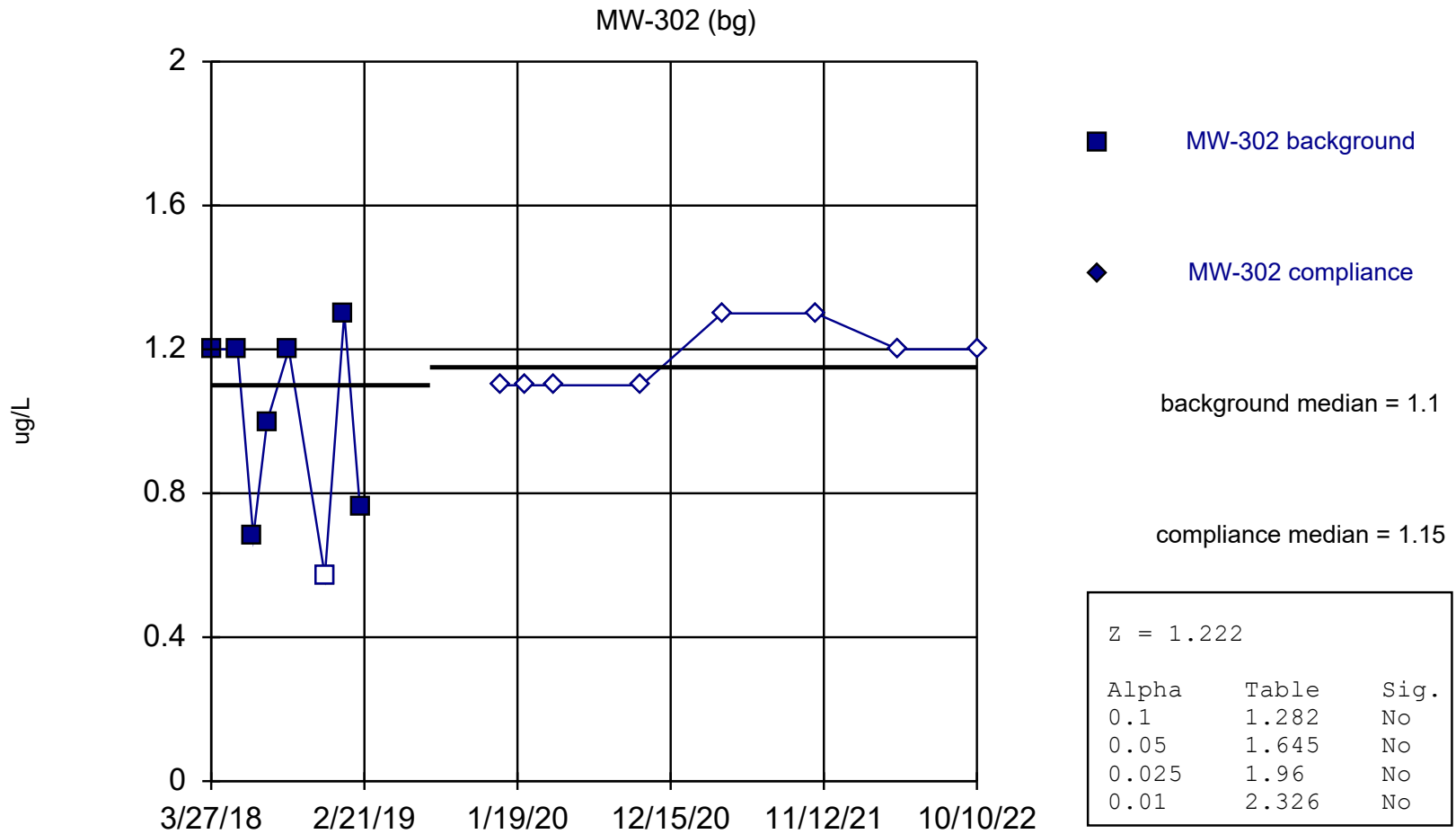
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Molybdenum (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	4.4	
5/23/2018	1.4	
6/26/2018	8.5	
7/26/2018	0.44 (J)	
9/11/2018	13.6	
11/28/2018	<0.57 (U)	
1/9/2019	0.99 (J)	
2/12/2019	3.6	
12/11/2019		<1.1 (U)
2/3/2020		<1.1 (U)
4/7/2020		<1.1 (U)
10/13/2020		2.5
4/6/2021		<1.3 (U)
10/26/2021		<1.3 (U)
4/22/2022		<1.2 (U)
10/12/2022		<1.2 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Molybdenum Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

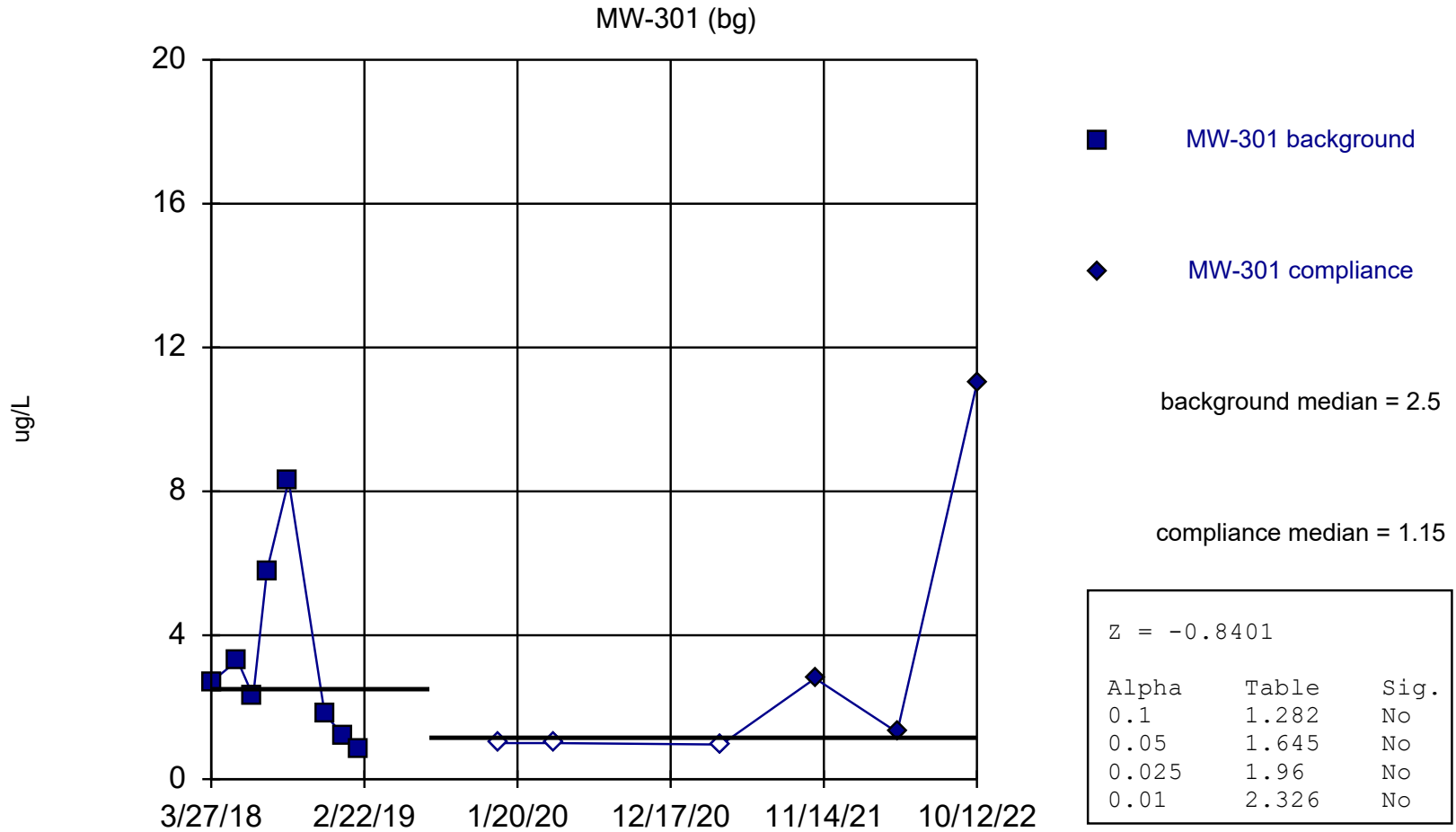
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Molybdenum (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	1.2	
5/23/2018	1.2	
6/26/2018	0.68 (J)	
7/26/2018	1	
9/11/2018	1.2	
11/28/2018	<0.57 (U)	
1/9/2019	1.3	
2/12/2019	0.76 (J)	
12/12/2019		<1.1 (U)
2/3/2020		<1.1 (U)
4/7/2020		<1.1 (U)
10/13/2020		<1.1 (U)
4/6/2021		<1.3 (U)
10/26/2021		<1.3 (U)
4/22/2022		<1.2 (U)
10/10/2022		<1.2 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Selenium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

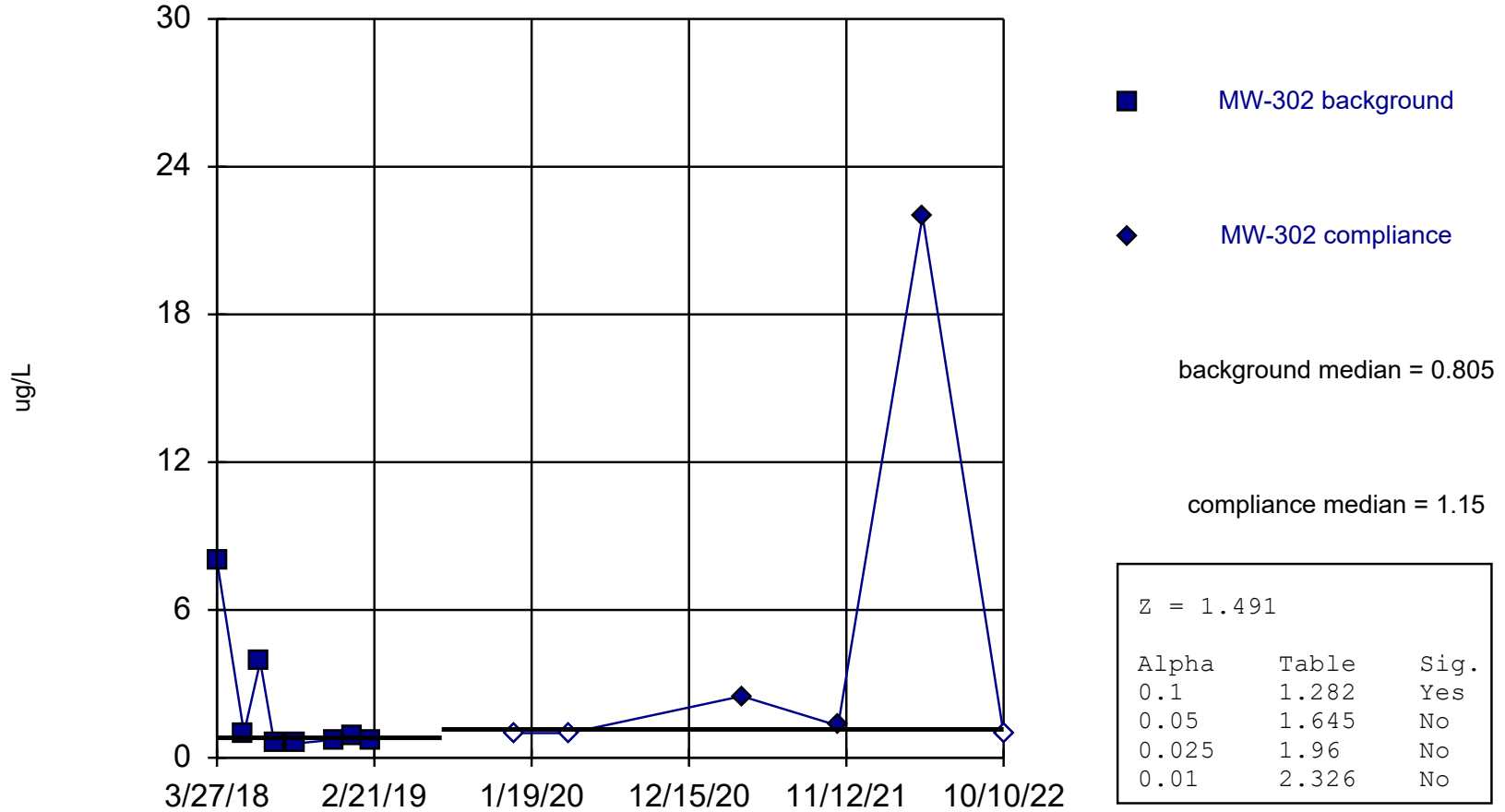
Constituent: Selenium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	2.7	
5/23/2018	3.3	
6/26/2018	2.3	
7/26/2018	5.8	
9/11/2018	8.3	
11/28/2018	1.8	
1/9/2019	1.2	
2/12/2019	0.81 (J)	
12/11/2019		<1 (U)
4/7/2020		<1 (U)
4/6/2021		<0.96 (U)
10/26/2021		2.8 (J)
4/22/2022		1.3 (J)
10/12/2022		11

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Selenium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

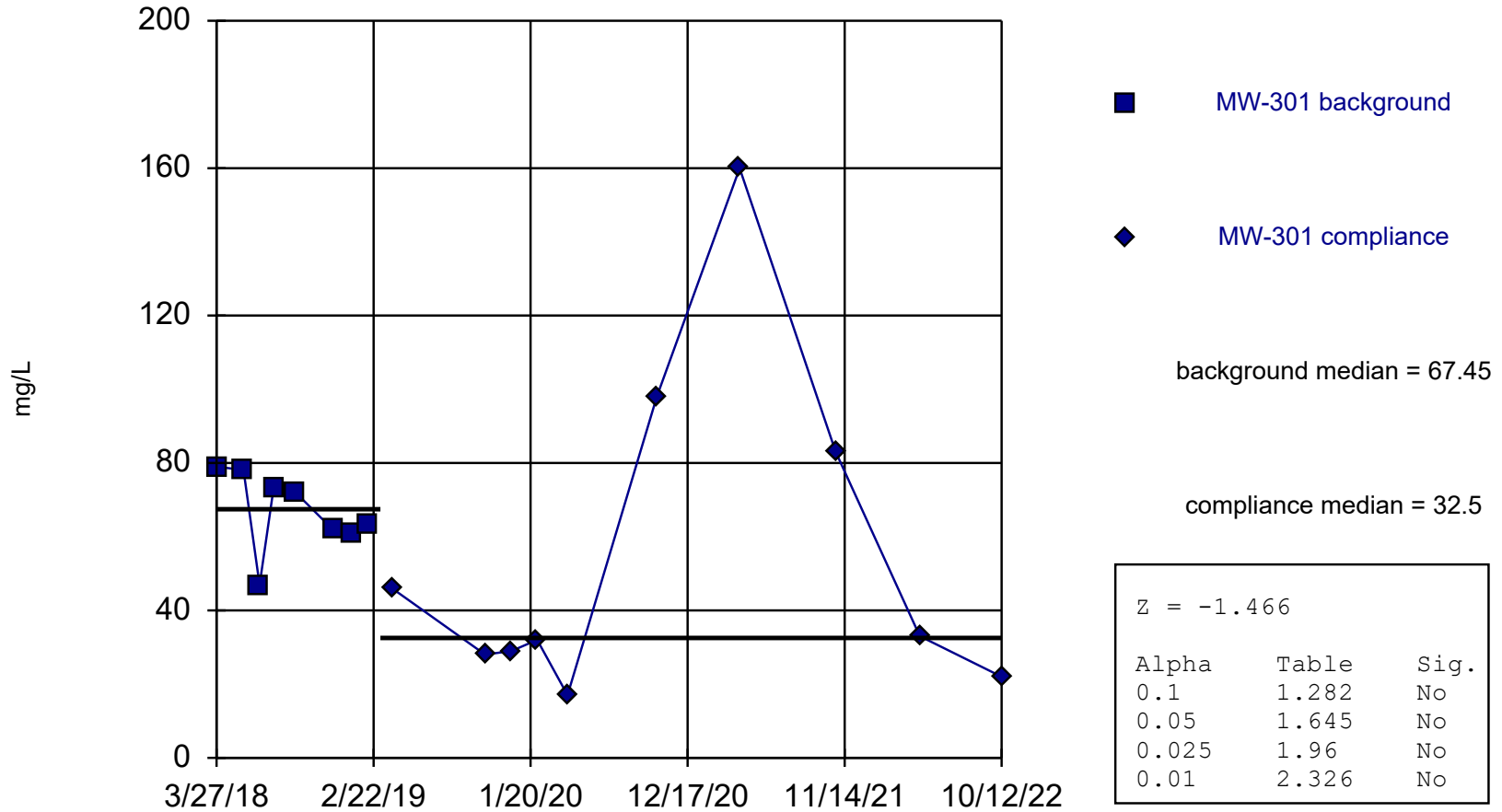
Constituent: Selenium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	8	
5/23/2018	1	
6/26/2018	3.9	
7/26/2018	0.56 (J)	
9/11/2018	0.58 (J)	
11/28/2018	0.73 (J)	
1/9/2019	0.88 (J)	
2/12/2019	0.67 (J)	
12/12/2019		<1 (U)
4/7/2020		<1 (U)
4/6/2021		2.5 (J)
10/26/2021		1.3 (J)
4/22/2022		22
10/10/2022		<0.96 (U)

Mann-Whitney (Wilcoxon Rank Sum)

MW-301 (bg)



Constituent: Sulfate Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

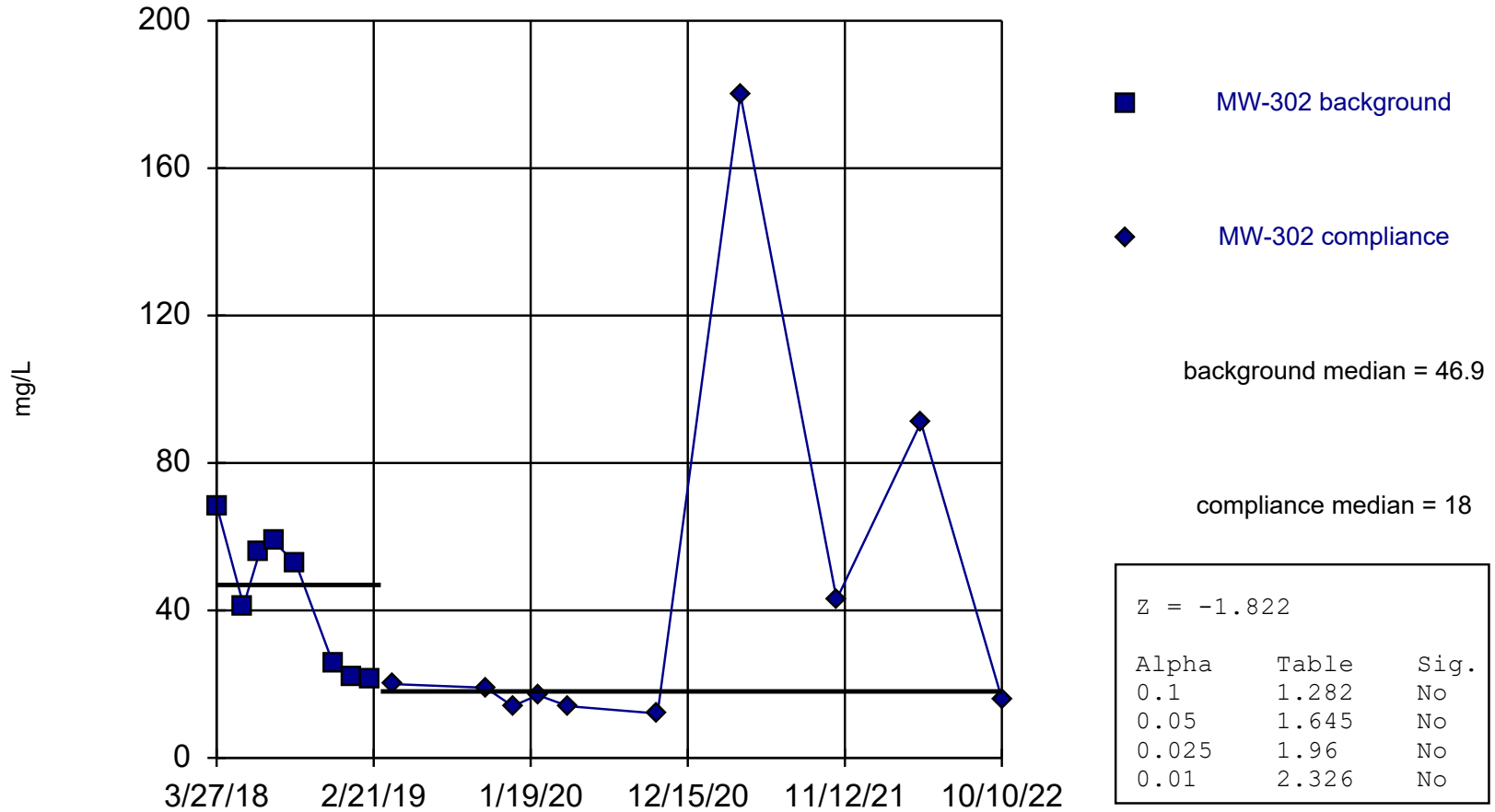
Constituent: Sulfate (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	79	
5/23/2018	78.1	
6/26/2018	46.9	
7/26/2018	73.4	
9/11/2018	71.9	
11/28/2018	61.9	
1/9/2019	60.9	
2/12/2019	63	
4/2/2019		46
10/16/2019		28
12/11/2019		29
2/3/2020		32
4/7/2020		17
10/13/2020		98
4/6/2021		160
10/26/2021		83
4/22/2022		33
10/12/2022		22

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Sulfate Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

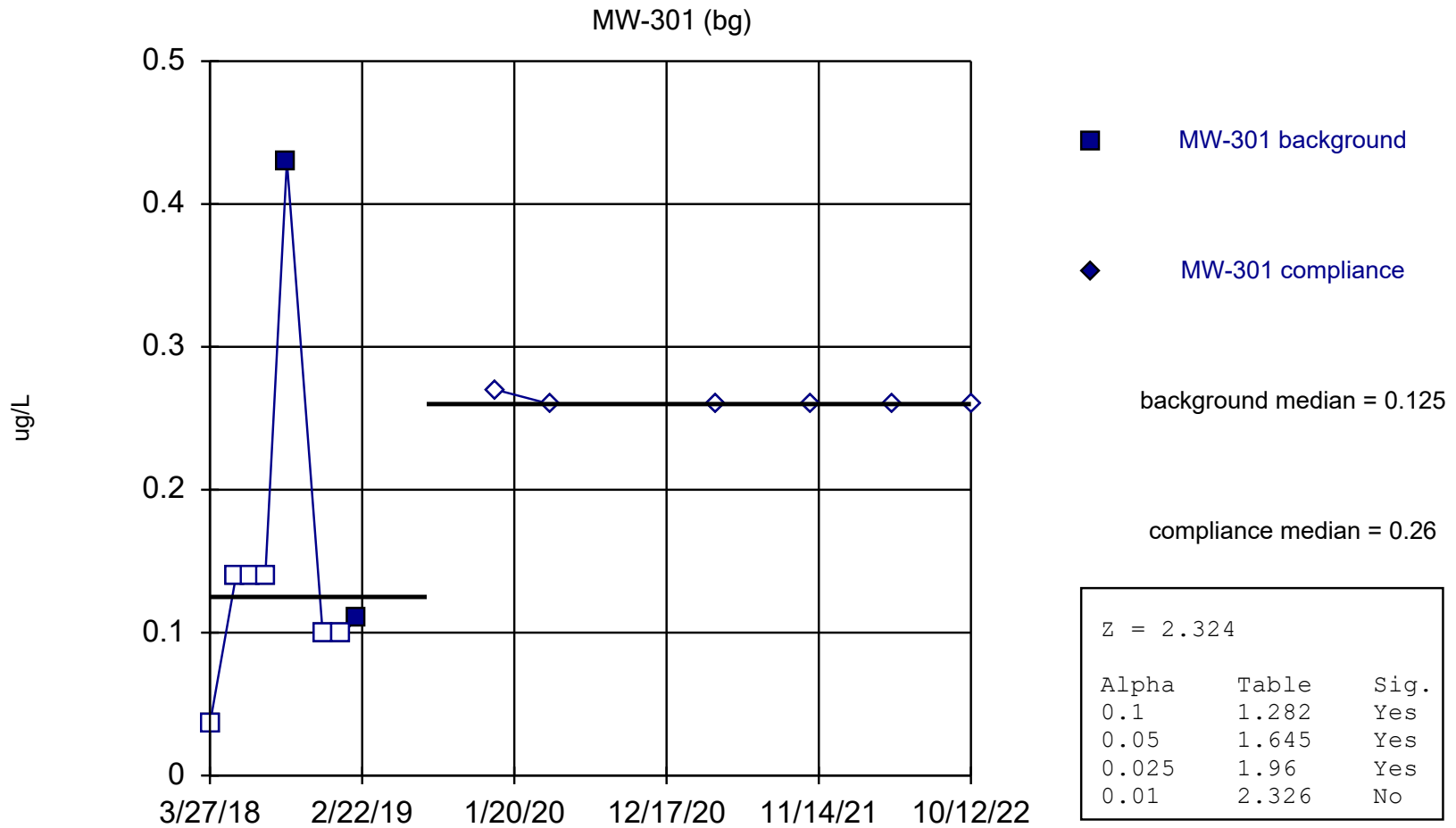
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Sulfate (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	68.5	
5/23/2018	41.3	
6/26/2018	56	
7/26/2018	58.7	
9/11/2018	52.5	
11/28/2018	25.5	
1/9/2019	21.9	
2/12/2019	21.2	
4/2/2019		20
10/16/2019		19
12/12/2019		14
2/3/2020		17
4/7/2020		14
10/13/2020		12
4/6/2021		180
10/26/2021		43
4/22/2022		91
10/10/2022		16

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Thallium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

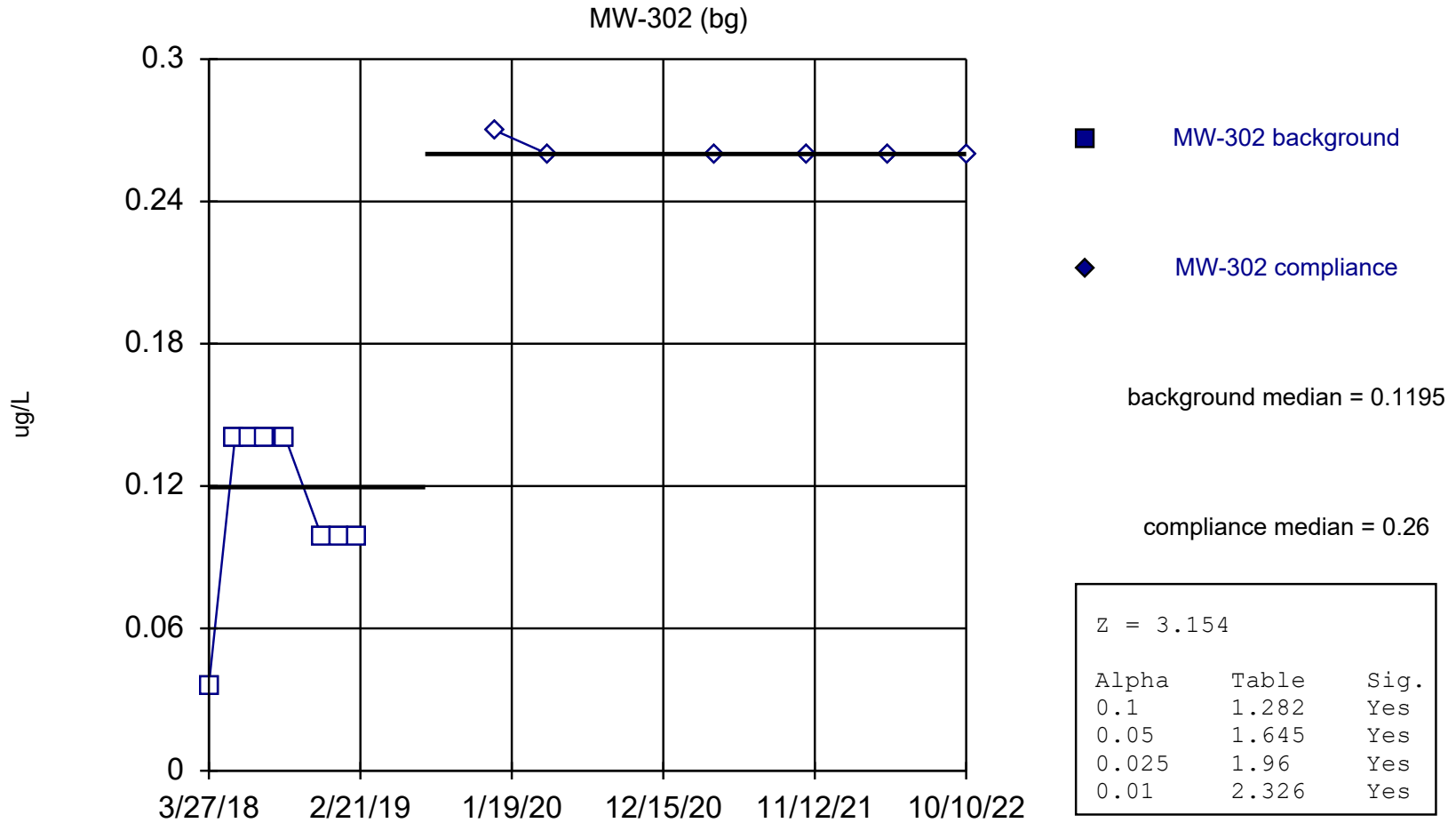
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Thallium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	<0.036 (U)	
5/23/2018	<0.14 (U)	
6/26/2018	<0.14 (U)	
7/26/2018	<0.14 (U)	
9/11/2018	0.43 (J)	
11/28/2018	<0.099 (U)	
1/9/2019	<0.099 (U)	
2/12/2019	0.11 (J)	
12/11/2019		<0.27 (U)
4/7/2020		<0.26 (U)
4/6/2021		<0.26 (U)
10/26/2021		<0.26 (U)
4/22/2022		<0.26 (U)
10/12/2022		<0.26 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Thallium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

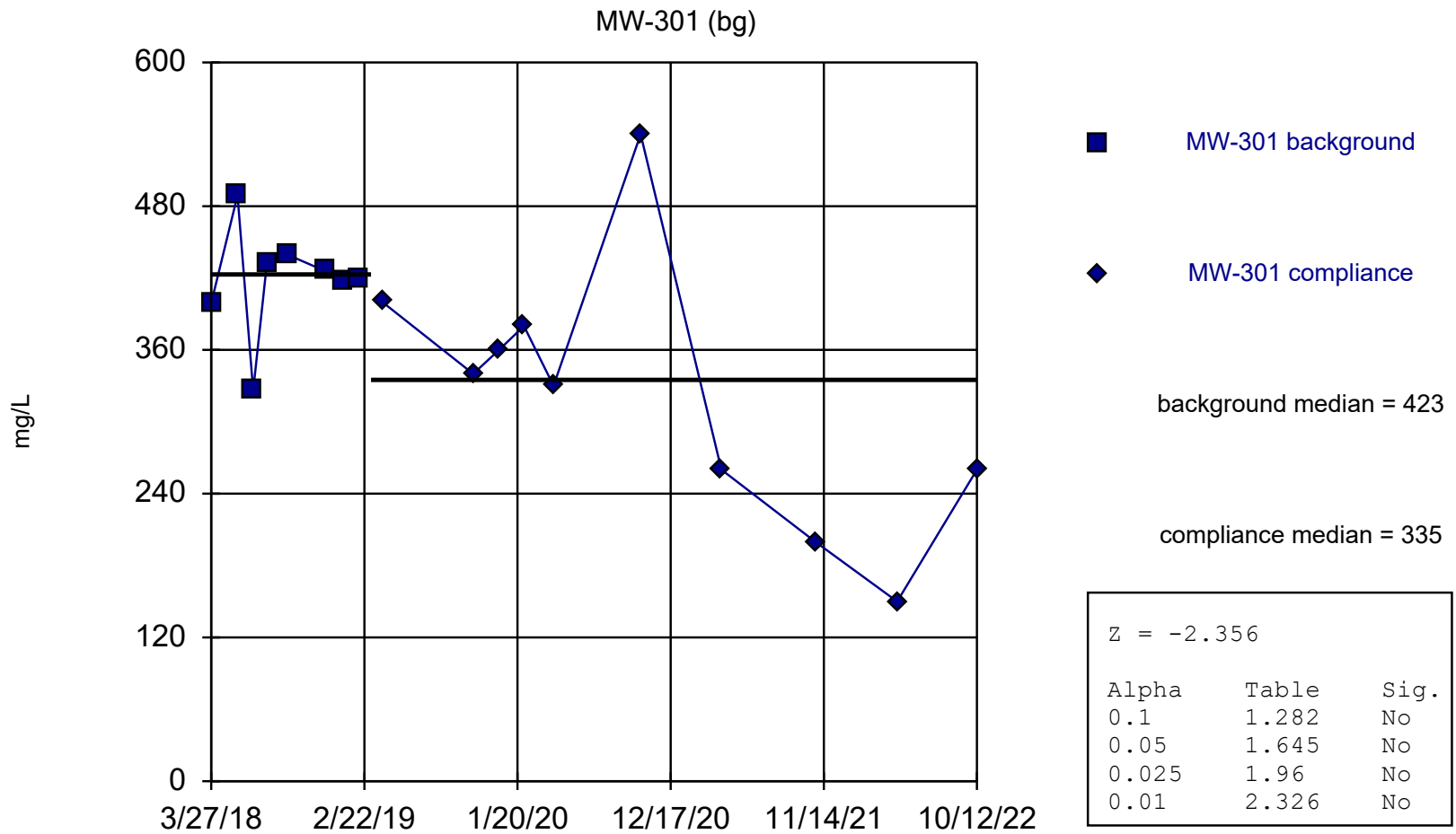
Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Thallium (ug/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	<0.036 (U)	
5/23/2018	<0.14 (U)	
6/26/2018	<0.14 (U)	
7/26/2018	<0.14 (U)	
9/11/2018	<0.14 (U)	
11/28/2018	<0.099 (U)	
1/9/2019	<0.099 (U)	
2/12/2019	<0.099 (U)	
12/12/2019		<0.27 (U)
4/7/2020		<0.26 (U)
4/6/2021		<0.26 (U)
10/26/2021		<0.26 (U)
4/22/2022		<0.26 (U)
10/10/2022		<0.26 (U)

Mann-Whitney (Wilcoxon Rank Sum)



Constituent: Total Dissolved Solids Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

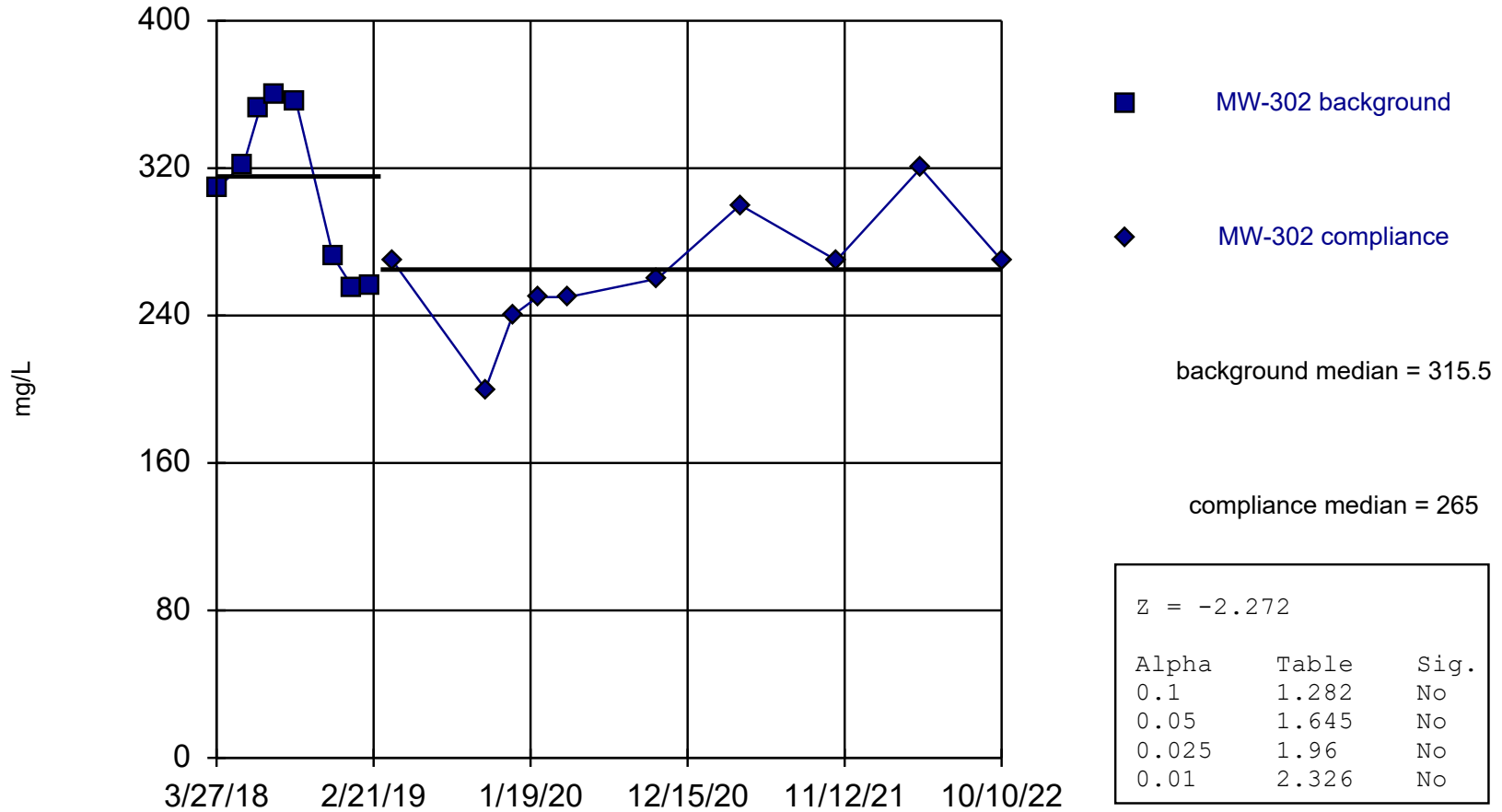
Constituent: Total Dissolved Solids (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	399	
5/23/2018	489	
6/26/2018	326	
7/26/2018	433	
9/11/2018	439	
11/28/2018	426	
1/9/2019	418	
2/12/2019	420	
4/2/2019		400
10/16/2019		340
12/11/2019		360
2/3/2020		380
4/7/2020		330
10/13/2020		540
4/6/2021		260
10/26/2021		200
4/22/2022		150
10/12/2022		260

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Total Dissolved Solids Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

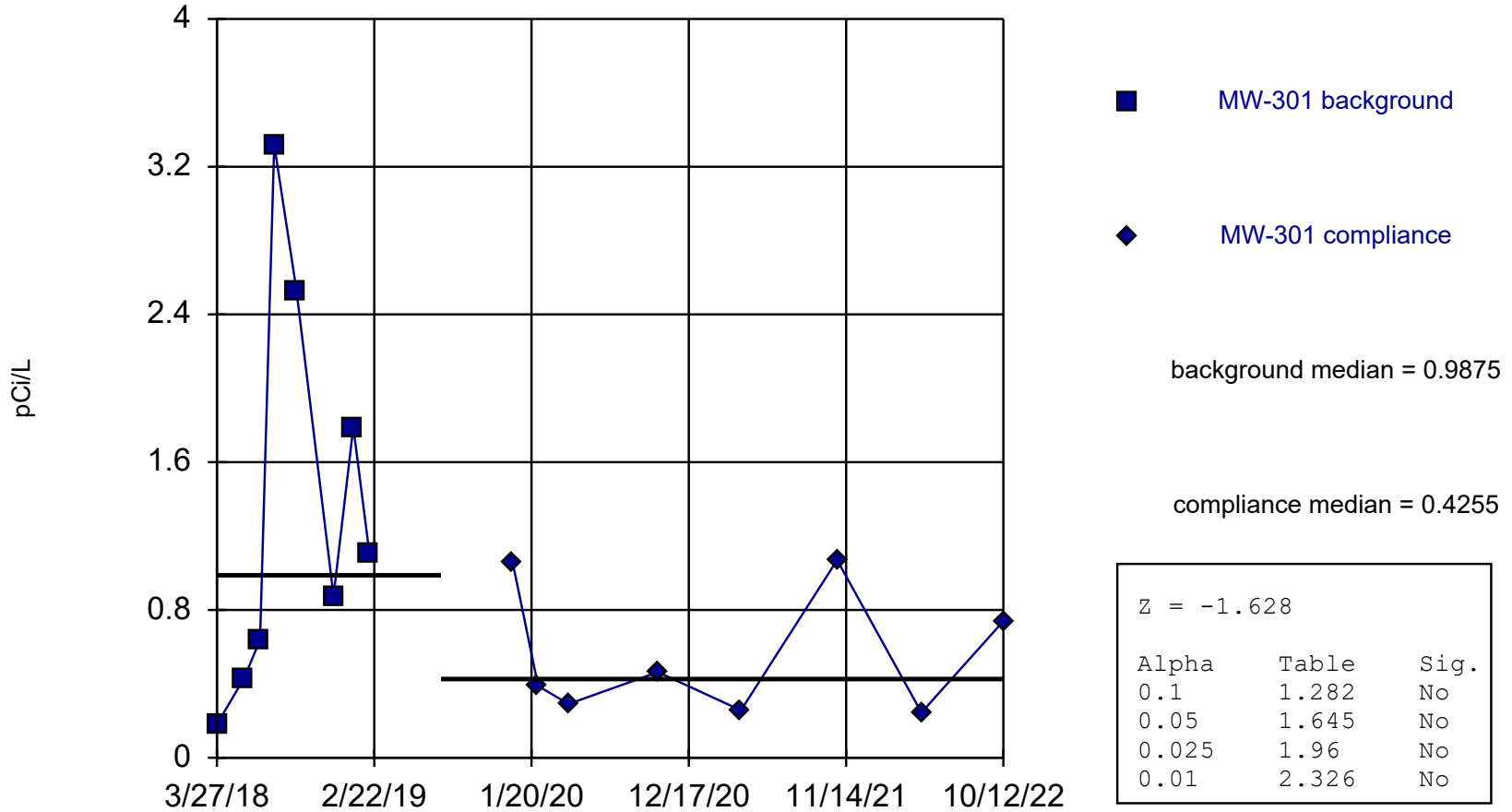
Constituent: Total Dissolved Solids (mg/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	309	
5/23/2018	322	
6/26/2018	352	
7/26/2018	360	
9/11/2018	356	
11/28/2018	272	
1/9/2019	255	
2/12/2019	256	
4/2/2019		270
10/16/2019		200
12/12/2019		240
2/3/2020		250
4/7/2020		250
10/13/2020		260
4/6/2021		300
10/26/2021		270
4/22/2022		320
10/10/2022		270

Mann-Whitney (Wilcoxon Rank Sum)

MW-301 (bg)



Constituent: Total Radium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

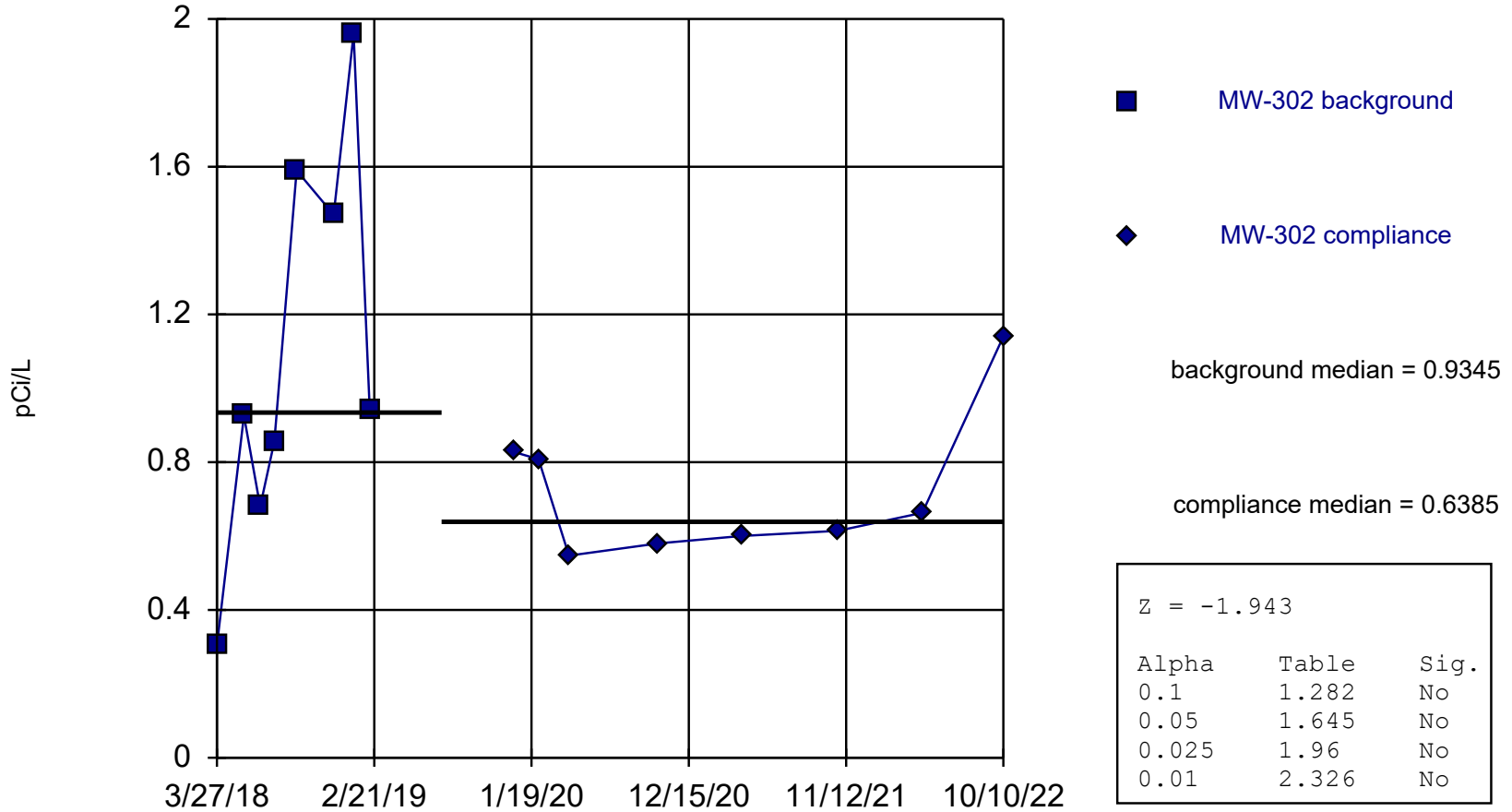
Constituent: Total Radium (pCi/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-301	MW-301
3/27/2018	0.18	
5/23/2018	0.429	
6/26/2018	0.637	
7/26/2018	3.32	
9/11/2018	2.53	
11/28/2018	0.875	
1/9/2019	1.79	
2/12/2019	1.1	
12/11/2019		1.06
2/3/2020		0.388
4/7/2020		0.291
10/13/2020		0.463
4/6/2021		0.256
10/26/2021		1.07
4/22/2022		0.244
10/12/2022		0.739

Mann-Whitney (Wilcoxon Rank Sum)

MW-302 (bg)



Constituent: Total Radium Analysis Run 1/1/2023 1:59 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Mann-Whitney (Wilcoxon Rank Sum)

Constituent: Total Radium (pCi/L) Analysis Run 1/1/2023 2:01 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-302	MW-302
3/27/2018	0.304	
5/23/2018	0.926	
6/26/2018	0.68	
7/26/2018	0.856	
9/11/2018	1.59	
11/28/2018	1.47	
1/9/2019	1.96	
2/12/2019	0.943	
12/12/2019		0.828
2/3/2020		0.808
4/7/2020		0.547
10/13/2020		0.58
4/6/2021		0.6
10/26/2021		0.614
4/22/2022		0.663
10/10/2022		1.14

Attachment 4

Interwell Prediction Limit Analysis – Appendix III

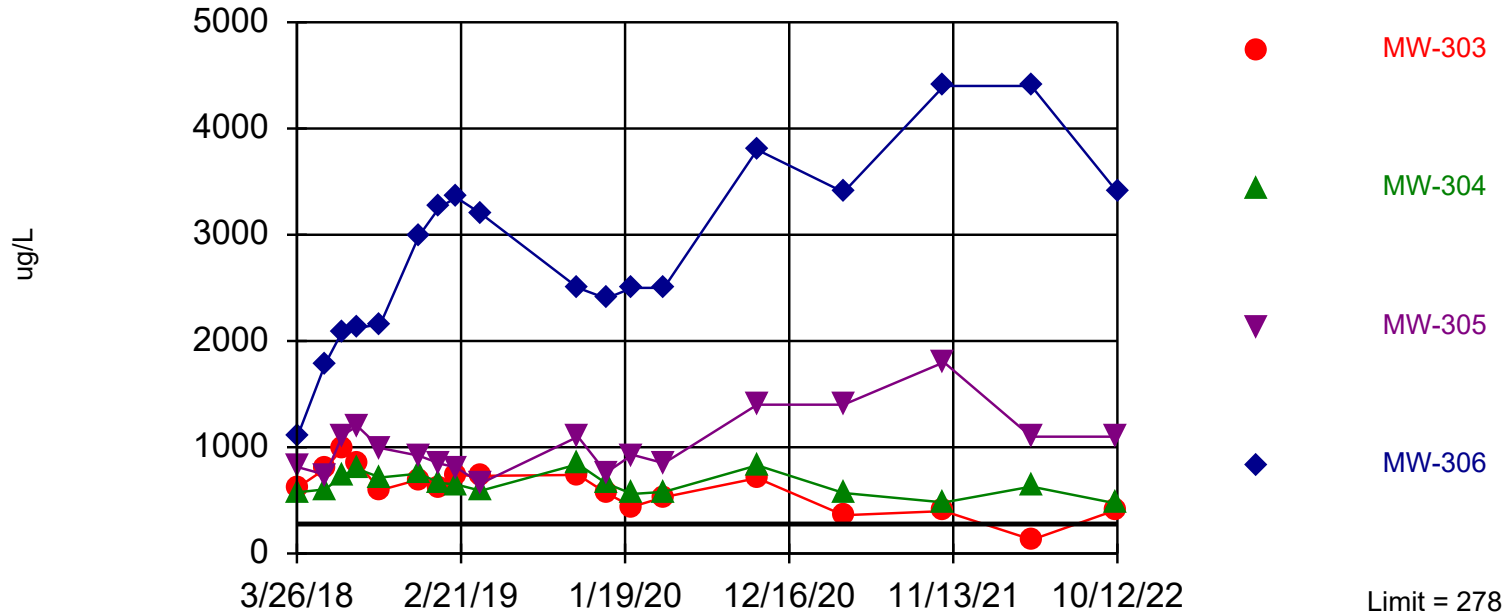
Prediction Limit

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 1/1/2023, 2:43 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (ug/L)	MW-303	278	10/10/2022	410	Yes	36	MW-301,MW-302	4.277	0.7323	33.33	Kapla...	ln(x)	0.00188	Param Inter 1 of 2
Boron (ug/L)	MW-304	278	10/11/2022	470	Yes	36	MW-301,MW-302	4.277	0.7323	33.33	Kapla...	ln(x)	0.00188	Param Inter 1 of 2
Boron (ug/L)	MW-305	278	10/11/2022	1100	Yes	36	MW-301,MW-302	4.277	0.7323	33.33	Kapla...	ln(x)	0.00188	Param Inter 1 of 2
Boron (ug/L)	MW-306	278	10/12/2022	3400	Yes	36	MW-301,MW-302	4.277	0.7323	33.33	Kapla...	ln(x)	0.00188	Param Inter 1 of 2
Calcium (mg/L)	MW-303	95.4	10/10/2022	79	No	36	MW-301,MW-302	73.53	11.85	0	None	No	0.00188	Param Inter 1 of 2
Calcium (mg/L)	MW-304	95.4	10/11/2022	110	Yes	36	MW-301,MW-302	73.53	11.85	0	None	No	0.00188	Param Inter 1 of 2
Calcium (mg/L)	MW-305	95.4	10/11/2022	110	Yes	36	MW-301,MW-302	73.53	11.85	0	None	No	0.00188	Param Inter 1 of 2
Calcium (mg/L)	MW-306	95.4	10/12/2022	140	Yes	36	MW-301,MW-302	73.53	11.85	0	None	No	0.00188	Param Inter 1 of 2
Chloride (mg/L)	MW-303	90.9	10/10/2022	12	No	36	MW-301,MW-302	2.65	1.008	0	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride (mg/L)	MW-304	90.9	10/11/2022	12	No	36	MW-301,MW-302	2.65	1.008	0	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride (mg/L)	MW-305	90.9	10/11/2022	27	No	36	MW-301,MW-302	2.65	1.008	0	None	ln(x)	0.00188	Param Inter 1 of 2
Chloride (mg/L)	MW-306	90.9	10/12/2022	16	No	36	MW-301,MW-302	2.65	1.008	0	None	ln(x)	0.00188	Param Inter 1 of 2
Field pH (Std. Units)	MW-303	7.67	10/10/2022	7.44	No	36	MW-301,MW-302	7.013	0.3549	0	None	No	0.00188	Param Inter 1 of 2
Field pH (Std. Units)	MW-304	7.67	10/11/2022	6.64	No	36	MW-301,MW-302	7.013	0.3549	0	None	No	0.00188	Param Inter 1 of 2
Field pH (Std. Units)	MW-305	7.67	10/11/2022	7.58	No	36	MW-301,MW-302	7.013	0.3549	0	None	No	0.00188	Param Inter 1 of 2
Field pH (Std. Units)	MW-306	7.67	10/12/2022	7.68	Yes	36	MW-301,MW-302	7.013	0.3549	0	None	No	0.00188	Param Inter 1 of 2
Fluoride (mg/L)	MW-303	0.600	10/10/2022	0.22ND	No	32	MW-301,MW-302	n/a	n/a	34.38	n/a	n/a	0.001761	NP Inter (normality) ...
Fluoride (mg/L)	MW-304	0.600	10/11/2022	0.26J	No	32	MW-301,MW-302	n/a	n/a	34.38	n/a	n/a	0.001761	NP Inter (normality) ...
Fluoride (mg/L)	MW-305	0.600	10/11/2022	0.36J	No	32	MW-301,MW-302	n/a	n/a	34.38	n/a	n/a	0.001761	NP Inter (normality) ...
Fluoride (mg/L)	MW-306	0.600	10/12/2022	0.25J	No	32	MW-301,MW-302	n/a	n/a	34.38	n/a	n/a	0.001761	NP Inter (normality) ...
Sulfate (mg/L)	MW-303	150	10/10/2022	55	No	36	MW-301,MW-302	3.699	0.7111	0	None	ln(x)	0.00188	Param Inter 1 of 2
Sulfate (mg/L)	MW-304	150	10/11/2022	160	Yes	36	MW-301,MW-302	3.699	0.7111	0	None	ln(x)	0.00188	Param Inter 1 of 2
Sulfate (mg/L)	MW-305	150	10/11/2022	200	Yes	36	MW-301,MW-302	3.699	0.7111	0	None	ln(x)	0.00188	Param Inter 1 of 2
Sulfate (mg/L)	MW-306	150	10/12/2022	340	Yes	36	MW-301,MW-302	3.699	0.7111	0	None	ln(x)	0.00188	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-303	483	10/10/2022	350	No	36	MW-301,MW-302	324.5	86.13	0	None	No	0.00188	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-304	483	10/11/2022	530	Yes	36	MW-301,MW-302	324.5	86.13	0	None	No	0.00188	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-305	483	10/11/2022	540	Yes	36	MW-301,MW-302	324.5	86.13	0	None	No	0.00188	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-306	483	10/12/2022	720	Yes	36	MW-301,MW-302	324.5	86.13	0	None	No	0.00188	Param Inter 1 of 2

Exceeds Limit: MW-303, MW-304, MW-305,
MW-306

Prediction Limit Interwell Parametric



Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=4.277, Std. Dev.=0.7323, n=36, 33.33% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9752, critical = 0.912. Kappa = 1.845 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Comparing 4 points to limit.

Constituent: Boron Analysis Run 1/1/2023 2:39 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Prediction Limit

Constituent: Boron (ug/L) Analysis Run 1/1/2023 2:43 PM

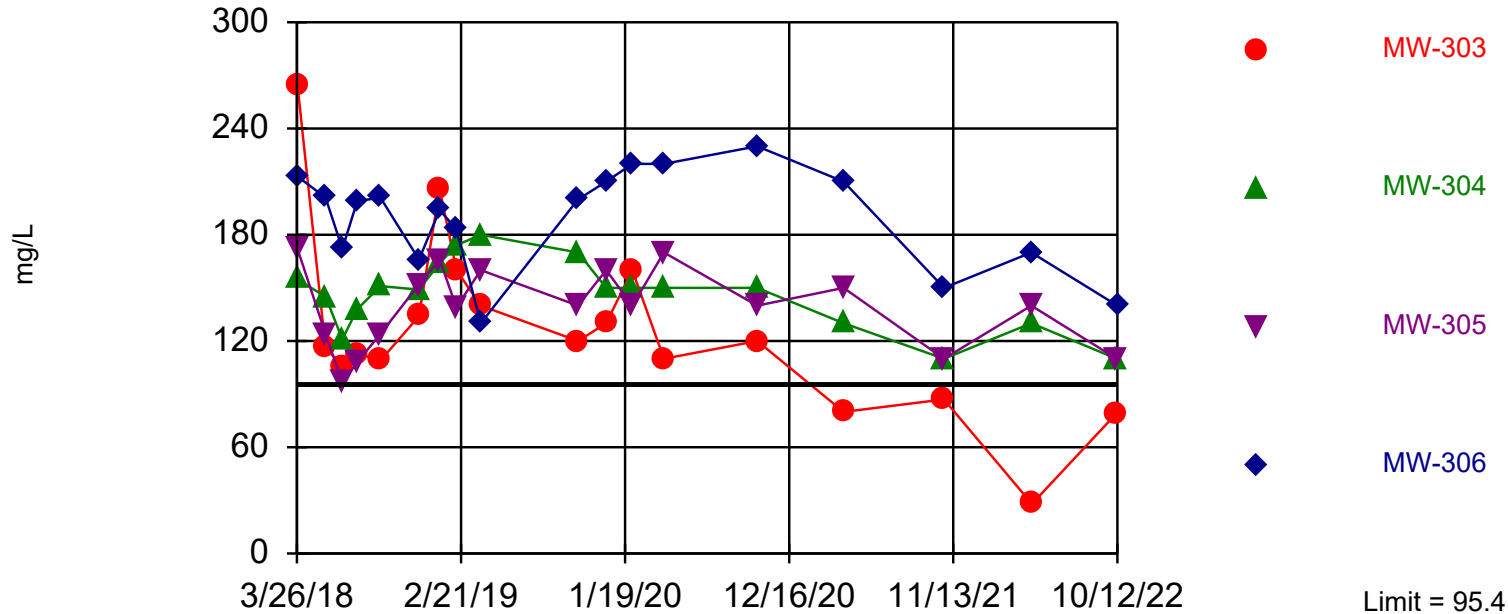
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-303	MW-306	MW-302 (bg)	MW-301 (bg)
3/26/2018	815	575				
3/27/2018			619	1100	58.4 (J)	246
5/23/2018	741	604	799	1790	53.7 (J)	189
6/26/2018	1110	736	989	2090	65.3 (J)	274
7/26/2018	1200	795	852	2120	53.8 (J)	212
9/11/2018	992	715	597	2160	22.4 (J)	234
11/28/2018	920	751	696	2990	36.6 (J)	188
1/9/2019	847	665	609	3260	36.7 (J)	82.7 (J)
2/12/2019	809	649	737	3350	31.5 (J)	97.3 (J)
4/2/2019	660	590	730	3200	<110 (U)	<110 (U)
10/16/2019	1100	840	740	2500	<110 (U)	170 (J)
12/11/2019						<110 (U)
12/12/2019	760	660	570	2400	<110 (U)	
2/3/2020	930	560	440	2500	<100 (U)	120 (J)
4/7/2020	850	580	530	2500	<100 (U)	<100 (U)
10/13/2020	1400	830	710	3800	<80 (U)	370
4/6/2021	1400	570	360	3400	67 (J)	76 (J)
10/26/2021	1800	480	400	4400	<58 (U)	62 (J)
4/21/2022	1100	630		4400		
4/22/2022			130		71 (J)	<58 (U)
10/10/2022			410		<58 (U)	
10/11/2022	1100	470				
10/12/2022				3400		71 (J)

Exceeds Limit: MW-304, MW-305, MW-306

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=73.53, Std. Dev.=11.85, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.982, critical = 0.912. Kappa = 1.845 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Comparing 4 points to limit.

Constituent: Calcium Analysis Run 1/1/2023 2:39 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 1/1/2023 2:43 PM

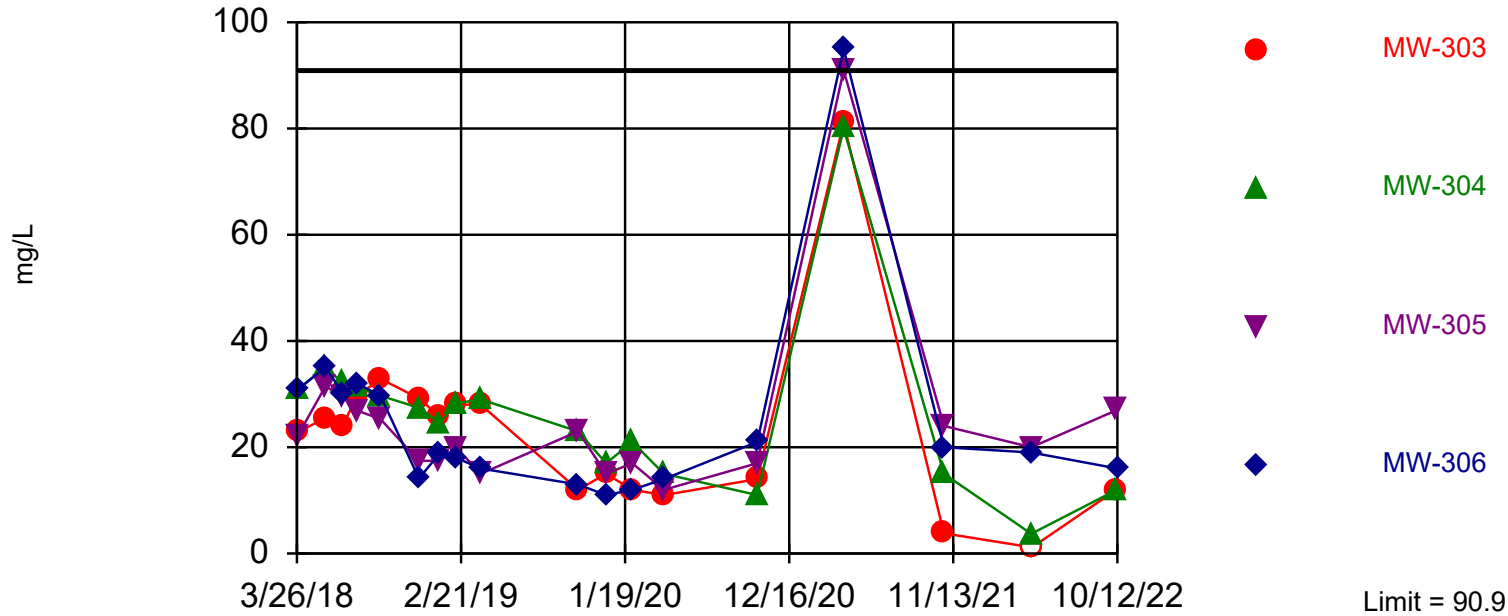
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-303	MW-306	MW-302 (bg)	MW-301 (bg)
3/26/2018	173	155				
3/27/2018			265	213	67.4	71.2
5/23/2018	124	145	116	201	67.3	85.9
6/26/2018	96.4	121	106	172	69.9	59.5
7/26/2018	108	138	113	199	80.3	83.1
9/11/2018	124	151	109	201	77.9	89.8
11/28/2018	152	149	134	166	65	78.8
1/9/2019	166	164	206	194	65.4	88.7
2/12/2019	139	174	160	183	61.7	84.2
4/2/2019	160	180	140	130	63	82
10/16/2019	140	170	120	200	57	82
12/11/2019						75
12/12/2019	160	150	130	210	58	
2/3/2020	140	150	160	220	56	82
4/7/2020	170	150	110	220	71	78
10/13/2020	140	150	120	230	71	100
4/6/2021	150	130	80	210	80	70
10/26/2021	110	110	87	150	95	81
4/21/2022	140	130		170		
4/22/2022			28		77	50
10/10/2022			79		68	
10/11/2022	110	110				
10/12/2022				140		55

Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary (based on natural log transformation): Mean=2.65, Std. Dev.=1.008, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9281, critical = 0.912. Kappa = 1.845 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Comparing 4 points to limit.

Constituent: Chloride Analysis Run 1/1/2023 2:39 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Prediction Limit

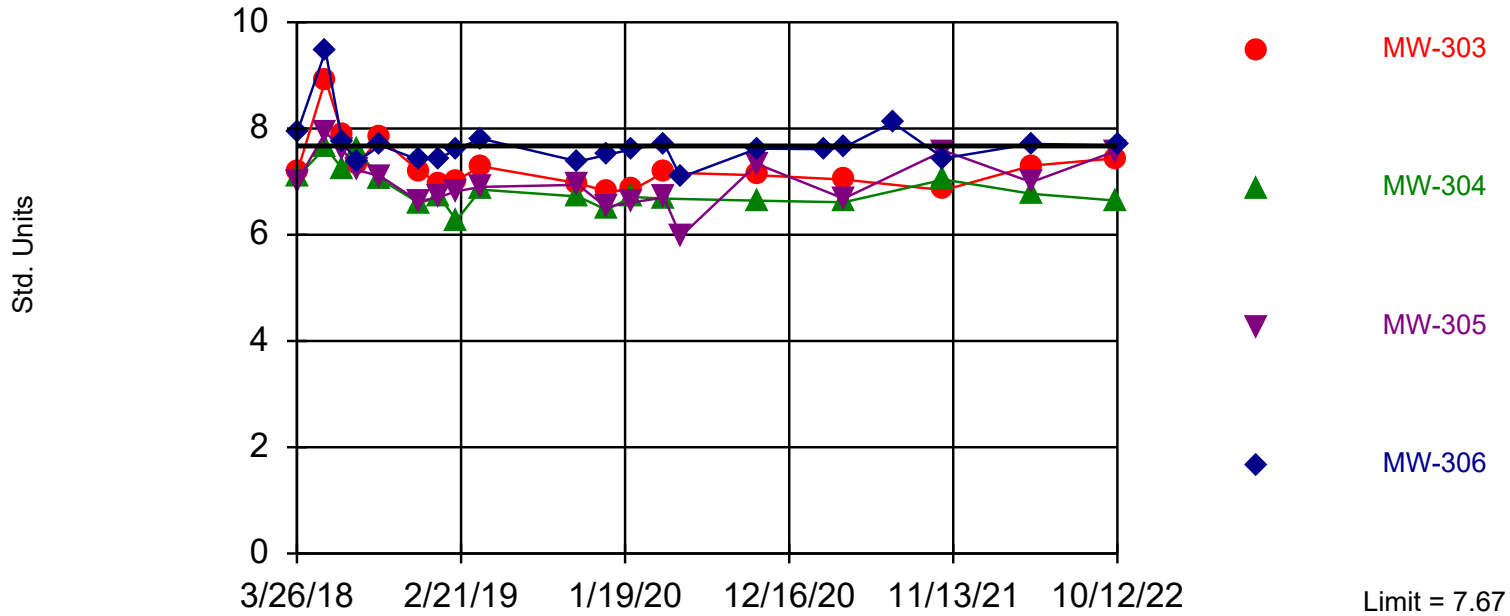
Constituent: Chloride (mg/L) Analysis Run 1/1/2023 2:43 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-303	MW-306	MW-302 (bg)	MW-301 (bg)
3/26/2018	21.9	30.8				
3/27/2018			22.8	30.8	14	15.5
5/23/2018	31.5	35.1	25.5	35.1	9.4	46.2
6/26/2018	29.5	32.1	24	30.2	12.4	6
7/26/2018	26.9	31.2	29.6	32	10.7	58.6
9/11/2018	25.3	29.7	32.9	29.7	10.1	38.2
11/28/2018	17.4	27.4	29.2	14.1	5.5	37.5
1/9/2019	17.5	24.6	25.8	18.9	4.5	51.4
2/12/2019	19.9	28.3	28	18	5.3	42.1
4/2/2019	15	29	28	16	5.6	39
10/16/2019	23	23	12	13	5.5	37
12/11/2019						16
12/12/2019	15	17	15	11	4.7 (J)	
2/3/2020	17	21	12	12	3.8 (J)	28
4/7/2020	12	15	11	14	5.2	21
10/13/2020	17	11	14	21	5.6	71
4/6/2021	91	80	81	95	85	85
10/26/2021	24	15	3.8 (J)	20	7.2	9
4/21/2022	20	3.7 (J)		19		
4/22/2022			<2.3 (U)		17	2.4 (J)
10/10/2022			12		5.8	
10/11/2022	27	12				
10/12/2022				16		8.9

Exceeds Limit: MW-306

Prediction Limit Interwell Parametric



Background Data Summary: Mean=7.013, Std. Dev.=0.3549, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9558, critical = 0.912. Kappa = 1.845 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Comparing 4 points to limit.

Constituent: Field pH Analysis Run 1/1/2023 2:39 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Prediction Limit

Constituent: Field pH (Std. Units) Analysis Run 1/1/2023 2:43 PM

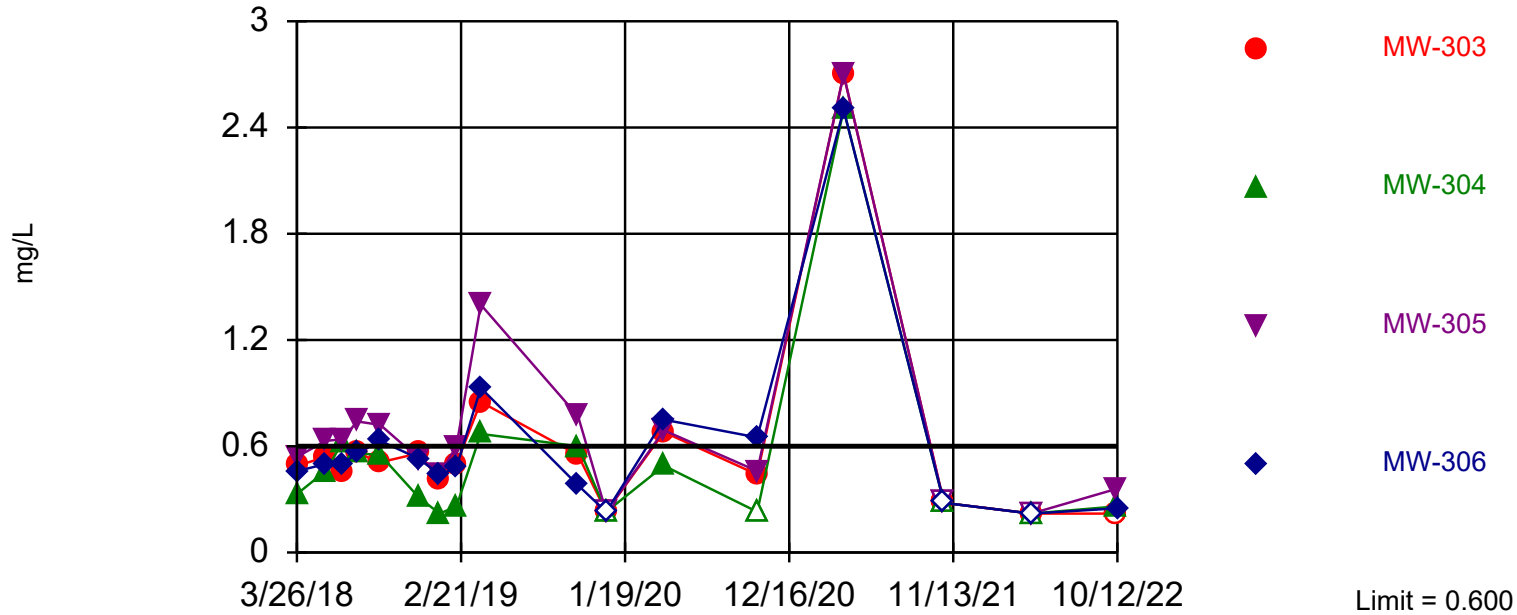
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-301 (bg)	MW-306	MW-303	MW-302 (bg)
3/26/2018	6.99	7.08				
3/27/2018			6.84	7.94	7.19	7.2
5/23/2018	7.93	7.64	7.62	9.46	8.92	7.31
6/26/2018	7.61	7.24	7.5	7.74	7.89	7.3
7/26/2018	7.22	7.6	6.46	7.38	7.33	6.99
9/11/2018	7.1	7.04	6.82	7.68	7.82	7.3
11/28/2018	6.63	6.6	6.6	7.41	7.2	7.2
1/9/2019	6.71	6.71	6.83	7.44	6.96	7.34
2/12/2019	6.82	6.27	6.85	7.61	7.02	7.21
4/2/2019	6.9	6.85	7.16	7.81	7.29	7.5
10/16/2019	6.94	6.72	6.97	7.38	6.97	7.22
12/11/2019			6.69			
12/12/2019	6.52	6.47		7.5	6.82	6.98
2/3/2020	6.61	6.71	6.79	7.61	6.84	7.31
4/7/2020	6.7	6.68	6.87	7.72	7.17	7.36
5/11/2020	5.97			7.08		
10/13/2020	7.33	6.64	6.66	7.62	7.12	7.43
2/24/2021				7.61		
4/6/2021	6.68	6.61	6.69	7.64	7.04	6.96
7/14/2021				8.11		
10/26/2021	7.58	7.04	6.21	7.44	6.84	7.3
4/21/2022	6.99	6.77		7.71		
4/22/2022			6.23		7.3	7.11
10/10/2022					7.44	7.17
10/11/2022	7.58	6.64				
10/12/2022			6.5	7.68		

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 32 background values. 34.38% NDs. Annual per-constituent alpha = 0.014. Individual comparison alpha = 0.001761 (1 of 2). Comparing 4 points to limit.

Constituent: Fluoride Analysis Run 1/1/2023 2:39 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 1/1/2023 2:43 PM

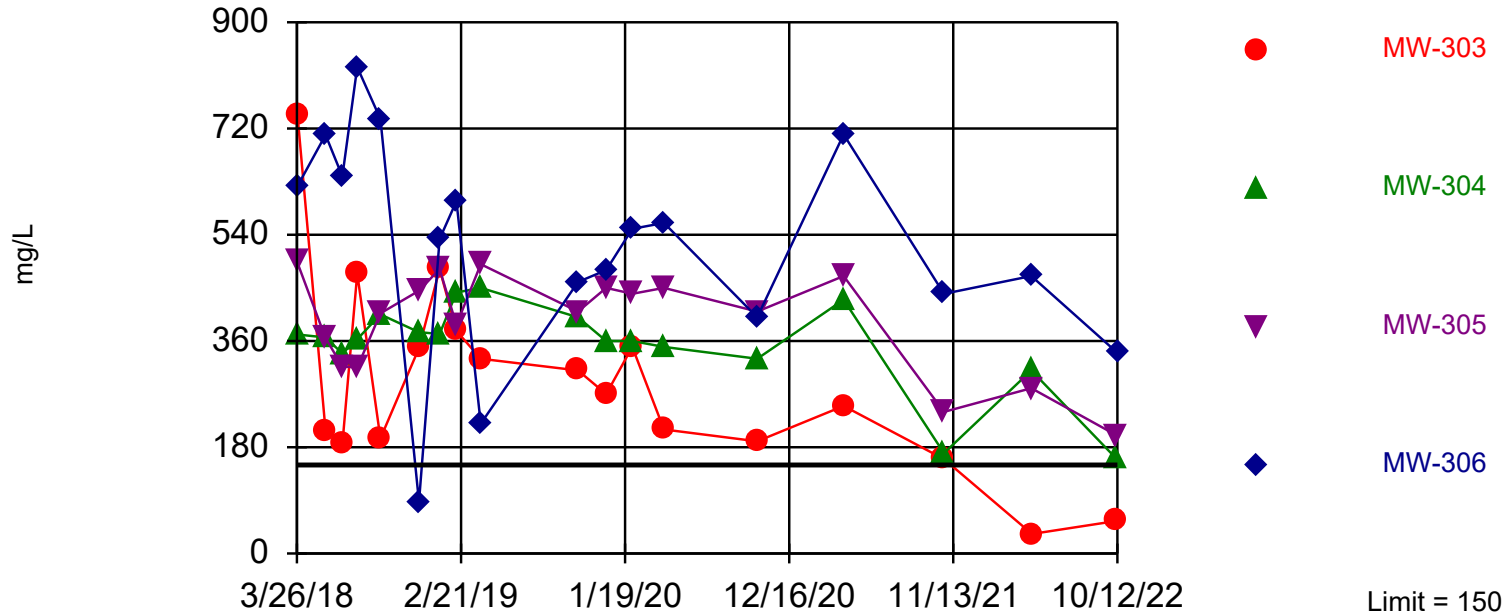
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	0.33	0.54				
3/27/2018			0.46	0.49	0.24	0.15 (J)
5/23/2018	0.46	0.63	0.5	0.54	0.24	0.22
6/26/2018	0.62	0.64	0.5	0.46	0.21	0.26
7/26/2018	0.56	0.74	0.56	0.56	0.24	0.27
9/11/2018	0.55	0.72	0.63	0.51	0.24	0.2 (J)
11/28/2018	0.31	0.53	0.53	0.56	0.22	0.2
1/9/2019	0.22	0.44	0.44	0.41	0.2	<0.19 (U)
2/12/2019	0.26	0.6	0.48	0.5	0.21	<0.19 (U)
4/2/2019	0.67	1.4	0.93	0.85	0.6	0.5
10/16/2019	0.6	0.77	0.38 (J)	0.55	0.28 (J)	0.27 (J)
12/11/2019						<0.23 (U)
12/12/2019	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	
4/7/2020	0.49 (J)	0.69	0.75 (J)	0.68	0.55	0.41 (J)
10/13/2020	<0.23 (U)	0.46 (J)	0.65	0.44 (J)	0.3 (J)	<0.23 (U)
4/6/2021	2.5	2.7	2.5	2.7	2.5 (X)	2.5 (X)
10/26/2021	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)
4/21/2022	<0.22 (U)	<0.22 (U)	<0.22 (U)			
4/22/2022				<0.22 (U)	<0.22 (U)	<0.22 (U)
10/10/2022				<0.22 (U)	<0.22 (U)	
10/11/2022	0.26 (J)	0.36 (J)				
10/12/2022			0.25 (J)			<0.22 (U)

Exceeds Limit: MW-304, MW-305, MW-306

Prediction Limit

Interwell Parametric



Background Data Summary (based on natural log transformation): Mean=3.699, Std. Dev.=0.7111, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9577, critical = 0.912. Kappa = 1.845 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Comparing 4 points to limit.

Constituent: Sulfate Analysis Run 1/1/2023 2:39 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 1/1/2023 2:43 PM

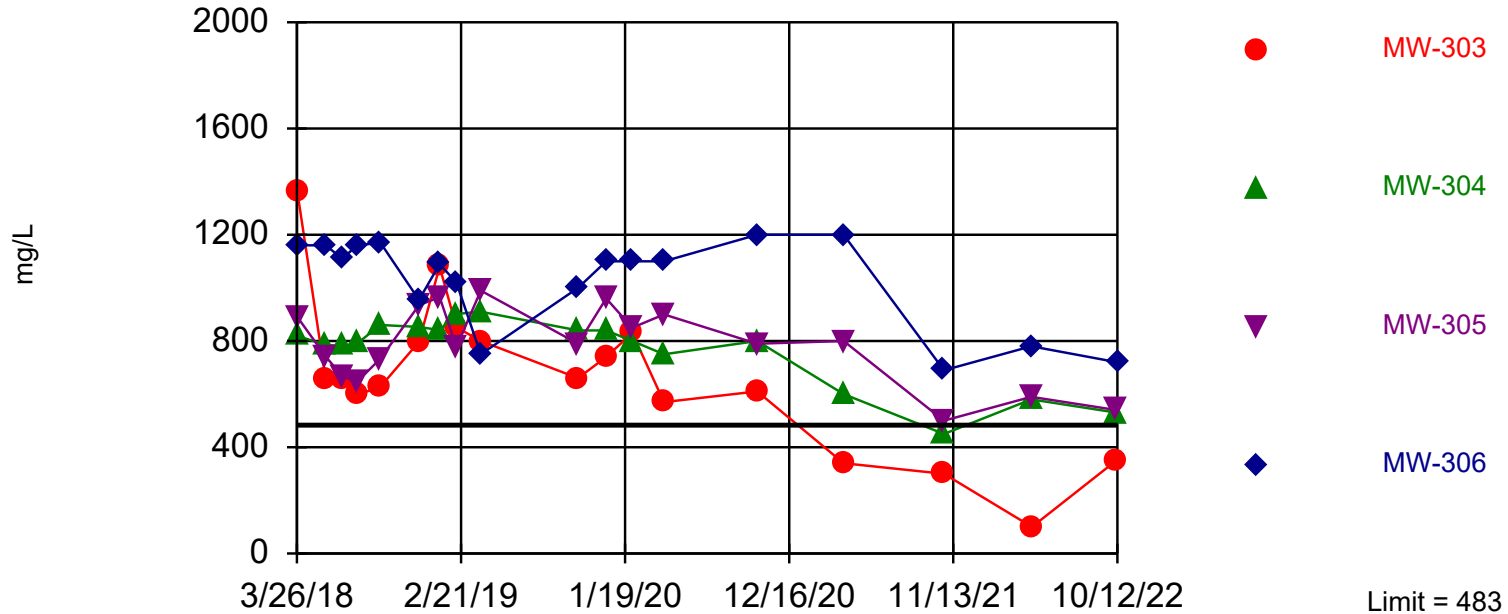
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-303	MW-306	MW-302 (bg)	MW-301 (bg)
3/26/2018	495	371				
3/27/2018			745	622	68.5	79
5/23/2018	365	366	208	709	41.3	78.1
6/26/2018	317	339	185	639	56	46.9
7/26/2018	315	363	474	824	58.7	73.4
9/11/2018	407	405	195	736	52.5	71.9
11/28/2018	445	375	348	87.4	25.5	61.9
1/9/2019	482	372	482	533	21.9	60.9
2/12/2019	387	442	377	597	21.2	63
4/2/2019	490	450	330	220	20	46
10/16/2019	410	400	310	460	19	28
12/11/2019						29
12/12/2019	450	360	270	480	14	
2/3/2020	440	360	350	550	17	32
4/7/2020	450	350	210	560	14	17
10/13/2020	410	330	190	400	12	98
4/6/2021	470	430	250	710	180	160
10/26/2021	240	170	160	440	43	83
4/21/2022	280	310		470		
4/22/2022			33		91	33
10/10/2022			55		16	
10/11/2022	200	160				
10/12/2022				340		22

Exceeds Limit: MW-304, MW-305, MW-306

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=324.5, Std. Dev.=86.13, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9718, critical = 0.912. Kappa = 1.845 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Comparing 4 points to limit.

Constituent: Total Dissolved Solids Analysis Run 1/1/2023 2:39 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 1/1/2023 2:43 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-303	MW-306	MW-302 (bg)	MW-301 (bg)
3/26/2018	893	820				
3/27/2018			1360	1160	309	399
5/23/2018	742	785	658	1160	322	489
6/26/2018	667	782	658	1110	352	326
7/26/2018	647	791	597	1160	360	433
9/11/2018	734	860	628	1170	356	439
11/28/2018	935	853	797	955	272	426
1/9/2019	965	841	1080	1090	255	418
2/12/2019	777	902	852	1020	256	420
4/2/2019	990	910	800	750	270	400
10/16/2019	790	840	660	1000	200	340
12/11/2019						360
12/12/2019	960	840	740	1100	240	
2/3/2020	850	800	830	1100	250	380
4/7/2020	900	750	570	1100	250	330
10/13/2020	790	800	610	1200	260	540
4/6/2021	800	600	340	1200	300	260
10/26/2021	500	450	300	690	270	200
4/21/2022	590	580		780		
4/22/2022			100		320	150
10/10/2022			350		270	
10/11/2022	540	530				
10/12/2022				720		260

Attachment 5

Interwell Tolerance Limit Analysis – Appendix IV

Tolerance Limit

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 1/1/2023, 2:46 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Wells	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (ug/L)	MW-303	1.48	10/10/2022	<0.69 (U)	No	28	MW-301,MW-302	46.43	Kapla...	ln(x)	0.01274	Inter
Antimony (ug/L)	MW-304	1.48	10/11/2022	<0.69 (U)	No	28	MW-301,MW-302	46.43	Kapla...	ln(x)	0.01274	Inter
Antimony (ug/L)	MW-305	1.48	10/11/2022	<0.69 (U)	No	28	MW-301,MW-302	46.43	Kapla...	ln(x)	0.01274	Inter
Antimony (ug/L)	MW-306	1.48	10/12/2022	<0.69 (U)	No	28	MW-301,MW-302	46.43	Kapla...	ln(x)	0.01274	Inter
Arsenic (ug/L)	MW-303	21.0	10/10/2022	2.5	No	31	MW-301,MW-302	25.81	n/a	n/a	0.05542	NP Inter(normal...
Arsenic (ug/L)	MW-304	21.0	10/11/2022	<0.75 (U)	No	31	MW-301,MW-302	25.81	n/a	n/a	0.05542	NP Inter(normal...
Arsenic (ug/L)	MW-305	21.0	10/11/2022	8.4	No	31	MW-301,MW-302	25.81	n/a	n/a	0.05542	NP Inter(normal...
Arsenic (ug/L)	MW-306	21.0	10/12/2022	4.1	No	31	MW-301,MW-302	25.81	n/a	n/a	0.05542	NP Inter(normal...
Barium (ug/L)	MW-303	275	10/10/2022	48	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Barium (ug/L)	MW-304	275	10/11/2022	26	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Barium (ug/L)	MW-305	275	10/11/2022	41	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Barium (ug/L)	MW-306	275	10/12/2022	66	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Beryllium (ug/L)	MW-303	0.480	10/10/2022	<0.27 (U)	No	29	MW-301,MW-302	75.86	n/a	n/a	0.06202	NP Inter(NDs)
Beryllium (ug/L)	MW-304	0.480	10/11/2022	<0.27 (U)	No	29	MW-301,MW-302	75.86	n/a	n/a	0.06202	NP Inter(NDs)
Beryllium (ug/L)	MW-305	0.480	10/11/2022	<0.27 (U)	No	29	MW-301,MW-302	75.86	n/a	n/a	0.06202	NP Inter(NDs)
Beryllium (ug/L)	MW-306	0.480	10/12/2022	<0.27 (U)	No	29	MW-301,MW-302	75.86	n/a	n/a	0.06202	NP Inter(NDs)
Cadmium (ug/L)	MW-303	0.280	10/10/2022	0.062	No	31	MW-301,MW-302	54.84	n/a	n/a	0.05542	NP Inter(NDs)
Cadmium (ug/L)	MW-304	0.280	10/11/2022	0.068	No	31	MW-301,MW-302	54.84	n/a	n/a	0.05542	NP Inter(NDs)
Cadmium (ug/L)	MW-305	0.280	10/11/2022	<0.055 (U)	No	31	MW-301,MW-302	54.84	n/a	n/a	0.05542	NP Inter(NDs)
Cadmium (ug/L)	MW-306	0.280	10/12/2022	<0.055 (U)	No	31	MW-301,MW-302	54.84	n/a	n/a	0.05542	NP Inter(NDs)
Chromium (ug/L)	MW-303	3.50	10/10/2022	<1.1 (U)	No	29	MW-301,MW-302	48.28	n/a	n/a	0.06202	NP Inter(normal...
Chromium (ug/L)	MW-304	3.50	10/11/2022	<1.1 (U)	No	29	MW-301,MW-302	48.28	n/a	n/a	0.06202	NP Inter(normal...
Chromium (ug/L)	MW-305	3.50	10/11/2022	<1.1 (U)	No	29	MW-301,MW-302	48.28	n/a	n/a	0.06202	NP Inter(normal...
Chromium (ug/L)	MW-306	3.50	10/12/2022	<1.1 (U)	No	29	MW-301,MW-302	48.28	n/a	n/a	0.06202	NP Inter(normal...
Cobalt (ug/L)	MW-303	17.3	10/10/2022	1.1	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Cobalt (ug/L)	MW-304	17.3	10/11/2022	<0.19 (U)	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Cobalt (ug/L)	MW-305	17.3	10/11/2022	0.62	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Cobalt (ug/L)	MW-306	17.3	10/12/2022	0.42	No	31	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Fluoride (mg/L)	MW-303	0.600	10/10/2022	<0.22 (U)	No	32	MW-301,MW-302	34.38	n/a	n/a	0.05241	NP Inter(normal...
Fluoride (mg/L)	MW-304	0.600	10/11/2022	0.26	No	32	MW-301,MW-302	34.38	n/a	n/a	0.05241	NP Inter(normal...
Fluoride (mg/L)	MW-305	0.600	10/11/2022	0.36	No	32	MW-301,MW-302	34.38	n/a	n/a	0.05241	NP Inter(normal...
Fluoride (mg/L)	MW-306	0.600	10/12/2022	0.25	No	32	MW-301,MW-302	34.38	n/a	n/a	0.05241	NP Inter(normal...
Lead (ug/L)	MW-303	2.50	10/10/2022	0.34	No	31	MW-301,MW-302	45.16	n/a	n/a	0.05542	NP Inter(normal...
Lead (ug/L)	MW-304	2.50	10/11/2022	<0.24 (U)	No	31	MW-301,MW-302	45.16	n/a	n/a	0.05542	NP Inter(normal...
Lead (ug/L)	MW-305	2.50	10/11/2022	<0.24 (U)	No	31	MW-301,MW-302	45.16	n/a	n/a	0.05542	NP Inter(normal...
Lead (ug/L)	MW-306	2.50	10/12/2022	<0.24 (U)	No	31	MW-301,MW-302	45.16	n/a	n/a	0.05542	NP Inter(normal...
Lithium (ug/L)	MW-303	12.6	10/10/2022	19	Yes	32	MW-301,MW-302	31.25	n/a	n/a	0.05241	NP Inter(normal...
Lithium (ug/L)	MW-304	12.6	10/11/2022	6.8	No	32	MW-301,MW-302	31.25	n/a	n/a	0.05241	NP Inter(normal...
Lithium (ug/L)	MW-305	12.6	10/11/2022	37	Yes	32	MW-301,MW-302	31.25	n/a	n/a	0.05241	NP Inter(normal...
Lithium (ug/L)	MW-306	12.6	10/12/2022	63	Yes	32	MW-301,MW-302	31.25	n/a	n/a	0.05241	NP Inter(normal...
Mercury (ug/L)	MW-303	0.110	4/22/2022	<0.11 (U)	No	26	MW-301,MW-302	100	n/a	n/a	0.07362	NP Inter(NDs)
Mercury (ug/L)	MW-304	0.110	4/21/2022	<0.11 (U)	No	26	MW-301,MW-302	100	n/a	n/a	0.07362	NP Inter(NDs)
Mercury (ug/L)	MW-305	0.110	4/21/2022	<0.11 (U)	No	26	MW-301,MW-302	100	n/a	n/a	0.07362	NP Inter(NDs)
Mercury (ug/L)	MW-306	0.110	4/21/2022	<0.11 (U)	No	26	MW-301,MW-302	100	n/a	n/a	0.07362	NP Inter(NDs)
Molybdenum (ug/L)	MW-303	13.6	10/10/2022	5.3	No	32	MW-301,MW-302	53.13	n/a	n/a	0.05241	NP Inter(NDs)
Molybdenum (ug/L)	MW-304	13.6	10/11/2022	2.5	No	32	MW-301,MW-302	53.13	n/a	n/a	0.05241	NP Inter(NDs)
Molybdenum (ug/L)	MW-305	13.6	10/11/2022	48	Yes	32	MW-301,MW-302	53.13	n/a	n/a	0.05241	NP Inter(NDs)
Molybdenum (ug/L)	MW-306	13.6	10/12/2022	81	Yes	32	MW-301,MW-302	53.13	n/a	n/a	0.05241	NP Inter(NDs)
Selenium (ug/L)	MW-303	22.0	10/10/2022	<0.96 (U)	No	28	MW-301,MW-302	21.43	n/a	n/a	0.06564	NP Inter(normal...
Selenium (ug/L)	MW-304	22.0	10/11/2022	<0.96 (U)	No	28	MW-301,MW-302	21.43	n/a	n/a	0.06564	NP Inter(normal...

Tolerance Limit

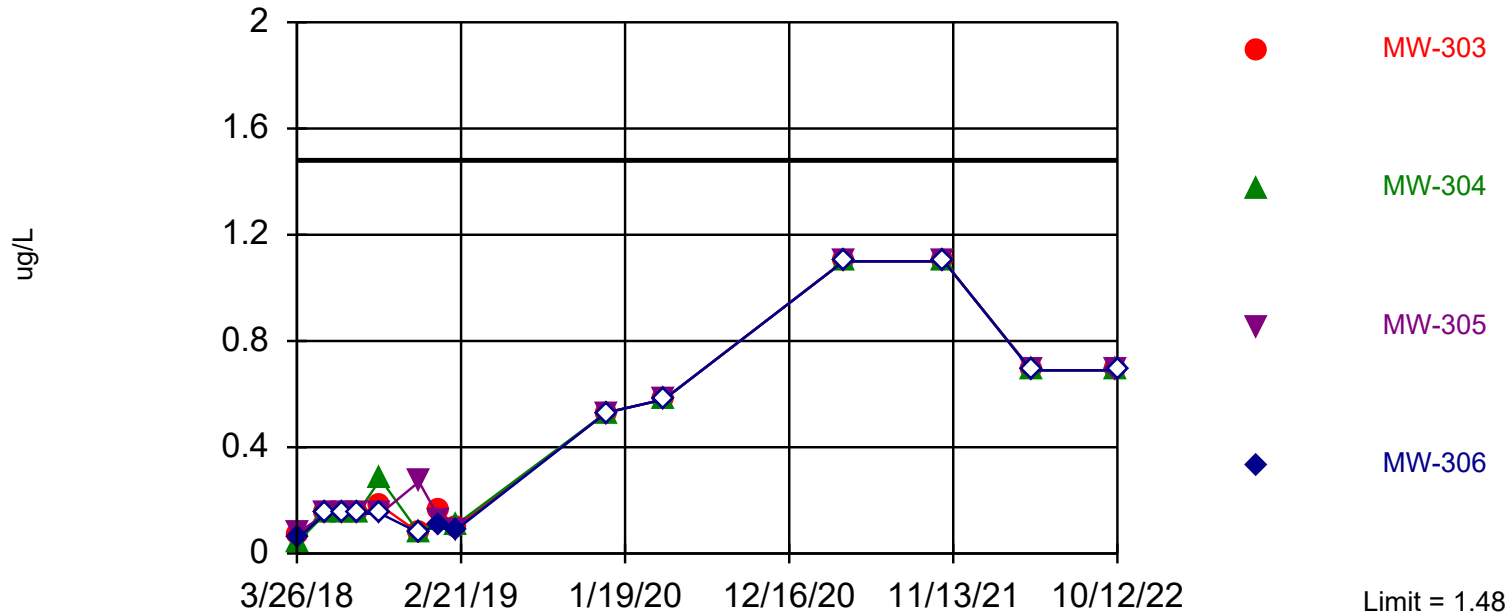
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020 Printed 1/1/2023, 2:46 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Wells</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Selenium (ug/L)	MW-305	22.0	10/11/2022	<0.96 (U)	No	28	MW-301,MW-302	21.43	n/a	n/a	0.06564	NP Inter(normal...
Selenium (ug/L)	MW-306	22.0	10/12/2022	<0.96 (U)	No	28	MW-301,MW-302	21.43	n/a	n/a	0.06564	NP Inter(normal...
Thallium (ug/L)	MW-303	0.430	10/10/2022	<0.26 (U)	No	28	MW-301,MW-302	92.86	n/a	n/a	0.06564	NP Inter(NDs)
Thallium (ug/L)	MW-304	0.430	10/11/2022	<0.26 (U)	No	28	MW-301,MW-302	92.86	n/a	n/a	0.06564	NP Inter(NDs)
Thallium (ug/L)	MW-305	0.430	10/11/2022	<0.26 (U)	No	28	MW-301,MW-302	92.86	n/a	n/a	0.06564	NP Inter(NDs)
Thallium (ug/L)	MW-306	0.430	10/12/2022	<0.26 (U)	No	28	MW-301,MW-302	92.86	n/a	n/a	0.06564	NP Inter(NDs)
Total Radium (pCi/L)	MW-303	3.36	10/10/2022	0.623	No	32	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Total Radium (pCi/L)	MW-304	3.36	10/11/2022	0.772	No	32	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Total Radium (pCi/L)	MW-305	3.36	10/11/2022	0.703	No	32	MW-301,MW-302	0	None	ln(x)	0.01274	Inter
Total Radium (pCi/L)	MW-306	3.36	10/12/2022	0.75	No	32	MW-301,MW-302	0	None	ln(x)	0.01274	Inter

Within Limit

Tolerance Limit

Interwell Parametric



95% coverage. Most recent observation is compared with limit. Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-1.304, Std. Dev.=0.753, n=28, 46.43% NDs. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9741, critical = 0.924. Report alpha = 0.05.

Constituent: Antimony Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Antimony (ug/L) Analysis Run 1/1/2023 2:46 PM

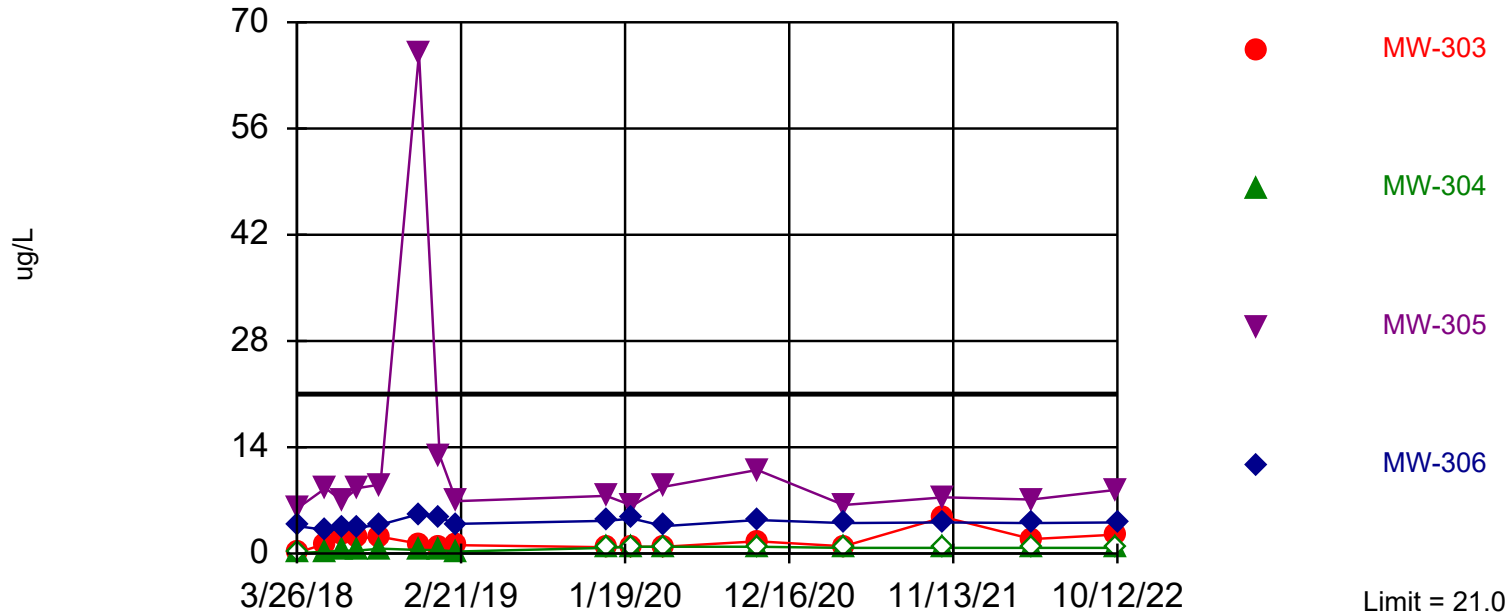
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-301 (bg)	MW-303	MW-302 (bg)	MW-306
3/26/2018	0.075 (J)	0.041 (J)				
3/27/2018			0.13 (J)	0.072 (J)	0.41 (J)	0.056 (J)
5/23/2018	<0.15 (U)	<0.15 (U)	0.18 (J)	<0.15 (U)	2.8	<0.15 (U)
6/26/2018	<0.15 (U)	<0.15 (U)	0.27 (J)	<0.15 (U)	0.68 (J)	<0.15 (U)
7/26/2018	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	0.29 (J)	<0.15 (U)
9/11/2018	<0.15 (U)	0.28 (J)	0.78 (J)	0.18 (J)	0.31 (J)	<0.15 (U)
11/28/2018	0.27 (J)	<0.078 (U)	<0.078 (U)	<0.078 (U)	0.26 (J)	<0.078 (U)
1/9/2019	0.13 (J)	0.13 (J)	0.33 (J)	0.16 (J)	0.59 (J)	0.11 (J)
2/12/2019	0.092 (J)	0.11 (J)	0.2 (J)	0.1 (J)	0.22 (J)	0.09 (J)
12/11/2019			<0.53 (U)			
12/12/2019	<0.53 (U)	<0.53 (U)		<0.53 (U)	<0.53 (U)	<0.53 (U)
4/7/2020	<0.58 (U)	<0.58 (U)	<0.58 (U)	<0.58 (U)	<0.58 (U)	<0.58 (U)
4/6/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)
10/26/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)
4/21/2022	<0.69 (U)	<0.69 (U)				<0.69 (U)
4/22/2022			<0.69 (U)	<0.69 (U)	0.69 (J)	
10/10/2022				<0.69 (U)	<0.69 (U)	
10/11/2022	<0.69 (U)	<0.69 (U)				
10/12/2022			<0.69 (U)			<0.69 (U)

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Most recent observation is compared with limit. Limit is highest of 31 background values. 25.81% NDs. 86.13% coverage at alpha=0.01; 90.82% coverage at alpha=0.05; 97.85% coverage at alpha=0.5. Report alpha = 0.2039.

Constituent: Arsenic Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Arsenic (ug/L) Analysis Run 1/1/2023 2:46 PM

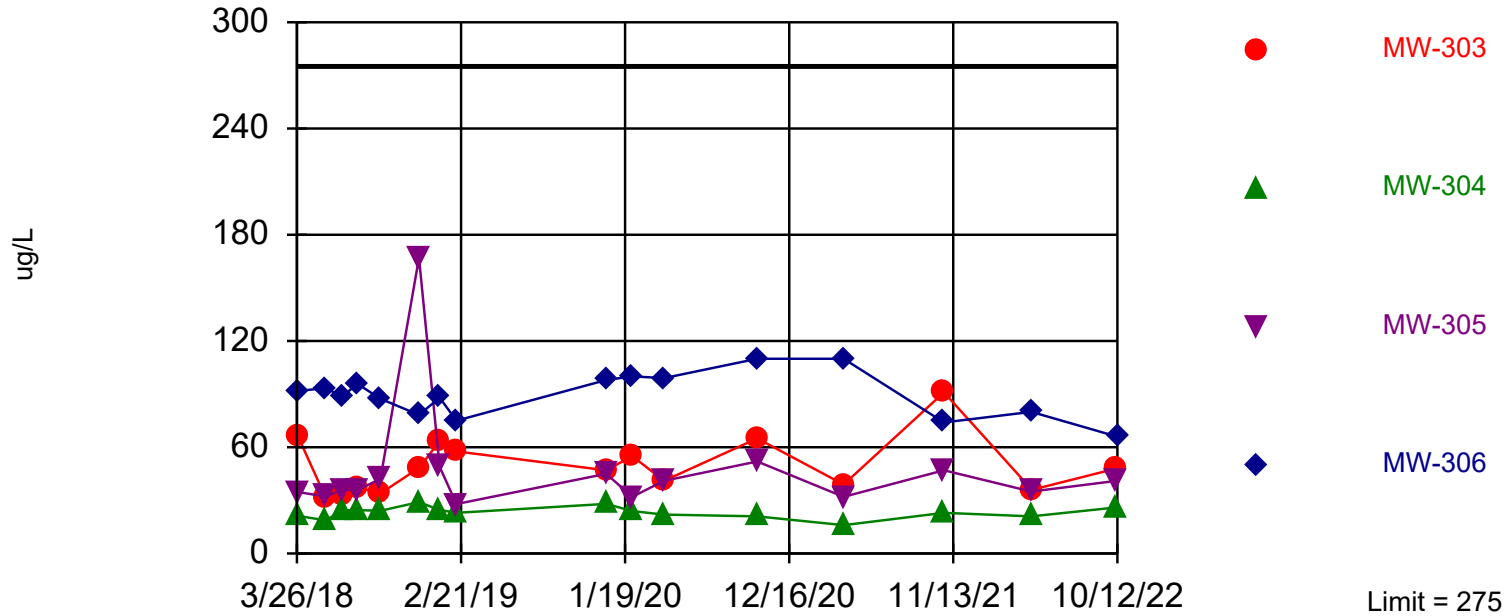
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	<0.052 (U)	5.9				
3/27/2018			3.6	0.11 (J)	1.4	0.45 (J)
5/23/2018	0.23 (J)	8.6	3.1	1.3	5.8	2.4
6/26/2018	0.37 (J)	6.9	3.3	2.5	8.5	1.6
7/26/2018	0.39 (J)	8.6	3.4	2	10.2	1.4
9/11/2018	0.64 (J)	9.1	3.8	2.2	8.5	16.2 (X)
11/28/2018	0.46 (J)	65.9	5.2	1.3	5.9	0.84 (J)
1/9/2019	0.45 (J)	12.9	4.7	0.91 (J)	10.8	0.95 (J)
2/12/2019	0.26 (J)	6.9	3.9	1.1	2.8	1.6
12/11/2019						<0.75 (U)
12/12/2019	<0.75 (U)	7.6	4.3	0.82 (J)	6.1	
2/3/2020	<0.88 (U)	6.3	4.6	<0.88 (U)	19	<0.88 (U)
4/7/2020	<0.88 (U)	8.8	3.6	<0.88 (U)	5.3	<0.88 (U)
10/13/2020	<0.88 (U)	11	4.4	1.6 (J)	4.6	<0.88 (U)
4/6/2021	<0.75 (U)	6.4	4	0.96 (J)	3	<0.75 (U)
10/26/2021	<0.75 (U)	7.4	4.1	4.8	7.4	<0.75 (U)
4/21/2022	<0.75 (U)	7.1	4			
4/22/2022				1.9 (J)	21	<0.75 (U)
10/10/2022				2.5	4.5	
10/11/2022	<0.75 (U)	8.4				
10/12/2022			4.1			<0.75 (U)

Within Limit

Tolerance Limit

Interwell Parametric



95% coverage. Most recent observation is compared with limit. Background Data Summary (based on natural log transformation): Mean=4.764, Std. Dev.=0.3858, n=31. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9363, critical = 0.929. Report alpha = 0.05.

Constituent: Barium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Barium (ug/L) Analysis Run 1/1/2023 2:46 PM

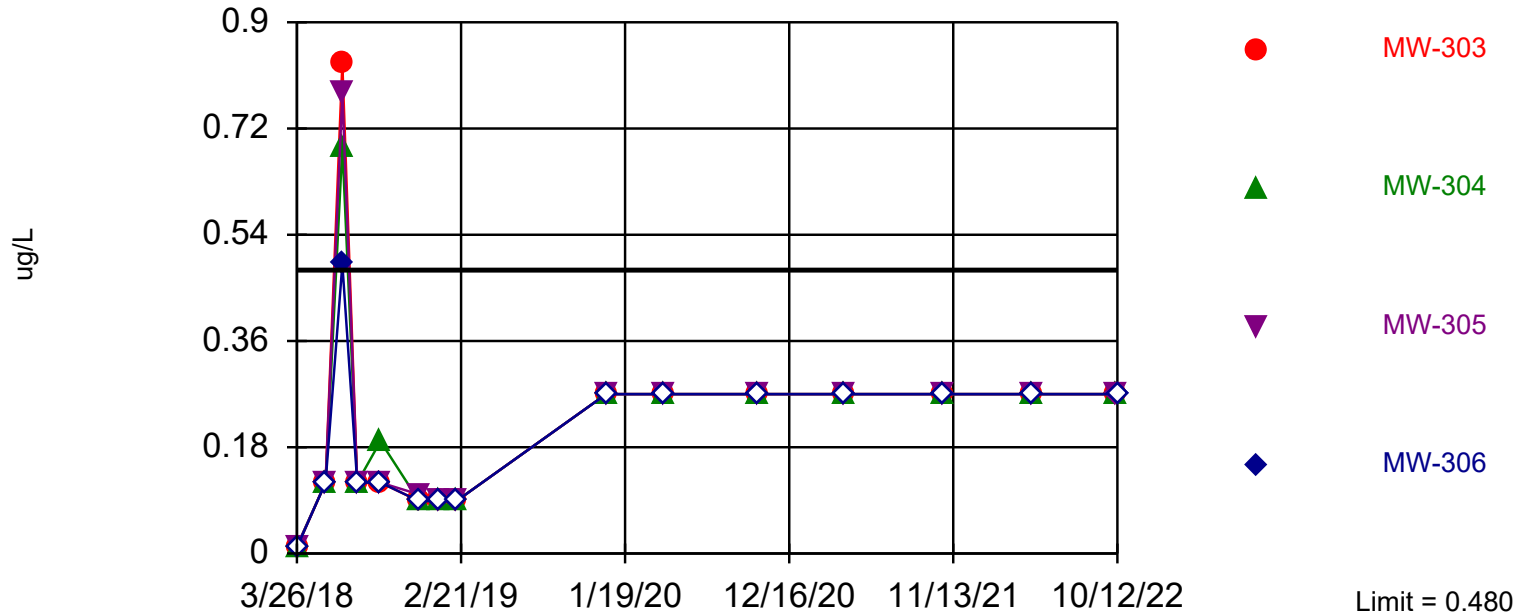
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	21.3	34.8				
3/27/2018			91.7	66.9	93.6	98
5/23/2018	18.7	32.2	93.4	31.7	105	254
6/26/2018	24.3	36.1	88.6	32.6	124	137
7/26/2018	24.5	35.7	95.9	37.4	132	324
9/11/2018	24.1	42.2	87.4	33.9	117	1110 (X)
11/28/2018	29	167	78.3	48.4	112	140
1/9/2019	24.6	49	88	63.4	108	135
2/12/2019	23	27.9	75	57.7	83.7	132
12/11/2019						130
12/12/2019	28	45	98	47	81	
2/3/2020	24	32	100	55	100	120
4/7/2020	22	41	99	41	97	240
10/13/2020	21	52	110	65	100	110
4/6/2021	16	32	110	39	130	59
10/26/2021	23	47	74	91	140	130
4/21/2022	21	35	80			
4/22/2022				36	170	86
10/10/2022				48	88	
10/11/2022	26	41				
10/12/2022			66			45

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Most recent observation is compared with limit. Limit is highest of 29 background values. 75.86% NDs. 85.35% coverage at alpha=0.01; 90.04% coverage at alpha=0.05; 97.46% coverage at alpha=0.5. Report alpha = 0.2259.

Constituent: Beryllium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Beryllium (ug/L) Analysis Run 1/1/2023 2:46 PM

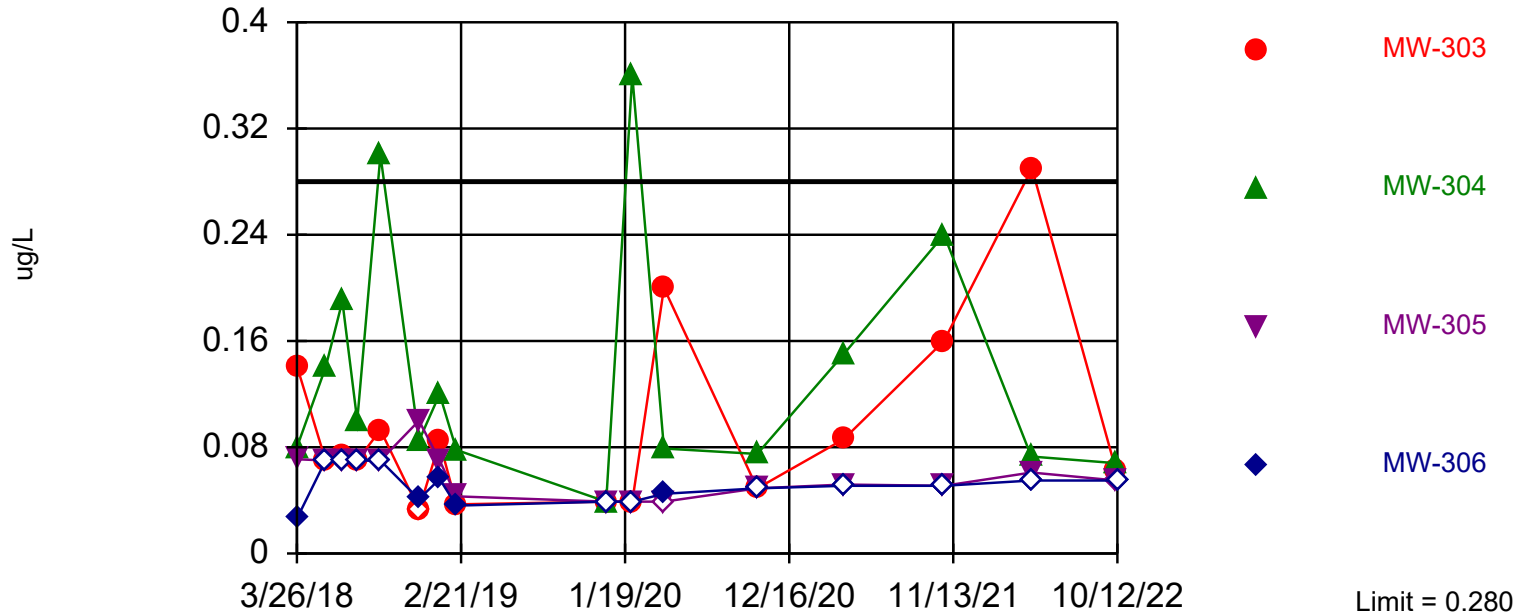
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	<0.012 (U)	0.012 (J)				
3/27/2018			<0.012 (U)	<0.012 (U)	<0.012 (U)	0.014 (J)
5/23/2018	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)	0.3 (J)
6/26/2018	0.69	0.78	0.49 (J)	0.83	0.19 (J)	<0.12 (U)
7/26/2018	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)	0.48 (J)
9/11/2018	0.19 (J)	<0.12 (U)	<0.12 (U)	<0.12 (U)	<0.12 (U)	1.3 (X)
11/28/2018	<0.089 (U)	0.1 (J)	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)
1/9/2019	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)	0.17 (J)
2/12/2019	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)	<0.089 (U)	0.16 (J)
12/11/2019						<0.27 (U)
12/12/2019	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	
4/7/2020	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	0.33 (J)
10/13/2020	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)
4/6/2021	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)
10/26/2021	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)
4/21/2022	<0.27 (U)	<0.27 (U)	<0.27 (U)			
4/22/2022				<0.27 (U)	<0.27 (U)	<0.27 (U)
10/10/2022				<0.27 (U)	<0.27 (U)	
10/11/2022	<0.27 (U)	<0.27 (U)				
10/12/2022			<0.27 (U)			<0.27 (U)

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Most recent observation is compared with limit. Limit is highest of 31 background values. 54.84% NDs. 86.13% coverage at alpha=0.01; 90.82% coverage at alpha=0.05; 97.85% coverage at alpha=0.5. Report alpha = 0.2039.

Constituent: Cadmium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Cadmium (ug/L) Analysis Run 1/1/2023 2:46 PM

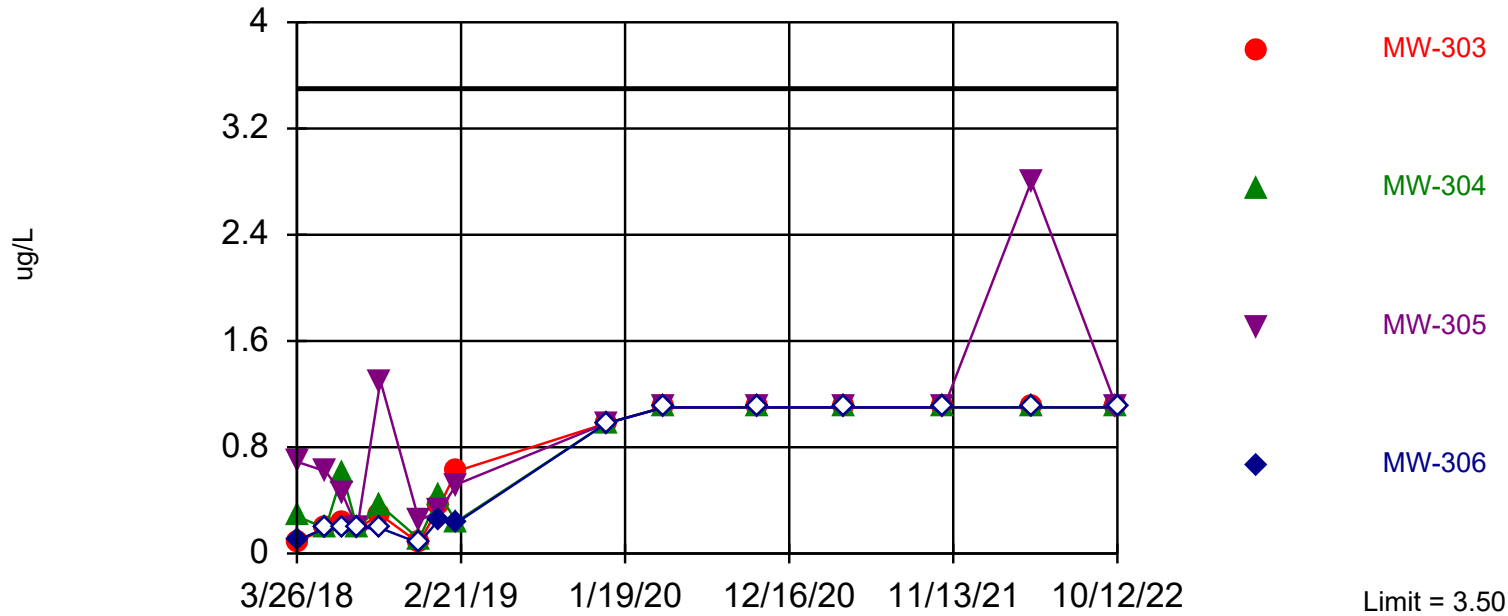
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	0.08 (J)	0.071 (J)				
3/27/2018			0.027 (J)	0.14 (J)	0.028 (J)	0.037 (J)
5/23/2018	0.14 (J)	<0.07 (U)	<0.07 (U)	<0.07 (U)	<0.07 (U)	0.11 (J)
6/26/2018	0.19 (J)	<0.07 (U)	<0.07 (U)	0.073 (J)	<0.07 (U)	<0.07 (U)
7/26/2018	0.1 (J)	<0.07 (U)	<0.07 (U)	<0.07 (U)	<0.07 (U)	0.28 (J)
9/11/2018	0.3 (J)	<0.07 (U)	<0.07 (U)	0.093 (J)	<0.07 (U)	0.6 (X)
11/28/2018	0.085 (J)	0.1 (J)	0.041 (J)	<0.033 (U)	<0.033 (U)	0.053 (J)
1/9/2019	0.12 (J)	0.07 (J)	0.056 (J)	0.084 (J)	0.054 (J)	0.11 (J)
2/12/2019	0.078 (J)	0.043 (J)	0.036 (J)	0.037 (J)	<0.033 (U)	0.11 (J)
12/11/2019						0.086 (J)
12/12/2019	<0.039 (U)	<0.039 (U)	<0.039 (U)	<0.039 (U)	<0.039 (U)	
2/3/2020	0.36	<0.039 (U)	<0.039 (U)	<0.039 (U)	<0.039 (U)	0.047 (J)
4/7/2020	0.079 (J)	<0.039 (U)	0.045 (J)	0.2	<0.039 (U)	0.17
10/13/2020	0.075 (J)	<0.049 (U)	<0.049 (U)	<0.049 (U)	<0.049 (U)	0.077 (J)
4/6/2021	0.15	0.052 (J)	<0.051 (U)	0.086 (J)	<0.051 (U)	<0.051 (U)
10/26/2021	0.24	<0.051 (U)	<0.051 (U)	0.16	<0.051 (U)	0.08 (J)
4/21/2022	0.073 (J)	0.061 (J)	<0.055 (U)			
4/22/2022				0.29	<0.055 (U)	<0.055 (U)
10/10/2022				0.062 (J)	<0.055 (U)	
10/11/2022	0.068 (J)	<0.055 (U)				
10/12/2022			<0.055 (U)			0.081 (J)

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Most recent observation is compared with limit. Limit is highest of 29 background values. 48.28% NDs. 85.35% coverage at alpha=0.01; 90.04% coverage at alpha=0.05; 97.46% coverage at alpha=0.5. Report alpha = 0.2259.

Constituent: Chromium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Chromium (ug/L) Analysis Run 1/1/2023 2:46 PM

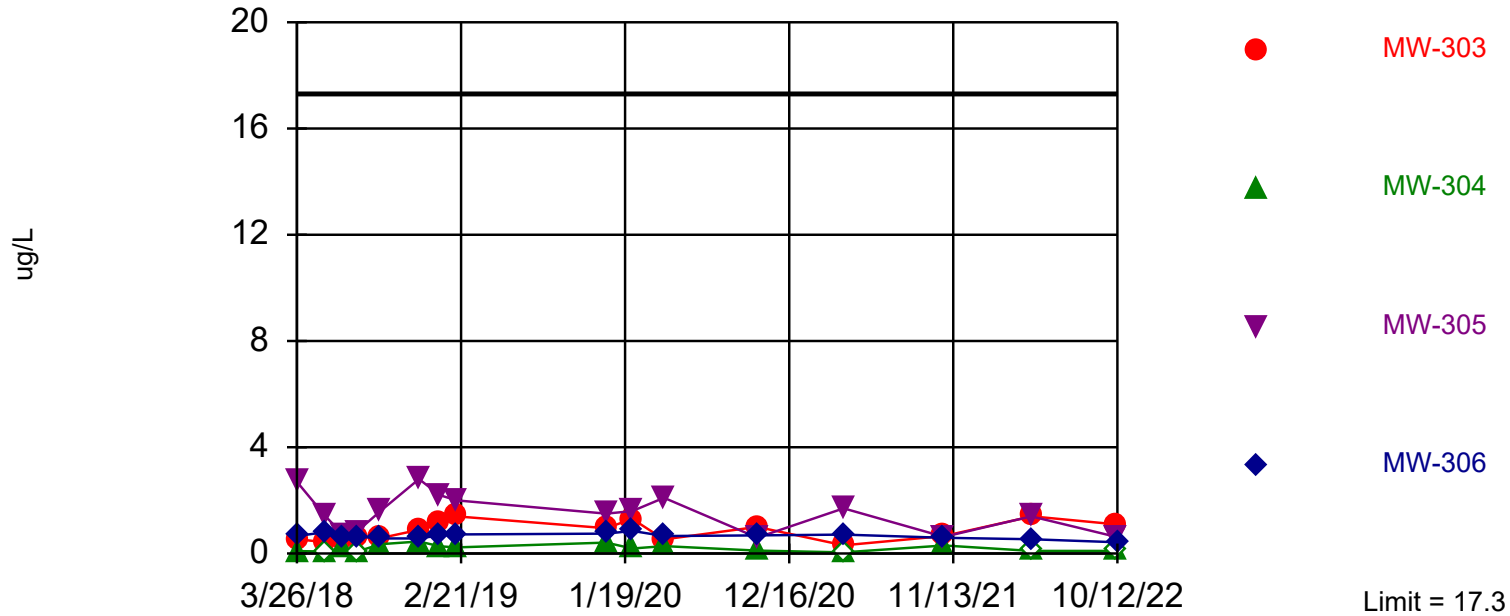
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	0.28 (J)	0.69 (J)				
3/27/2018			0.1 (J)	0.086 (J)	0.35 (J)	2.2
5/23/2018	<0.19 (U)	0.62 (J)	<0.19 (U)	<0.19 (U)	<0.19 (U)	3.5
6/26/2018	0.6 (J)	0.45 (J)	<0.19 (U)	0.23 (J)	0.26 (J)	2.6
7/26/2018	<0.19 (U)	<0.19 (U)	<0.19 (U)	<0.19 (U)	0.25 (J)	1.7
9/11/2018	0.36 (J)	1.3	<0.19 (U)	0.29 (J)	0.26 (J)	20.8 (X)
11/28/2018	0.11 (J)	0.25 (J)	<0.078 (U)	<0.078 (U)	0.22 (J)	0.5 (J)
1/9/2019	0.44 (J)	0.32 (J)	0.26 (J)	0.36 (J)	0.45 (J)	0.9 (J)
2/12/2019	0.24 (J)	0.52 (J)	0.23 (J)	0.62 (J)	0.14 (J)	2
12/11/2019						<0.98 (U)
12/12/2019	<0.98 (U)	<0.98 (U)	<0.98 (U)	<0.98 (U)	<0.98 (U)	
4/7/2020	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	1.1 (J)
10/13/2020	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)
4/6/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)
10/26/2021	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)	<1.1 (U)
4/21/2022	<1.1 (U)	2.8 (J)	<1.1 (U)			
4/22/2022				<1.1 (U)	<1.1 (U)	<1.1 (U)
10/10/2022				<1.1 (U)	<1.1 (U)	
10/11/2022	<1.1 (U)	<1.1 (U)				
10/12/2022			<1.1 (U)			<1.1 (U)

Within Limit

Tolerance Limit

Interwell Parametric



95% coverage. Most recent observation is compared with limit. Background Data Summary (based on natural log transformation): Mean=0.49, Std. Dev.=1.068, n=31. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9426, critical = 0.929. Report alpha = 0.05.

Constituent: Cobalt Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Cobalt (ug/L) Analysis Run 1/1/2023 2:46 PM

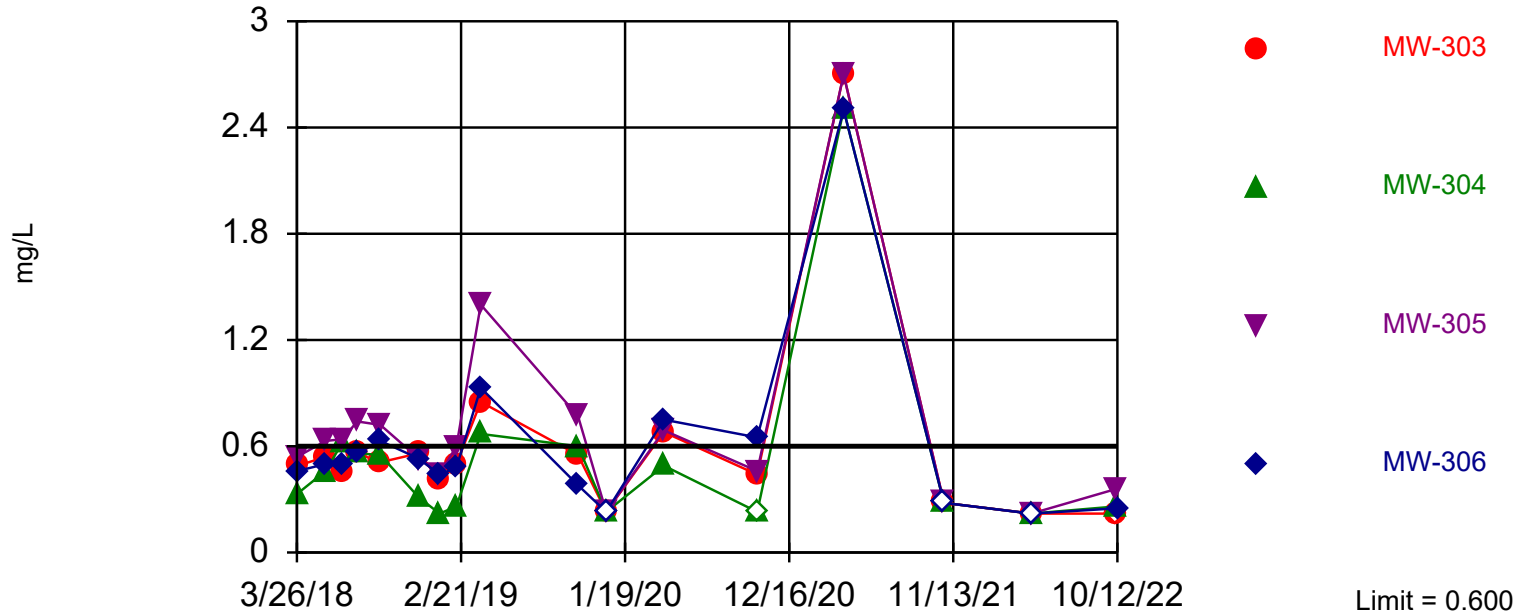
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	0.093 (J)	2.7				
3/27/2018			0.66 (J)	0.54 (J)	1.8	0.43 (J)
5/23/2018	<0.15 (U)	1.4	0.81 (J)	0.42 (J)	3.5	3.8
6/26/2018	0.22 (J)	0.74 (J)	0.6 (J)	0.48 (J)	5.7	1.6
7/26/2018	<0.15 (U)	0.83 (J)	0.64 (J)	0.65 (J)	3.4	3.5
9/11/2018	0.35 (J)	1.6	0.57 (J)	0.58 (J)	4.2	21.7 (X)
11/28/2018	0.45 (J)	2.8	0.57 (J)	0.89 (J)	8.4	1.1
1/9/2019	0.27 (J)	2.2	0.68 (J)	1.2	5	0.93 (J)
2/12/2019	0.23 (J)	2	0.72 (J)	1.4	6.2	2.6
12/11/2019						0.99
12/12/2019	0.41 (J)	1.5	0.75	0.95	1.3	
2/3/2020	0.19 (J)	1.6	0.85	1.3	3.7	0.75
4/7/2020	0.28 (J)	2.1	0.66	0.53	1.7	1.6
10/13/2020	0.11 (J)	0.6	0.68	1	0.77	0.28 (J)
4/6/2021	<0.091 (U)	1.7	0.71	0.31 (J)	4.7	0.18 (J)
10/26/2021	0.3 (J)	0.63	0.59	0.66	1.6	0.24 (J)
4/21/2022	<0.19 (U)	1.4	0.54			
4/22/2022				1.4	6.3	0.63
10/10/2022				1.1	1.8	
10/11/2022	<0.19 (U)	0.62				
10/12/2022			0.42 (J)			0.25 (J)

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Most recent observation is compared with limit. Limit is highest of 32 background values. 34.38% NDs. 86.52% coverage at alpha=0.01; 91.21% coverage at alpha=0.05; 97.85% coverage at alpha=0.5. Report alpha = 0.1937.

Constituent: Fluoride Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Fluoride (mg/L) Analysis Run 1/1/2023 2:46 PM

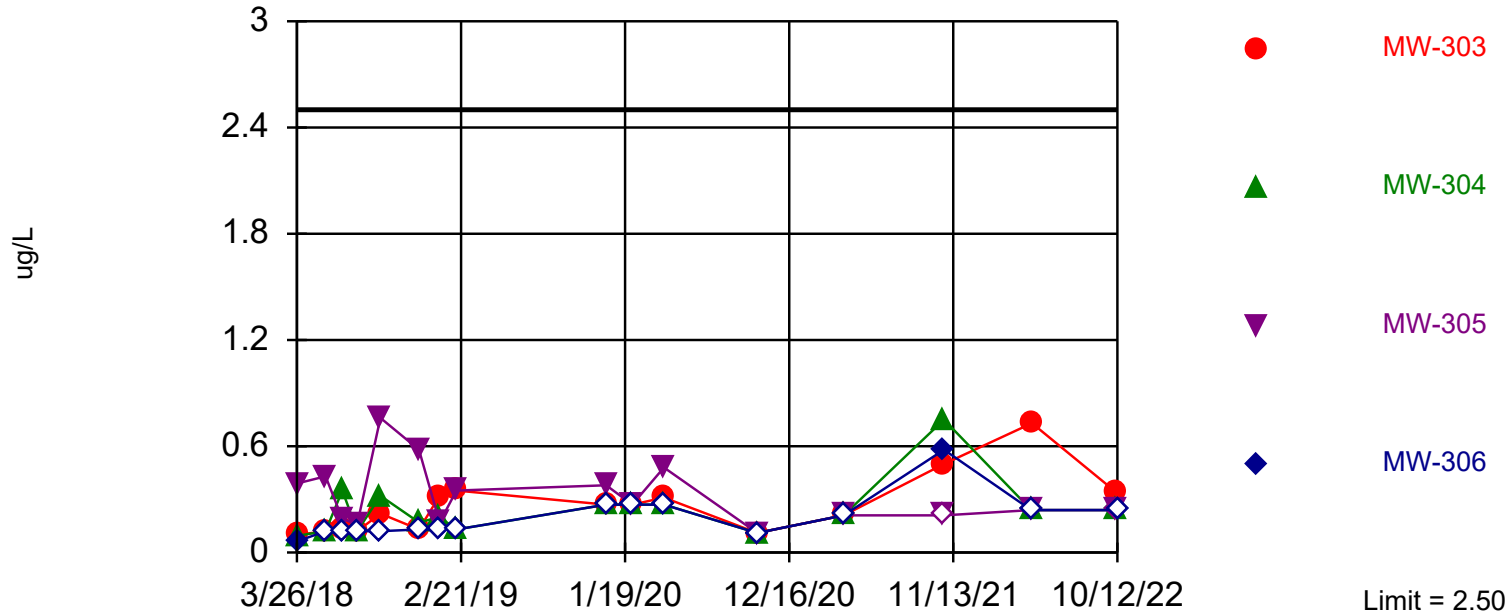
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	0.33	0.54				
3/27/2018			0.46	0.49	0.24	0.15 (J)
5/23/2018	0.46	0.63	0.5	0.54	0.24	0.22
6/26/2018	0.62	0.64	0.5	0.46	0.21	0.26
7/26/2018	0.56	0.74	0.56	0.56	0.24	0.27
9/11/2018	0.55	0.72	0.63	0.51	0.24	0.2 (J)
11/28/2018	0.31	0.53	0.53	0.56	0.22	0.2
1/9/2019	0.22	0.44	0.44	0.41	0.2	<0.19 (U)
2/12/2019	0.26	0.6	0.48	0.5	0.21	<0.19 (U)
4/2/2019	0.67	1.4	0.93	0.85	0.6	0.5
10/16/2019	0.6	0.77	0.38 (J)	0.55	0.28 (J)	0.27 (J)
12/11/2019						<0.23 (U)
12/12/2019	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	<0.23 (U)	
4/7/2020	0.49 (J)	0.69	0.75 (J)	0.68	0.55	0.41 (J)
10/13/2020	<0.23 (U)	0.46 (J)	0.65	0.44 (J)	0.3 (J)	<0.23 (U)
4/6/2021	2.5	2.7	2.5	2.7	2.5 (X)	2.5 (X)
10/26/2021	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)	<0.28 (U)
4/21/2022	<0.22 (U)	<0.22 (U)	<0.22 (U)			
4/22/2022				<0.22 (U)	<0.22 (U)	<0.22 (U)
10/10/2022				<0.22 (U)	<0.22 (U)	
10/11/2022	0.26 (J)	0.36 (J)				
10/12/2022			0.25 (J)			<0.22 (U)

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Most recent observation is compared with limit. Limit is highest of 31 background values. 45.16% NDs. 86.13% coverage at alpha=0.01; 90.82% coverage at alpha=0.05; 97.85% coverage at alpha=0.5. Report alpha = 0.2039.

Constituent: Lead Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Lead (ug/L) Analysis Run 1/1/2023 2:46 PM

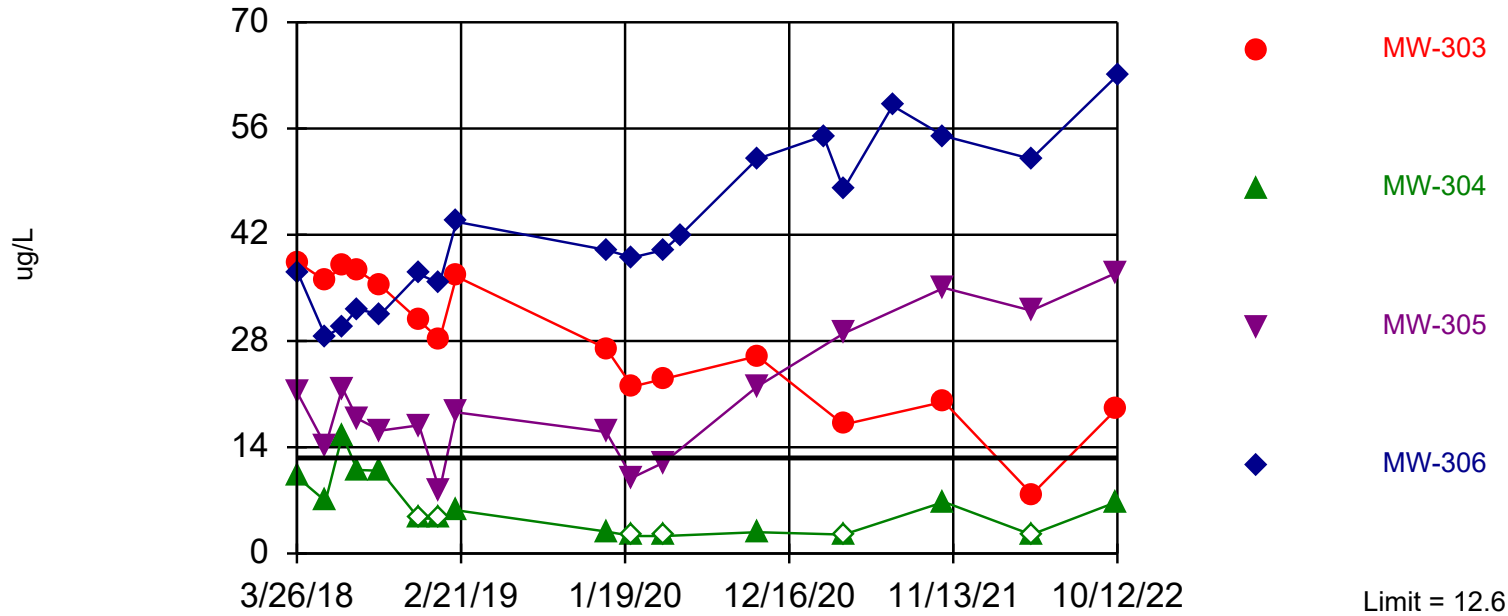
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	0.094 (J)	0.39 (J)				
3/27/2018			0.063 (J)	0.1 (J)	0.19 (J)	0.33 (J)
5/23/2018	<0.12 (U)	0.43 (J)	<0.12 (U)	<0.12 (U)	<0.12 (U)	2.5
6/26/2018	0.35 (J)	0.19 (J)	<0.12 (U)	0.13 (J)	<0.12 (U)	1.5
7/26/2018	<0.12 (U)	0.16 (J)	<0.12 (U)	<0.12 (U)	0.15 (J)	1.6
9/11/2018	0.32 (J)	0.76 (J)	<0.12 (U)	0.22 (J)	<0.12 (U)	19.1 (X)
11/28/2018	0.17 (J)	0.58 (J)	<0.13 (U)	<0.13 (U)	0.34 (J)	0.58 (J)
1/9/2019	0.2 (J)	0.17 (J)	<0.13 (U)	0.32 (J)	0.17 (J)	0.73 (J)
2/12/2019	<0.13 (U)	0.35 (J)	<0.13 (U)	0.35 (J)	<0.13 (U)	2
12/11/2019						0.46 (J)
12/12/2019	<0.27 (U)	0.38 (J)	<0.27 (U)	<0.27 (U)	<0.27 (U)	
2/3/2020	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	<0.27 (U)	0.34 (J)
4/7/2020	<0.27 (U)	0.48 (J)	<0.27 (U)	0.31 (J)	<0.27 (U)	0.5
10/13/2020	<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)	<0.11 (U)
4/6/2021	<0.21 (U)	<0.21 (U)	<0.21 (U)	<0.21 (U)	<0.21 (U)	<0.21 (U)
10/26/2021	0.75 (B)	<0.21 (U)	0.58 (B)	0.5 (B)	0.31 (J,B)	0.52 (B)
4/21/2022	<0.24 (U)	<0.24 (U)	<0.24 (U)			
4/22/2022				0.73	<0.24 (U)	0.26 (J)
10/10/2022				0.34 (J)	<0.24 (U)	
10/11/2022	<0.24 (U)	<0.24 (U)				
10/12/2022			<0.24 (U)			<0.24 (U)

Exceeds Limit: MW-303, MW-305, MW-306

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Most recent observation is compared with limit. Limit is highest of 32 background values. 31.25% NDs. 86.52% coverage at alpha=0.01; 91.21% coverage at alpha=0.05; 97.85% coverage at alpha=0.5. Report alpha = 0.1937.

Constituent: Lithium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Lithium (ug/L) Analysis Run 1/1/2023 2:46 PM

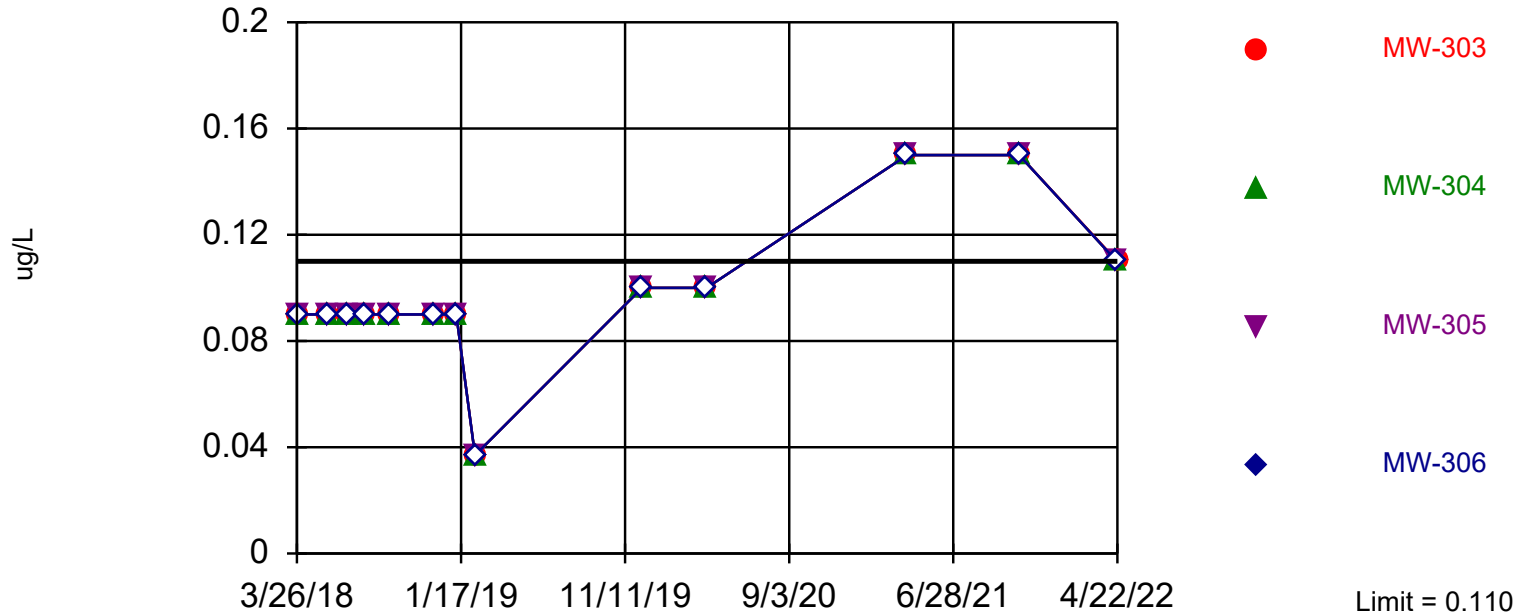
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-301 (bg)	MW-306	MW-303	MW-302 (bg)
3/26/2018	21.3	10.1				
3/27/2018			6.5 (J)	37.1	38.4	5.2 (J)
5/23/2018	14.2	6.9 (J)	<4.6 (U)	28.6	35.9	<4.6 (U)
6/26/2018	21.8	15.6	6.2 (J)	29.9	37.9	<4.6 (U)
7/26/2018	17.8	11	11.4	32.2	37.3	7.8 (J)
9/11/2018	16.2	10.9	12.6	31.5	35.3	<4.6 (U)
11/28/2018	16.9	<4.6 (U)	<4.6 (U)	36.8	30.7	<4.6 (U)
1/9/2019	8.3 (J)	<4.6 (U)	<4.6 (U)	35.6	28.2	<4.6 (U)
2/12/2019	18.6	5.7 (J)	7.7 (J)	43.7	36.5	7.5 (J)
12/11/2019			3.5 (J)			
12/12/2019	16	2.9 (J)		40	27	2.8 (J)
2/3/2020	10	<2.3 (U)	2.7 (J)	39	22	<2.3 (U)
4/7/2020	12	<2.3 (U)	3.4 (J)	40	23	<2.3 (U)
5/11/2020				42		
10/13/2020	22	2.8 (J)	3.2 (J)	52	26	2.8 (J)
2/24/2021				55		
4/6/2021	29	<2.5 (U)	2.5 (J)	48	17	2.8 (J)
7/14/2021				59		
10/26/2021	35	6.8 (J)	2.8 (J)	55	20	2.9 (J)
4/21/2022	32	<2.5 (U)		52		
4/22/2022			3 (J)		7.8 (J)	2.5 (J)
10/10/2022					19	2.8 (J)
10/11/2022	37	6.8 (J)				
10/12/2022			3.3 (J)	63		

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Most recent observation is compared with limit. All background values were censored; limit is most recent reporting limit. 83.79% coverage at alpha=0.01; 89.26% coverage at alpha=0.05; 97.46% coverage at alpha=0.5. Report alpha = 0.2635.

Constituent: Mercury Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Mercury (ug/L) Analysis Run 1/1/2023 2:46 PM

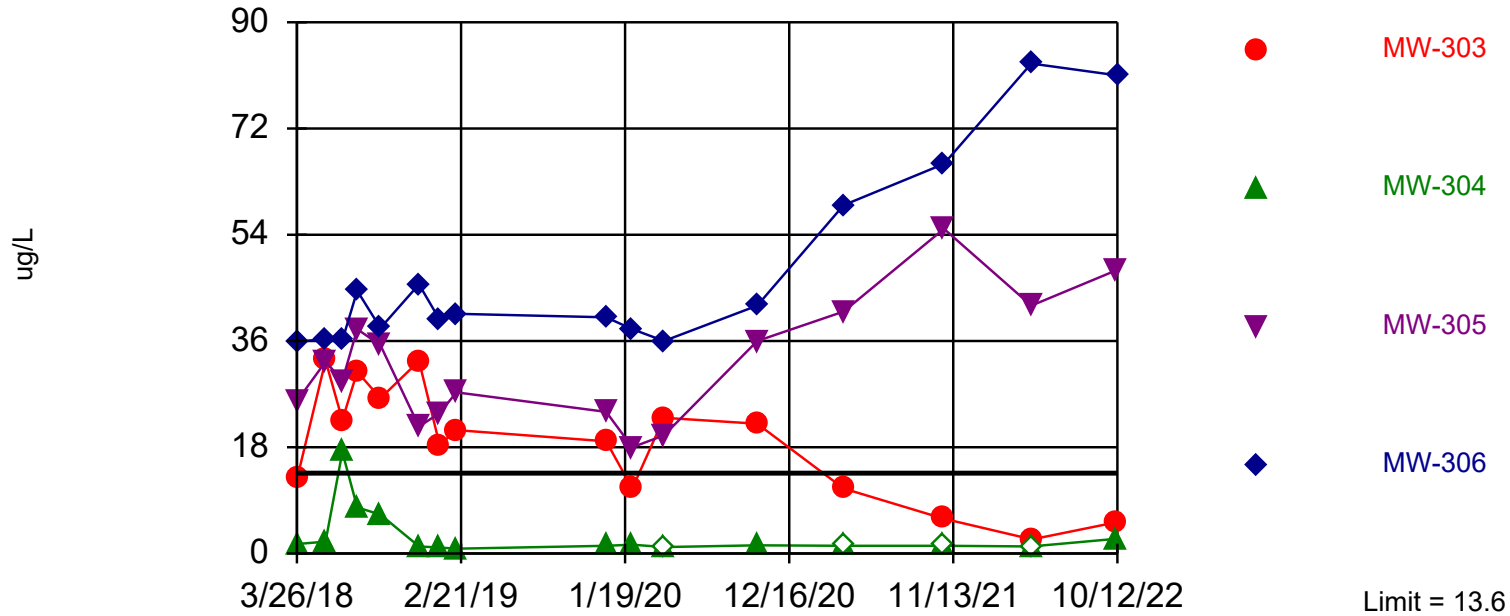
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-303	MW-302 (bg)	MW-306	MW-301 (bg)
3/26/2018	<0.09 (U)	<0.09 (U)				
3/27/2018			<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)
5/23/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)
6/26/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)
7/26/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)
9/11/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)
11/28/2018	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)
1/9/2019	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)	<0.09 (U)
2/12/2019	<0.037 (U)	<0.037 (U)	<0.037 (U)	<0.037 (U)	<0.037 (U)	<0.037 (U)
12/11/2019						<0.1 (U)
12/12/2019	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)	
4/7/2020	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)	<0.1 (U)
4/6/2021	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)
10/26/2021	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)	<0.15 (U)
4/21/2022	<0.11 (U)	<0.11 (U)			<0.11 (U)	
4/22/2022			<0.11 (U)	<0.11 (U)		<0.11 (U)

Exceeds Limit: MW-305, MW-306

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Most recent observation is compared with limit. Limit is highest of 32 background values. 53.13% NDs. 86.52% coverage at alpha=0.01; 91.21% coverage at alpha=0.05; 97.85% coverage at alpha=0.5. Report alpha = 0.1937.

Constituent: Molybdenum Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Molybdenum (ug/L) Analysis Run 1/1/2023 2:46 PM

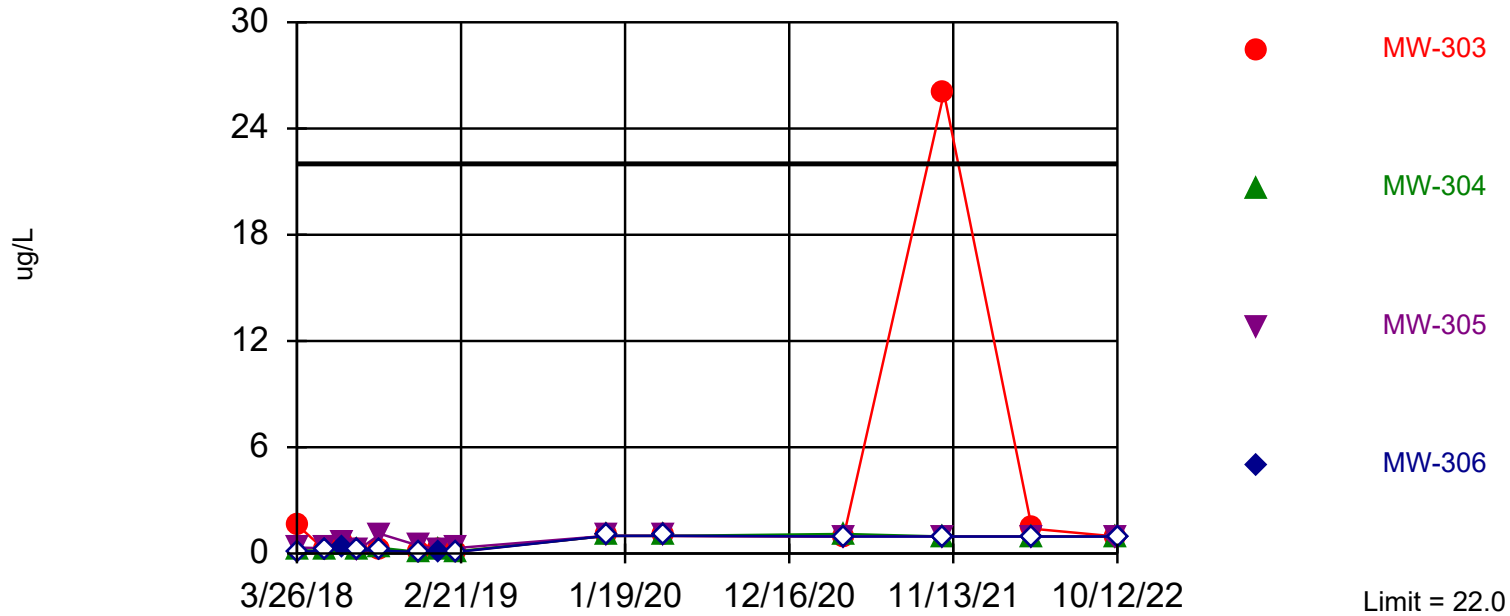
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-302 (bg)	MW-306	MW-303	MW-301 (bg)
3/26/2018	1.6	25.8				
3/27/2018			1.2	35.8	12.9	4.4
5/23/2018	2	32.5	1.2	36.4	32.7	1.4
6/26/2018	17.2	29.3	0.68 (J)	36.1	22.6	8.5
7/26/2018	7.8	38	1	44.5	30.8	0.44 (J)
9/11/2018	6.6	35.3	1.2	38.2	26.3	13.6
11/28/2018	1.2	21.5	<0.57 (U)	45.6	32.6	<0.57 (U)
1/9/2019	1 (J)	23.8	1.3	39.6	18.4	0.99 (J)
2/12/2019	0.82 (J)	27.3	0.76 (J)	40.6	20.9	3.6
12/11/2019						<1.1 (U)
12/12/2019	1.3 (J)	24	<1.1 (U)	40	19	
2/3/2020	1.5 (J)	18	<1.1 (U)	38	11	<1.1 (U)
4/7/2020	<1.1 (U)	20	<1.1 (U)	36	23	<1.1 (U)
10/13/2020	1.4 (J)	36	<1.1 (U)	42	22	2.5
4/6/2021	<1.3 (U)	41	<1.3 (U)	59	11	<1.3 (U)
10/26/2021	<1.3 (U)	55	<1.3 (U)	66	5.9	<1.3 (U)
4/21/2022	<1.2 (U)	42		83		
4/22/2022			<1.2 (U)		2.4	<1.2 (U)
10/10/2022			<1.2 (U)		5.3	
10/11/2022	2.5	48				
10/12/2022				81		<1.2 (U)

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Most recent observation is compared with limit. Limit is highest of 28 background values. 21.43% NDs. 84.96% coverage at alpha=0.01; 90.04% coverage at alpha=0.05; 97.46% coverage at alpha=0.5. Report alpha = 0.2378.

Constituent: Selenium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Selenium (ug/L) Analysis Run 1/1/2023 2:46 PM

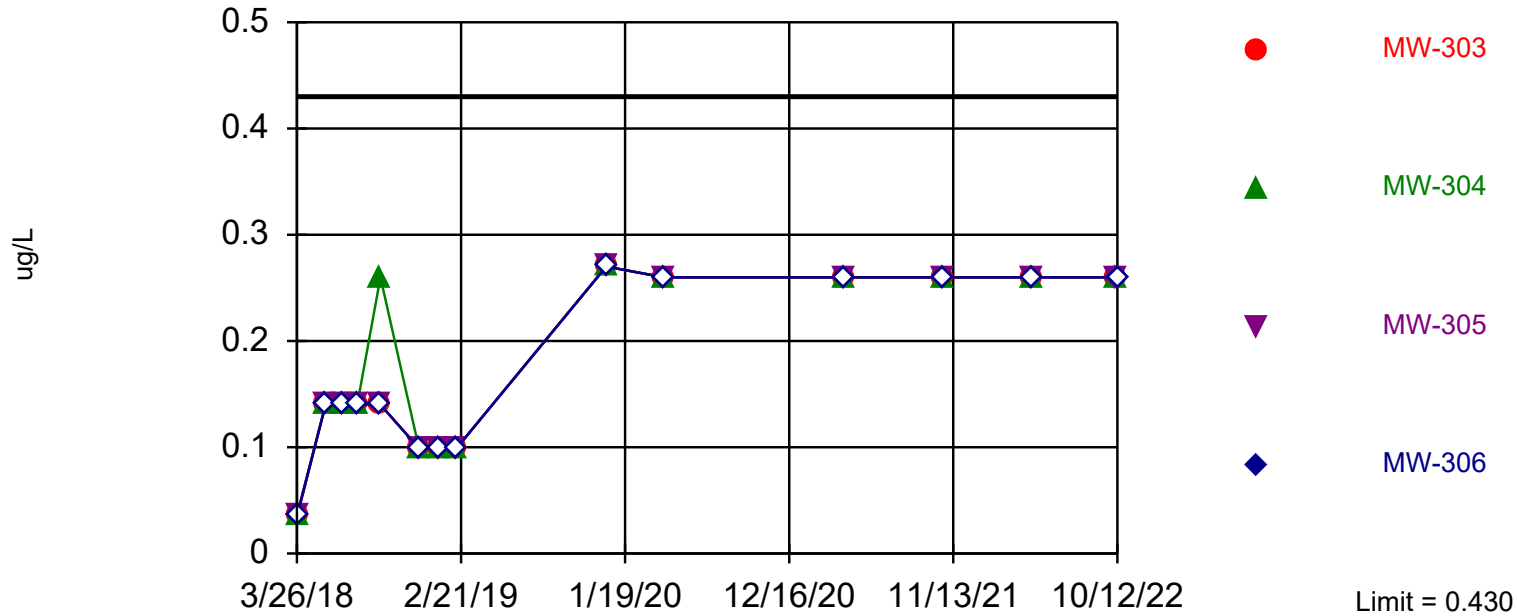
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-301 (bg)	MW-303	MW-302 (bg)	MW-306
3/26/2018	0.34 (J)	0.18 (J)				
3/27/2018			2.7	1.6	8	<0.086 (U)
5/23/2018	0.3 (J)	<0.16 (U)	3.3	<0.16 (U)	1	<0.16 (U)
6/26/2018	0.59 (J)	0.5 (J)	2.3	0.61 (J)	3.9	0.38 (J)
7/26/2018	<0.16 (U)	<0.16 (U)	5.8	<0.16 (U)	0.56 (J)	<0.16 (U)
9/11/2018	1.1	0.32 (J)	8.3	0.18 (J)	0.58 (J)	<0.16 (U)
11/28/2018	0.44 (J)	<0.085 (U)	1.8	<0.085 (U)	0.73 (J)	<0.085 (U)
1/9/2019	0.24 (J)	0.21 (J)	1.2	0.18 (J)	0.88 (J)	0.13 (J)
2/12/2019	0.31 (J)	0.12 (J)	0.81 (J)	0.097 (J)	0.67 (J)	<0.085 (U)
12/11/2019			<1 (U)			
12/12/2019	<1 (U)	<1 (U)		<1 (U)	<1 (U)	<1 (U)
4/7/2020	<1 (U)	<1 (U)	<1 (U)	<1 (U)	<1 (U)	<1 (U)
4/6/2021	<0.96 (U)	1.1 (J)	<0.96 (U)	<0.96 (U)	2.5 (J)	<0.96 (U)
10/26/2021	<0.96 (U)	<0.96 (U)	2.8 (J)	26	1.3 (J)	<0.96 (U)
4/21/2022	<0.96 (U)	<0.96 (U)				<0.96 (U)
4/22/2022			1.3 (J)	1.4 (J)	22	
10/10/2022				<0.96 (U)	<0.96 (U)	
10/11/2022	<0.96 (U)	<0.96 (U)				
10/12/2022			11			<0.96 (U)

Within Limit

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Most recent observation is compared with limit. Limit is highest of 28 background values. 92.86% NDs. 84.96% coverage at alpha=0.01; 90.04% coverage at alpha=0.05; 97.46% coverage at alpha=0.5. Report alpha = 0.2378.

Constituent: Thallium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Thallium (ug/L) Analysis Run 1/1/2023 2:46 PM

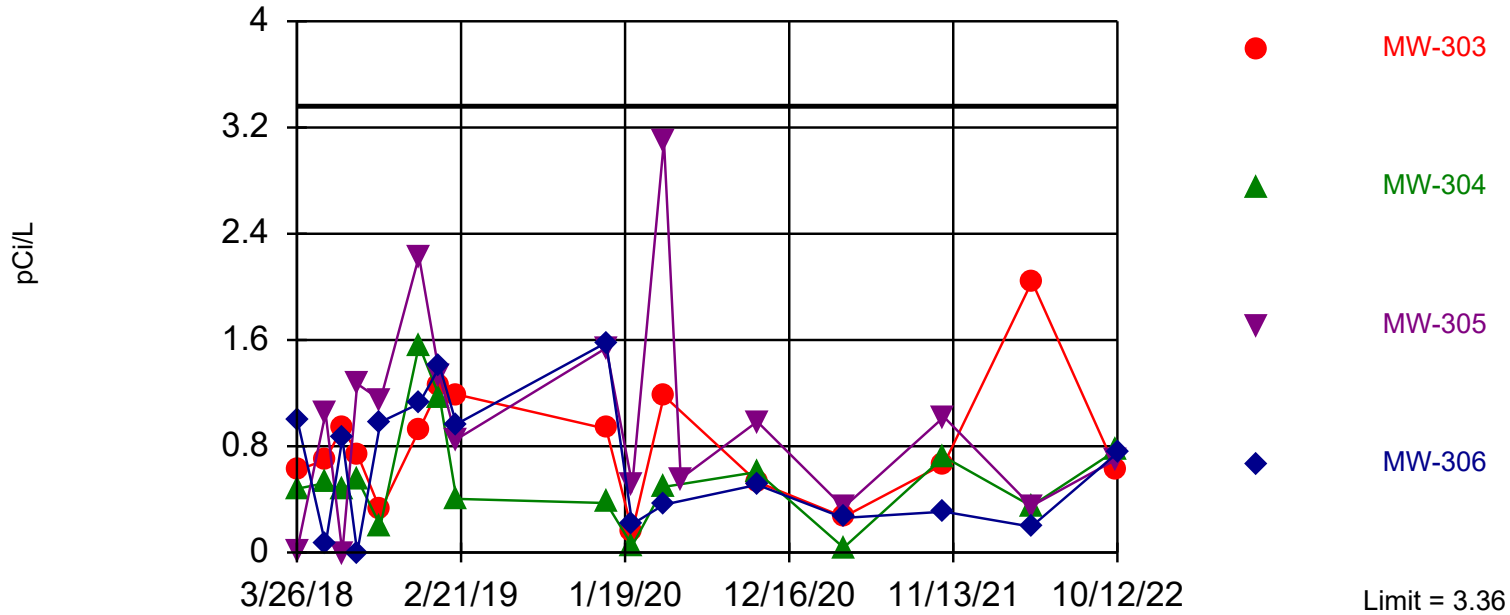
Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-305	MW-304	MW-301 (bg)	MW-303	MW-302 (bg)	MW-306
3/26/2018	<0.036 (U)	<0.036 (U)				
3/27/2018			<0.036 (U)	<0.036 (U)	<0.036 (U)	<0.036 (U)
5/23/2018	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)
6/26/2018	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)
7/26/2018	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)	<0.14 (U)
9/11/2018	<0.14 (U)	0.26 (J)	0.43 (J)	<0.14 (U)	<0.14 (U)	<0.14 (U)
11/28/2018	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)
1/9/2019	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)	<0.099 (U)
2/12/2019	<0.099 (U)	<0.099 (U)	0.11 (J)	<0.099 (U)	<0.099 (U)	<0.099 (U)
12/11/2019			<0.27 (U)			
12/12/2019	<0.27 (U)	<0.27 (U)		<0.27 (U)	<0.27 (U)	<0.27 (U)
4/7/2020	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)
4/6/2021	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)
10/26/2021	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)	<0.26 (U)
4/21/2022	<0.26 (U)	<0.26 (U)				<0.26 (U)
4/22/2022			<0.26 (U)	<0.26 (U)	<0.26 (U)	
10/10/2022				<0.26 (U)	<0.26 (U)	
10/11/2022	<0.26 (U)	<0.26 (U)				
10/12/2022			<0.26 (U)			<0.26 (U)

Within Limit

Tolerance Limit

Interwell Parametric



95% coverage. Most recent observation is compared with limit. Background Data Summary (based on natural log transformation): Mean=-0.2942, Std. Dev.=0.6853, n=32. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9864, critical = 0.93. Report alpha = 0.05.

Constituent: Total Radium Analysis Run 1/1/2023 2:45 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

Tolerance Limit

Constituent: Total Radium (pCi/L) Analysis Run 1/1/2023 2:46 PM

Sutherland Generating Station Client: SCS Engineers Data: SUT- Chempoint- export-Dec2020

	MW-304	MW-305	MW-306	MW-303	MW-302 (bg)	MW-301 (bg)
3/26/2018	0.48	0.0087				
3/27/2018			0.996	0.618	0.304	0.18
5/23/2018	0.523	1.05	0.0586	0.699	0.926	0.429
6/26/2018	0.466	0	0.86	0.941	0.68	0.637
7/26/2018	0.556	1.27	0	0.744	0.856	3.32
9/11/2018	0.201	1.15	0.982	0.317	1.59	2.53
11/28/2018	1.56	2.23	1.12	0.921	1.47	0.875
1/9/2019	1.17	1.33	1.4	1.25	1.96	1.79
2/12/2019	0.404	0.852	0.966	1.19	0.943	1.1
12/11/2019						1.06
12/12/2019	0.373	1.54	1.58	0.931	0.828	
2/3/2020	0.0516	0.51	0.214	0.159	0.808	0.388
4/7/2020	0.494	3.1	0.36	1.18	0.547	0.291
5/11/2020		0.557				
10/13/2020	0.606	0.986	0.51	0.531	0.58	0.463
4/6/2021	0.0369	0.34	0.261	0.268	0.6	0.256
10/26/2021	0.721	1.02	0.307	0.666	0.614	1.07
4/21/2022	0.35	0.349	0.194			
4/22/2022				2.04	0.663	0.244
10/10/2022				0.623	1.14	
10/11/2022	0.772	0.703				
10/12/2022			0.75			0.739