2021 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

UNIT 3 LANDFILL

Sherburne County (Sherco) Generating Plant Becker, Minnesota

Prepared for:

Northern States Power Company, a Minnesota Corporation

January 31, 2022



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Sherco Unit 3 Landfill Becker, Minnesota

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Geologist under the laws of the State of Minnesota.

Additionally, I certify that this report has been prepared to meet the requirements of § 257.90(e), Annual groundwater monitoring and corrective action report, as included in 40 CFR Part 257, Subpart D, Disposal of Coal Combustion Residuals from Electric Utilities.

PROFESSIONAL GEOLOGIST

Signature of Preparer:

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Date: January 31, 2022

TABLE OF CONTENTS

1. EXECU	JTIVE SUMMARY	1
2. INTRO	DUCTION	2
2.1 An	nual Groundwater Monitoring Report Requirements	2
3. SITE D	ESCRIPTION	5
3.1 Site	e Hydrogeology	5
4. MONI	TORING RESULTS	6
4.1 Co	mpliance with §257.90(e)	6
4.1.1	Groundwater Monitoring System (§257.90(e)(1))	6
4.1.2	Well Installation or Decommissioning (§257.90(e)(2))	6
4.1.3	Summary of Monitoring Data (§257.90(e)(3))	
4.1.4	Transition Between Monitoring Programs (§257.90(e)(4))	10
4.1.5	Other Information (§257.90(e)(5))	
5. DISCU	SSION	11
5.1 Ke	y Actions Completed	11
5.2 Pro	bblems	12
5.2.1	Problems Encountered	12
5.2.2	Resolution of Problems	13
5.3 Ke	y Activities for 2022	15
6.0 REFE	RENCES	16
	TABLES	
	TABLES	
Table 1	CCR Groundwater Monitoring System	
Table 2	Summary of Data Collected	
Table 3	Count of Parameters Analyzed by Well	
Table 4 Table 5	Spring 2021 Groundwater Summary Data Fall 2021 Groundwater Summary Data	
Table 5	Tail 2021 Gloundwater Summary Data	
	FIGURES	
Figure 1	Site Location Map	
Figure 2	CCR Groundwater Monitoring System	
Figure 3	Water Table Elevation Contour Map (3/22-24/2021)	
Figure 4	Water Table Elevation Contour Map (10/18-19/2021)	
Figure 5	Cell 4 Monitoring Network Modifications	

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APPENDICES

Appendix A – Spring 2021 Assessment Monitoring Event Laboratory Report and Field Datasheets Appendix B – Fall 2021 Assessment Monitoring Event Laboratory Report and Field Datasheets

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1. EXECUTIVE SUMMARY

Unit 3 Landfill at the Sherburne County Generating Plant is subject to the groundwater monitoring and corrective action requirements under U.S. Code of Federal Regulations, Title 40, Parts §257.90 to §257.98. Unit 3 Landfill operated under the assessment monitoring program in §257.95 throughout the annual reporting period beginning on January 1, 2021 and ending on December 31, 2021. Since Unit 3 Landfill was operated under the assessment monitoring program in §257.95 during all of 2021, statistically significant increases over background were not evaluated or determined for Appendix III to 40 CFR §257 constituents pursuant to §257.94(e) (i.e. detection monitoring). Statistical analysis performed on year 2021 groundwater data indicates no exceedances of groundwater protection standards for any constituents listed in Appendix IV to 40 CFR §257 and, as such, no remedies were selected pursuant to §257.97 and no remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.

2. INTRODUCTION

This report presents the documentation of the status of groundwater monitoring and corrective action for the year 2021 (YR2021) for Unit 3 Landfill (Landfill) at the Sherburne County Generating Plant (Sherco) located in Becker, Minnesota. The Landfill is jointly owned by Northern States Power Company, a Minnesota Corporation (NSPM), and Southern Minnesota Municipal Power Agency (SMMPA), and is operated by NSPM.

The Landfill is an existing coal combustion residuals (CCR) landfill and is required to comply with provisions of the U.S. Code of Federal Regulations (CFR), Title 40, Parts 257 and 261 relating to disposal of coal combustion residuals from electric utilities. In particular, this report addresses the requirements of 40 CFR Section 257.90(e), annual groundwater monitoring and corrective action for YR2021.

This report has been prepared in general accordance with the reporting procedures outlined in the Sherco Unit 3 Landfill CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2021c). Any deviations from the requirements of the Groundwater Sampling and Analysis Plan are described in subsequent sections of this report.

2.1 Annual Groundwater Monitoring Report Requirements

According to §257.90(e), CCR units must prepare an annual groundwater monitoring and corrective action report each year that complies with the following:

"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:

- (1) 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;
- (2) 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;
- (3) 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;
- **(4)** 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); and
- **(5)** Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.
- (6) 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. At a minimum, the summary must specify all of the following:
 - (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;
 - (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;
 - (iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):
 - (A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and
 - (B) Provide the date when the assessment monitoring program was initiated for the CCR unit.
 - (iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:
 - (A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase;
 - (B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;
 - (C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and
 - (D) Provide the date when the assessment of corrective measures was completed for the CCR unit.
 - (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
 - (vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

Section 5.4 of the CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2021c) also includes a list of items to be included in the annual report that is similar to items 1 through 5 above, with the addition of a water table contour map using data collected from the current year.

In this report, Section 3 (Site Description) briefly describes the site location and hydrogeologic setting, Section 4 (Monitoring Results) discusses the reporting requirements of the CCR Sampling Plan and §257.90(e), and Section 5 (Discussion) summarizes key actions completed in YR2021, describes any problems reported in YR2021 and the actions to resolve the problems, and key activities projected for 2022.

3. SITE DESCRIPTION

The Landfill is located in the City of Becker, Sherburne County, Minnesota. It is approximately 94 acres in size and is part of a larger generating plant site. The Landfill is comprised of five cells (1, 2A, 2B, 2C and 3) in which cell 1 was constructed in 1987 and cell 3 was most recently constructed in 2009. The Landfill location is shown on Figure 1 and an aerial photograph and site layout map for Landfill are shown on Figure 2.

3.1 Site Hydrogeology

The site hydrogeology is discussed in more detail in the Sherco Unit 3 Landfill Groundwater Monitoring System Certification (Carlson McCain, 2017), which was prepared for compliance with 40 CFR §257.91. Facility hydrogeology is briefly summarized below for convenience. Unless otherwise cited, the data presented in this section is credited to Carlson McCain, 2017.

The Landfill is located in the Anoka Sand Plain physiogeographic region. The site consists of moderate to highly permeable alluvial deposits above and below a low-permeability glacial till. Precambrian granite, the first bed rock encountered, is considered impermeable. Groundwater flows south-southwest beneath the Landfill toward the Mississippi River, which is the regional groundwater discharge for the surficial sand and gravel aquifer. The till layer exhibits variable thickness and is absent in some locations. Groundwater travel velocities range from approximately 291 to 1,020 feet per year.

The conceptual model for the hypothetical (or potential) release of a constituent of concern (COC) from the Landfill focuses on groundwater as the transport mechanism. The water table beneath the Landfill is typically 5 to 10 feet above the glacial till layer. Exfiltration from the Landfill area is anticipated to move vertically downward from the base until it reaches the water table contact. No glacial till has been identified in the vadose zone, which would impede or redirect the infiltrating leachate. Upon reaching the water table, a COC would likely travel mainly horizontally toward the south-southwest and towards the Mississippi River.

4. MONITORING RESULTS

Section 4.1 below presents the monitoring results obtained during YR2021 in terms of the specific requirements of §257.90(e) that are to be included in this report.

4.1 Compliance with §257.90(e)

4.1.1 Groundwater Monitoring System (§257.90(e)(1))

The area of the Landfill and all upgradient and downgradient monitoring well locations included in the Landfill CCR groundwater monitoring system are shown and labeled on Figure 2. A summary of the monitoring wells included in the Landfill CCR Groundwater Monitoring System is included in Table 1.

4.1.2 Well Installation or Decommissioning (§257.90(e)(2))

On November 1-4, 2021, monitoring wells P-73A-1, P-74-1, P-75-1, P-97, and P-98 at the Landfill were replaced in the same locations but with deeper wells P-73A-2, P-74-2, P-75-2, P-97-1, and P-98-1. Low groundwater levels as described in Section 5.2, uncertainty of when those low groundwater levels would recover and NSPM's desire to remain compliant with CCR regulations prompted NSPM's decision to replace the five monitoring system wells. The old wells were over-drilled to the bottom of the wells, old well materials were removed, and then drilled deeper to facilitate installation of new monitoring wells in the deeper boreholes. A Monitoring Well Replacement Report (Carlson McCain, 2021e) was prepared to document the well replacement activities and was placed in the Landfill's operating record for compliance with §257.91(e)(1).

No other monitoring wells that are part of the groundwater monitoring system for the Landfill were installed or decommissioned during YR2021.

4.1.3 Summary of Monitoring Data (§257.90(e)(3))

Monitoring data collected during YR2021 is summarized in Tables 2 and 3 and results are provided in Tables 4 and 5. Table 2 summarizes the data collected and includes the number of groundwater samples that were collected for analysis for each upgradient and downgradient well, the dates the samples were collected, and whether the samples were required by the detection monitoring (i.e. constituents listed Appendix III to 40 CFR §257, hereafter referred to as "Appendix III constituents") or assessment monitoring (i.e. constituents listed in Appendix IV of 40 CFR §257, hereafter referred to as "Appendix IV constituents") programs. Table 3 summarizes the analytical parameters and the number of times that each parameter was analyzed for each well in the groundwater monitoring system. A summary of the spring 2021 monitoring results is provided on Table 4 and a summary of the fall 2021 monitoring results is provided on Table 5.

Assessment Monitoring Data

As discussed in a Technical Memorandum dated April 13, 2018 (Carlson McCain, 2018c), NSPM initiated an assessment monitoring program at the Landfill during YR2018, and assessment monitoring has continued since that time. Pursuant to the assessment monitoring semiannual sampling requirements listed in §257.95(d)(1), the following groundwater sampling events were conducted during YR2021:

- All wells in the Landfill groundwater monitoring system were sampled during the spring monitoring event conducted on March 22-24 and May 7, 2021. Samples were analyzed for Appendix III constituents and Appendix IV constituents. Laboratory reports and field datasheets for the spring monitoring event are included in this report as Appendix A. The samples collected at wells P-74-1 and P-97 on May 7, 2021 are discussed further in Section 5.2 of this report.
- Well P-137A was resampled on June 10, 2021 as part of the spring assessment monitoring
 event and the sample was analyzed for all Appendix III constituents and Appendix IV
 constituents. The resample of well P-137A is discussed further in Section 5.2 of this report.
- All wells in the Landfill groundwater monitoring system were sampled during the fall monitoring event conducted on October 18-19 and November 11, 2021, and samples were analyzed for all Appendix III constituents and only those Appendix IV constituents detected during the spring 2021 assessment monitoring event. Laboratory reports and field datasheets for the fall monitoring event are included in this report as Appendix B. The samples collected at wells P-74-2 and P-97-1 on November 11, 2021 are discussed further in Section 5.2 of this report.

Recorded Concentrations, Background Concentrations and Groundwater Protection Standards Pursuant to §257.95(d)(3), the annual groundwater monitoring and corrective action report must include the recorded concentrations required by §257.95(d)(1), identify the background parameter concentrations established under §257.94(b) and identify the groundwater protection standards established under §257.95(d)(2).

- <u>Recorded Concentrations</u>: The concentrations for the spring and fall monitoring events that are recorded in the operating record are attached to this report as Appendices A and B, respectively, and summary tables of the data are also provided in Tables 4 and 5, respectively.
- Background Concentrations: The background wells at the Landfill include P-125, P-134, and P-141 and the background parameter concentrations were obtained as part of the baseline data set that was completed by collecting nine independent samples from each of the wells in the groundwater monitoring system from December 2016 through September 2017. Each of the baseline samples were analyzed for Appendix III and Appendix IV constituents. Laboratory reports and field datasheets for the baseline dataset, which includes all background concentrations, are provided in Appendix A of the 2017 CCR Annual

Groundwater Monitoring and Corrective Action Report (Carlson McCain, 2018b). The background dataset was evaluated and amended in December 2020 to include data obtained from the background wells during the fall 2017 and years 2018 and 2019. As part of the evaluation, data for each for each well and parameter was reviewed for outliers and trends, and certain outliers were discarded if a data point was determined to be an error.

• Groundwater Protection Standards: Pursuant to §257.95(h)(1) through §257.95(h)(3), groundwater protection standards have been established for each Appendix IV constituent as either: 1) the maximum contaminant level (MCL) established under 40 CFR §141.62 and §141.66, 2) for those constituents without an MCL (i.e. cobalt, lead, lithium, and molybdenum), the concentration listed in §257.95(h)(2), as amended on July 30, 2018, or 3) for constituents for which the background level is higher than the levels identified under 1) or 2), the background concentration.

The range of background concentrations for each Appendix III and Appendix IV constituent sampled pursuant to §257.94(b), as amended in December 2020, and the groundwater protection standard for each Appendix IV constituent are summarized on the following table.

	Parameter	Background Range	Groundwater Protection Standard
	Boron, total (mg/L)	<0.050 to 62.4	NA
III	Calcium, total (mg/L)	57.5 to 92.7	NA
Appendix III Parameters	Chloride, total (mg/L)	18.4 to 54.6	NA
ine ime	Fluoride, total (mg/L)	<0.750	NA
ppe ara	рН (lab) (рН)	7.73 to 7.94	NA
Ap Pe	Sulfate, total (mg/L)	13.4 to 50.3	NA
	Total Dissolved Solids (mg/L)	246 to 444	NA
	Antimony, total (mg/L)	< 0.0005	0.006
	Arsenic, total (mg/L)	0.0005 to 0.0012	0.01
	Barium, total (mg/L)	0.056 to 0.107	2
	Beryllium, total (mg/L)	< 0.0005	0.004
	Cadmium, total (mg/L)	<0.1000 to <0.0005	0.05
>	Chromium, total (mg/L)	0.0005 to 0.0026	0.1
Appendix IV Parameters	Cobalt, total (mg/L)	<0.0005 to 0.0009	0.006
ndi: net	Fluoride, total (mg/L)	< 0.750	4
yer fan	Lead, total (mg/L)	<0.0005	0.015
лрр Раз	Lithium Total (mg/L)	<0.015 to <0.051	0.04^{1}
√	Mercury, total (mg/L)	< 0.0002	0.002
	Molybdenum, total (mg/L)	< 0.0005	0.1
	Radium, 226 and 228 combined (pCi/L)	<0.87 to <2.12 ²	5
	Selenium, total (mg/L)	<0.0005 to 0.0007	0.05
	Thallium, total (mg/L)	<0.0005	0.002

- ¹ All §257.94(b) required background samples for lithium were obtained prior to amendment of §257.95(h)(2) on July 30, 2018, which implemented a groundwater protection standard of 0.04 mg/L for lithium. The analytical laboratory lowered the reporting limit for lithium from 0.05 mg/L to 0.015 mg/L in response to the rule amendment.
- ² The reporting limit for radium varies from sample to sample and several radium detections were reported between 0.87 and 2.12 pCi/L.

Statistical Analysis

Statistical analysis was performed on the YR2021 monitoring data using the procedures described in the Landfill's Statistical Analysis Plan (Carlson McCain, 2021d), and demonstrates compliance with §257.95(e), §257.95(f), and §257.95(g) as described below:

- 1. Subpart §257.95(e) (paraphrased): If the concentrations of all Appendix III and Appendix IV constituents are shown to be at or below background values for two consecutive monitoring events, the owner or operator may return to detection monitoring of the CCR unit.
 - a. Based on statistical comparisons of compliance data to background data for Appendix III and Appendix IV constituents, concentrations of one or more constituents continue to exceed background values, therefore the Landfill will not return to detection monitoring at this time.
- 2. Subpart §257.95(f) (paraphrased): If the concentrations of any Appendix III or Appendix IV constituent are above background values, but all concentrations are below the applicable groundwater protection standard, the owner or operator must continue assessment monitoring.
 - a. Based on statistical comparisons of Appendix III and Appendix IV constituent concentrations to groundwater protection standards, all concentrations are below the applicable groundwater protection standards, therefore the Landfill will continue assessment monitoring.
- 3. Subpart §257.95(g) (paraphrased): If one or more Appendix IV constituents are detected at statistically significant levels above the groundwater protection standard in any sampling event, the owner or operator must issue notifications of the exceedance(s) and initiate an assessment of corrective measures.
 - a. As stated in item 2.a, above, all Appendix III and Appendix IV concentrations are below applicable groundwater protection standards, therefore no additional notifications or assessment of corrective measures are required.

Groundwater Elevations and Flow Direction

Groundwater elevations and flow direction in the vicinity of the Landfill during the spring and fall of 2021 monitoring events are shown on the water table elevation contour maps in Figures 3 and 4, respectively. The contours were derived from water level measurements from the wells included in the CCR groundwater monitoring system for the Landfill along with other nearby monitoring wells and water level piezometers not included in the Landfill's CCR monitoring system. For both of the events, the flow direction was generally to the south. The flow direction is consistent with historical

data from over 20 years of monitoring at the facility and is also consistent with the regional groundwater flow direction toward the Mississippi River.

Groundwater elevations at the Landfill monitoring system wells were low during YR2021 compared to recent years and were calculated to be 2.2 to 3.6 feet above historic lows during the spring monitoring event. On average, groundwater elevations declined approximately 0.76 feet between the spring and fall monitoring events leaving the groundwater elevations about 1.4 to 2.8 feet above historic lows at the Landfill at the conclusion of the fall monitoring event. The low groundwater levels at the Landfill are consistent with drought conditions experienced throughout Minnesota during 2021. No significant changes in groundwater gradients or flow direction have been observed due to low groundwater levels in the vicinity of the Landfill.

4.1.4 Transition Between Monitoring Programs (§257.90(e)(4))

The Landfill first transitioned from the detection monitoring program (§257.94) to the assessment monitoring program (§257.95) in 2018, as described in Technical Memorandums dated January 15, 2018 (Carlson McCain, 2018a) and April 13, 2018 (Carlson McCain, 2018c). Since the initial transition to the assessment monitoring program (§257.95) during YR2018, the Landfill has not transitioned between monitoring programs and continues monitoring under the assessment monitoring program.

4.1.5 Other Information (§257.90(e)(5))

No other information is required to be reported in this CCR Annual Groundwater Monitoring and Corrective Action Report pursuant to §257.90 through §257.98.

5. DISCUSSION

§257.90(e) states that "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."

Pursuant to the rule requirements, Section 5.1 below discusses the key actions completed for the groundwater monitoring program at the Landfill; Section 5.2 discusses the any problems encountered with the groundwater monitoring and actions to resolve such problems; and Section 5.3 discusses key activities that may occur in the upcoming year.

5.1 Key Actions Completed

Key actions that were completed during YR2021 include the following items:

- The 2020 Annual CCR Groundwater Monitoring and Corrective Report (Carlson McCain, 2021a) was completed, placed in the facility's operating record on January 28, 2021, and posted on the Landfill's publicly available website by February 27, 2021.
- Monitoring wells were sampled during the spring event conducted on March 22-24 and May
 7, 2021 and analyzed for all Appendix III and Appendix IV constituents as required by
 §257.95(d)(1).
- Revisions to the Landfill's Groundwater Sampling and Analysis Plan (Carlson McCain, 2021c) and Statistical Analysis Plan (Carlson McCain, 2021d) were completed and dated March 29, 2021. The Statistical Analysis Plan was placed in the facility's operating record on March 29, 2021 and posted on the Landfill's publicly available website by April 27, 2021.
- Monitoring well P-137A, as part of the spring monitoring event, was resampled on June 10, 2021 and analyzed for all Appendix III and Appendix IV constituents.
- Monitoring wells were sampled during the fall event conducted on October 18-19 and November 11, 2021 and analyzed for all Appendix III constituents and only those Appendix IV constituents that were detected during the spring 2021 event as part of semiannual sampling required by §257.95(d)(1).
- On November 1-4, 2021, monitoring wells P-73A-1, P-74-1, P-75-1, P-97, and P-98 at the Landfill were replaced in the same locations with deeper wells P-73A-2, P-74-2, P-75-2, P-97-1, and P-98-1.
- A Monitoring Well Replacement Report (Carlson McCain, 2021e) describing the replacement of monitoring wells P-73A-1, P-74-1, P-75-1, P-97, and P-98 at the Landfill with wells P-73A-2, P-74-2, P-75-2, P-97-1, and P-98-1 was completed and placed in the operating record on December 6, 2021 for compliance with §257.91(e)(1).

- Laboratory reports and field datasheets for the spring and fall sampling events were placed in the operating record on July 8, 2021 and January 11, 2022, respectively.
- Statistical evaluation of the spring and fall monitoring event data was performed on July 8, 2021 and January 11, 2022, respectively, for compliance with §257.95(e) through (g).

5.2 Problems

5.2.1 Problems Encountered

P-137A Pump Issues

The dedicated bladder pump in well P-137A did not work at the time of the sampling on March 22, 2021 and, as a result, a submersible pump and associated tubing was used to obtain the sample from the well. The sample exhibited an abnormally high total suspended solids (TSS) concentration of 334 mg/L, which is possibly attributed to mobilization of sediment caused by the pulling the bladder pump out of the well and inserting the submersible pump. The abnormally high TSS was identified during data validation and the issue or inconsistency may impact the validity of the P-137A sampling data. Data validation procedures are described in Section 5.1.1 of the CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2020c). Any sample with a field turbidity result over 5 NTU or TSS detection over 5 mg/L indicates the presence of sediment that can interfere with the laboratory analysis possibly producing anomalous results of other sample constituents. As such, the spring sample from well P-137A was flagged as potentially invalid.

Low Groundwater Level Issues

Low groundwater levels prevented the dedicated bladder pumps installed in wells P-74-1 and P-97 from functioning and enabling collection of quality groundwater samples from the wells during the spring monitoring event. An initial attempt was made to sample wells P-74-1 and P-97 on March 22, 2021, however, the water levels on that date in each of the wells were below the top of the pumps likely preventing the bladder pumps from functioning. Sampling of the two wells was postponed to hopefully allow time for the low water levels to sufficiently recover before the end of the spring monitoring event window on May 15, 2021.

Low groundwater levels during the fall monitoring event also prevented the dedicated bladder pumps installed in wells P-74-1 and P-97 from functioning and collecting groundwater samples from the wells during the initial fall sampling effort on October 18-19, 2021. Wells P-74-1 and P-97 were intended to be replaced prior to the fall monitoring event, however, drilling contractor delays contributed to the replacements being completed after the initial fall sampling on November 1-4, 2021.

Obstruction in P-138A

The dedicated bladder pump in well P-138A did not work at the time of sampling on October 19, 2021. An attempt was made to remove the pump from the well, however, an apparent obstruction in the well prevented the pump from being removed. The tubing was pulled and eventually came

off the pump leaving the pump stuck near the bottom of the well. Well P-138A was inspected with a borescope camera on October 29, 2021. At the depth of the top of the well screen at 29.5 feet below the well top of riser, a mass of woody roots was observed with thicknesses up to about ½-inch. On November 5, 2021, treble hooks were used to try and fish the roots out the well, but efforts to remove the obstruction or the pump were unsuccessful. Due to the failure of the bladder pump in well P-138A and subsequent finding that the well is obstructed with roots, a water sample was not obtained from the well during the fall monitoring event.

Other Problems

No other significant problems with the groundwater monitoring system, or deviations from the CCR Groundwater Sampling and Analysis Plan were reported at the facility during YR2021. No corrective action was required at the facility during YR2021.

5.2.2 Resolution of Problems

P-137A Pump Issues

The bladder pump in well P-137A was removed from the well and was inspected during the spring monitoring event. It was determined the bladder had a stuck check ball in the top of the unit, and this prevented water from passing through the unit. The check ball was dislodged and the bladder pump reassembled, decontaminated, and reinstalled in the well. The well was purged and resampled on June 10, 2021 and the dedicated bladder pump functioned properly, resulting in a successful sample. The data from the June 10, 2021 resample reported low field turbidity and TSS results and other parameter concentrations appeared normal.

The June 10, 2021 resampling of well P-137A confirmed that the sample obtained on March 22, 2021 was of low quality and, as such, the March 22, 2021 sampling data from P-137A (with the exception of the static water level and water level elevation) was invalidated and removed from the data set. The June 10, 2021 sampling data was used during YR2021 data interpretation and will also continue to be used during future data interpretation.

Low Groundwater Level Issues

Groundwater levels did not sufficiently improve at wells P-74-1 and P-97 during the duration of the spring monitoring event window (March 15 to May 15) to sample the wells using the dedicated bladder pumps. As such, on May 7, 2021, the bladder pumps in wells P-74-1 and P-97 were removed and a submersible pump and associated tubing was used to obtain samples from the wells. The data reported low field turbidity and TSS results though TSS was detected in the sample from P-74-1 at a concentration of 12 mg/L. Other parameter concentrations in the samples generally appeared normal except some low-level detections of cobalt in both samples and additionally chromium and molybdenum in the sample from P-74-1. The results were accepted and were used for YR2021 data interpretation.

Ultimately, the action taken to resolve the low groundwater level issues was to replace monitoring wells P-73A-1, P-74-1, P-75-1, P-97, and P-98 in the same locations at the Landfill with deeper wells P-73A-2, P-74-2, P-75-2, P-97-1, and P-98-1. The old wells were over-drilled to the bottom of the wells, old well materials were removed, and then drilled deeper to facilitate installation of new monitoring wells in the deeper boreholes. Bladder pumps from wells P-73A-1, P-74-1, P-75-1, P-97, and P-98 were removed, deepened to the appropriate depths, and placed in their corresponding replacement wells P-73A-2, P-74-2, P-75-2, P-97-1, and P-98-1.

Samples from wells P-74-1 and P-97 were not obtained during the initial fall sampling work on October 18-19, 2021 due to the low groundwater levels. After replacement of wells P-74-1 and P-97 on November 1-4, 2021, samples were obtained from wells P-74-2 and P-97-1 for the fall monitoring event on November 11, 2021. Parameter concentrations in the samples from replacement wells P-74-2 and P-97-1 appeared normal as compared to previous results from wells P-74-1 and P-97; and the results were accepted and used for YR2021 data interpretation.

Obstruction in P-138A

Due to the failure of the bladder pump in well P-138A and subsequent finding that well is obstructed with roots, a water sample was not obtained from the well during the fall monitoring event. Statistical analysis of data from P-138A through the spring of 2021 monitoring event indicates that barium, calcium, and total dissolved solids are the only constituents to consistently exhibit concentrations above background water quality in this well, and those constituent concentrations are only slightly above background. Trend analysis indicates no trends (increasing or decreasing) for detectable Appendix III and Appendix IV constituents in the data from well P-138A. Monitoring results from well P-137A, which is located about 490 feet east of well P-138A, exhibited no new trends or increases in constituent concentrations during the fall monitoring event. Due to the relative lack of background exceedances and trends at wells P-138A prior to the fall monitoring event, and the lack of constituent concentration increases at well P-137A during the fall monitoring event; the likelihood of missing any constituent concentrations increases at well P-138A during the fall monitoring event appears to be low.

Well P-138A in its current state is unusable and needs to be sealed. Well P-138A along with wells P-117 and P-137A are slated to be sealed anyway sometime in the spring of 2022 due to planned construction of Landfill Cell 4 – Phase I in 2022. Replacement wells for P-117, P-137A and P-138A include wells P-142, P-143A, and P-144A, respectively, which are already installed along the south (i.e. downgradient) edge of future Cell 4, as shown on Figure 5. Depending on the timing of the start of Cell 4 – Phase I construction, either wells P-117, P-137A, and replacement well P-144A or alternately each of the replacement wells P-142, P-143A, and P-144A will be sampled during the spring of 2022 monitoring event. Replacement wells P-142, P-143A, and P-144A will be sampled during the fall of 2022 monitoring event.

5.3 Key Activities for 2022

The following key actions are anticipated at the Landfill in the year 2022:

- 1. Routine, semi-annual assessment monitoring events at monitoring system wells are planned in the spring between March 15 and May 15, 2022 and in the fall between September 15 and November 15, 2022.
- 2. Statistical analysis of monitoring results will be conducted to demonstrate compliance with §257.95(e) through (g).
- 3. Construction of Cell 4 Phase I is planned to begin in the spring of 2022.
- 4. In advance of Cell 4 Phase I construction, wells P-117, P-137A and P-138A will be sealed.
- 5. Placement of the Monitoring Well Installation Report (Carlson McCain, 2021b), documenting the installation of monitoring wells P-142, P-143A and P-144A as replacements in the Landfill's monitoring system for wells P-117, P-137A, and P-138A, in the operating record for compliance with §257.91(e)(1).
- 6. Update the groundwater monitoring system certification to incorporate wells P-142, P-143A and P-144A in the Landfill's monitoring system as replacements for wells P-117, P-137A, and P-138A; and record the updated certification in the Landfill's operating record and place the updated certification on the Landfill's CCR website.

6.0 REFERENCES

Carlson McCain, 2017. CCR Groundwater Monitoring System Certification, Sherco Unit 3 Landfill, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, October 16, 2017.

Carlson McCain, 2018a. SSI Determination – Unit 3 Landfill, Prepared for NSPM Environmental Services, Carlson McCain, Inc., January 15, 2018.

Carlson McCain, 2018b. CCR Annual Groundwater and Corrective Action Monitoring Report, Sherco Unit 3 Landfill, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, January 29, 2018.

Carlson McCain, 2018c. Alternate Source Demonstration Update – Unit 3 Landfill, Prepared for NSPM Environmental Services, Carlson McCain, Inc., April 13, 2018.

Carlson McCain, 2021a. 2020 CCR Annual Groundwater and Corrective Action Monitoring Report, Unit 3 Landfill, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, January 28, 2021.

Carlson McCain, 2021b. Monitoring Well Replacement Report, Unit 3 Landfill, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, February 17, 2021.

Carlson McCain, 2021c. CCR Groundwater Sampling and Analysis Plan – Revision #2, Unit 3 Landfill, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, March 29, 2021.

Carlson McCain, 2021d. Statistical Analysis Plan – Revision #1, Unit 3 Landfill, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, March 29, 2021.

Carlson McCain, 2021e. Monitoring Well Replacement Report, Unit 3 Landfill, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, December 6, 2021.

Tables

Table 1
CCR Groundwater Monitoring System
Sherco Unit 3 Landfill

	Minnesota		Loca	ntion	Elevation	Screen	Elevation	Elevation		
	Unique	Date	Site Coord	dinates (ft)	Top of	Length	Top of	Bottom of		Hydrologic
Well ID	Well ID	Installed	Easting	Northing	Riser Pipe	(ft)	Screen	Screen	Monitoring Status	Location
P-73A-1	429451	9/25/86	2025348	872626	973.00	10	947	937	Abandoned	Side-Gradient
P-73A-2	863060	11/3/2021	2025348	872627	974.18	10	942	932	Routine Semiannual	Side-Gradient
P-74-1	429457	9/25/86	2025237	870732	970.66	10	943	933	Abandoned	Side-Gradient
P-74-2	863061	11/2/2021	2025238	870732	971.98	10	935	925	Routine Semiannual	Side-Gradient
P-75-1	429454	9/29/86	2023946	871250	972.89	10	943	933	Abandoned	Down-Gradient
P-75-2	863062	11/1/2021	2023947	871250	973.85	10	938	928	Routine Semiannual	Down-Gradient
P-97	426839	10/13/86	2023990	870840	974.65	10	944	934	Abandoned	Down-Gradient
P-97-1	863064	11/1/2021	2023990	870840	974.77	15	942	927	Routine Semiannual	Down-Gradient
P-98	426838	10/14/86	2024683	870531	973.37	10	940	930	Abandoned	Down-Gradient
P-98-1	863065	11/2/2021	2024684	870532	973.73	10	936	926	Routine Semiannual	Down-Gradient
P-117	474026	2/8/91	2023987	872256	973.41	10	940	930	Routine Semiannual	Down-Gradient
P-120	474023	2/11/91	2024299	870529	973.33	10	933	923	Routine Semiannual	Down-Gradient
P-125	517548	4/1/93	2024679	873649	972.20	10	933	923	Routine Semiannual	Up-gradient
P-134	747065	12/6/08	2022754	873698	973.85	10	946	936	Routine Semiannual	Up-gradient
P-137A	768518	7/29/09	2023473	872511	972.64	10	941	931	Routine Semiannual	Down-Gradient
P-138A	768520	7/27/09	2022968	872512	969.27	10	942	932	Routine Semiannual	Down-Gradient
P-141	822160	7/22/16	2023787	873696	975.17	10	947	937	Routine Semiannual	Up-gradient

*Notes:

Elevation is feet above mean sea level

Wells P-73A-1, P-74-1, P-75-1, P-97 and P-98 were replaced in the same locations with wells P-73A-2, P-74-2, P-75-2, P-97-1 and P-98-1 on November 1-4, 2021.

Table 2 Summary of Data Collected Sherco Unit 3 Landfill

		Upgradient &	: Sidegradient Wells	
Well	Number of		Sample Dates	
ID	Samples	Spring 2021 ¹	Spring 2021 Resample ²	Fall 2021 ³
P-73A-1	2	3/22/2021		10/19/2021
P-74-1	2	5/7/2021		11/11/2021
P-125	2	3/22/2021		10/19/2021
P-134	2	3/22/2021		10/19/2021
P-141	2	3/22/2021		10/19/2021
			44 44	
	T	Downg	radient Wells	
Well	Number of		Sample Dates	
ID	Samples	Spring 2021 ¹	Spring 2021 Resample ²	Fall 2021 ³
P-75-1	2	3/24/2021		10/19/2021
P-97	2	5/7/2021		11/11/2021
P-98	2	3/23/2021		10/19/2021
P-117	2	3/22/2021		10/19/2021
P-120	2	3/23/2021		10/19/2021
P-137A	3	3/22/2021	6/10/2021	10/19/2021
P-138A	1	3/22/2021		NS ⁴

¹ Assessment monitoring event sampled and analyzed for appendix III and appendix IV of §257 constituents as required by §257.95(b).

² Well P-137A was resampled as part of the spring assessment monitoring event due to suspect data in the original March 22, 2021 sample.

³ Assessment monitoring semiannual resample event sampled and analyzed for appendix III of §257 and those appendix IV of §257 constituents detected during Spring 2021 as required by §257.95(d)(1).

⁴ No Sample. An obstruction in well P-138A prevented samples from being collected from the well during the fall monitoring event.

Table 3
Count of Parameters Analyzed by Well
Sherco Unit 3 Landfill

				Appen	dix III Par	ameters						
Da na marta n					Well	ID and Nu	mber of Sa	mples				
Parameter	P-73A-1	P-74-1	P-75-1	P-97	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A	P-141
Boron, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Calcium, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Chloride, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Fluoride, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
рН (lab) (рН)	2	2	2	2	2	2	2	2	2	3	1	2
Sulfate, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Total Dissolved Solids (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2

				Appen	dix IV Par	ameters						
Paga mastag					Well	ID and Nu	mber of Sa	mples				
Parameter	P-73A-1	P-74-1	P-75-1	P-97	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A	P-141
Antimony, total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Arsenic, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Barium, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Beryllium, total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Cadmium,total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Chromium, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Cobalt, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Lead, total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Lithium Total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Mercury, total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Molybdenum, total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Selenium, total (mg/L)	2	2	2	2	2	2	2	2	2	3	1	2
Thallium, total (mg/L)	1	1	1	1	1	1	1	1	1	2	1	1
Radium, 226 and 228 combined (pCi/L)	1	1	1	1	1	1	1	1	1	2	1	1

Table 4
Spring 2021 Groundwater Summary Data
Sherco Unit 3 Landfill

					I	Appendix II	I Parameters	3						
							ī	Well ID and	Sample Dat	e				
Parameter	Units	GWPS	P-73A-1	P-74-1	P-75-1	P-97	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A	P-141
			3/22/2021	5/7/2021	3/24/2021	5/7/2021	3/23/2021	3/22/2021	3/23/2021	3/22/2021	3/22/2021	6/10/2021	3/22/2021	3/22/2021
Boron, total	mg/L	NA	0.127	0.0851	< 0.0500	0.073	< 0.0500	< 0.0500	0.0724	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0569
Calcium, total	mg/L	NA	73.7	78.8	78.6	78.1	66.2	78.8	77.6	60.1	92.2	99.4	95.1	94.3
Chloride, total	mg/L	NA	19.9	21.6	32.9	29.9	24.3	37.3	29.7	25.2	41.7	52.1	49.8	55.1
Fluoride, total	mg/L	NA	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75
pH, Lab	pН	NA	7.89	7.64	7.91	7.69	7.9	7.91	7.91	8.04	7.95	7.64	7.88	7.97
Sulfate, total	mg/L	NA	36.6	18.5	25.2	26.3	15.8	21.1	36.2	12	32.6	32.4	31	79.4
Total Dissolved Solids	mg/L	NA	316	332	334	346	294	370	336	292	410	440	448	472

					I	Appendix IV	⁷ Parameters	3						
							1	Well ID and	Sample Dat	e				
Parameter	Units	GWPS	P-73A-1	P-74-1	P-75-1	P-97	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A	P-141
			3/22/2021	5/7/2021	3/24/2021	5/7/2021	3/23/2021	3/22/2021	3/23/2021	3/22/2021	3/22/2021	6/10/2021	3/22/2021	3/22/2021
Antimony, total	mg/L	0.006	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Arsenic, total	mg/L	0.01	0.00058	0.00064	0.00075	0.00076	0.00067	0.00072	0.00076	0.00071	0.00091	0.00088	0.00076	0.00079
Barium, total	mg/L	2	0.0615	0.0989	0.0868	0.0803	0.0814	0.0812	0.0775	0.0581	0.0962	0.11	0.111	0.0956
Beryllium, total	mg/L	0.004	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Cadmium,total	mg/L	0.005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Chromium, total	mg/L	0.1	0.00103	0.0103	0.0007	0.00188	0.00069	0.00064	0.00086	0.00062	< 0.00050	0.00102	0.00053	0.00122
Cobalt, total	mg/L	0.006	< 0.00050	0.00202	< 0.00050	0.00469	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Fluoride, total	mg/L	4	< 0.75	<0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75
Lead, total	mg/L	0.015	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Lithium, total	mg/L	0.04	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500	< 0.01500
Mercury, total	mg/L	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Molybdenum, total	mg/L	0.1	< 0.00050	0.001	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Selenium, total	mg/L	0.05	0.00056	< 0.00050	0.00065	0.00068	< 0.00050	< 0.00050	0.00101	< 0.00050	< 0.00050	0.0005	< 0.00050	0.00065
Thallium, total	mg/L	0.002	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Radium, 226 and 228 combined	pCi/L	5	<1.8	<2.0	<1.7	<1.7	<1.7	<1.7	<2.2	<1.9	<1.9	<1.5	<1.7	<1.8

						Field Par	rameters							
							ı	Vell ID and	Sample Dat	e				
Parameter	Units	GWPS	P-73A-1	P-74-1	P-75-1	P-97	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A	P-141
			3/22/2021	5/7/2021	3/24/2021	5/7/2021	3/23/2021	3/22/2021	3/23/2021	3/22/2021	3/22/2021	6/10/2021	3/22/2021	3/22/2021
ORP	mV	NA	195	214	187	205	195	185	202	191	185	208	29.41	188
Oxygen, dissolved	mg/L	NA	12	8	9.2	8.9	8.7	9.5	8.1	10.8	9.8	8.6	8.5	10.5
pH, field	pН	NA	7.6	7.4	7.6	7.4	7.6	7.6	7.5	7.8	7.6	6.8	7.5	7.6
Specific Cond, field	μmhos/cm	NA	580	610	650	660	550	650	620	520	740	350	790	810
Static Water Level	ft	NA	33.74	36.03	37.41	40.44	39.45	34.43	39.86	29.66	30.26	29.23	29.41	31.87
Temperature	degrees C	NA	7.9	12.3	7.1	12.9	10.2	9.9	9.9	9.5	9.1	11.7	9.9	8.6
Turbidity, field	NTU	NA	1.1	0.6	2.4	0.9	1.8	1.5	0.8	1.2	1.9	3.2	1.5	2.8
Water Level Elevation	ft	NA	939.26	934.63	935.48	934.21	933.92	938.98	933.47	942.54	943.59	943.41	939.86	943.3

GWPS = Groundwater Protection Standard

NA = Not Applicable

Two dashed lines = Not Analyzed

Downgradient Well

Table 5 Fall 2021 Groundwater Summary Data **Sherco Unit 3 Landfill**

					Ap	pendix III	Parameters	3						
							7	Well ID and	Sample Dat	e				
Parameter	Units	GWPS	P-73A-1	P-74-2	P-75-1	P-97-1	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A ¹	P-141
			10/19/2021	11/11/2021	10/19/2021	11/11/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/18/2021	10/19/2021
Boron, total	mg/L	NA	0.0765	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.123	< 0.0500	< 0.0500	0.165		0.121
Calcium, total	mg/L	NA	69.9	76.3	73.6	80.6	68.2	80.3	77.9	60.5	81.5	99.1		87.7
Chloride, total	mg/L	NA	15.6	27.6	31.1	35.7	30.5	43.6	29.7	29.5	37.6	36.3		57
pH, Lab	pН	NA	7.67	7.69	7.62	7.72	7.59	7.64	7.62	7.73	7.66	7.61		7.73
Sulfate, total	mg/L	NA	24.9	1.9 14.9 26.6 35 18.2 24.3 41 13.2 27.6 102 49.1										
Total Dissolved Solids	mg/L	NA	288	324	328	366	318	380	364	296	358	460		406

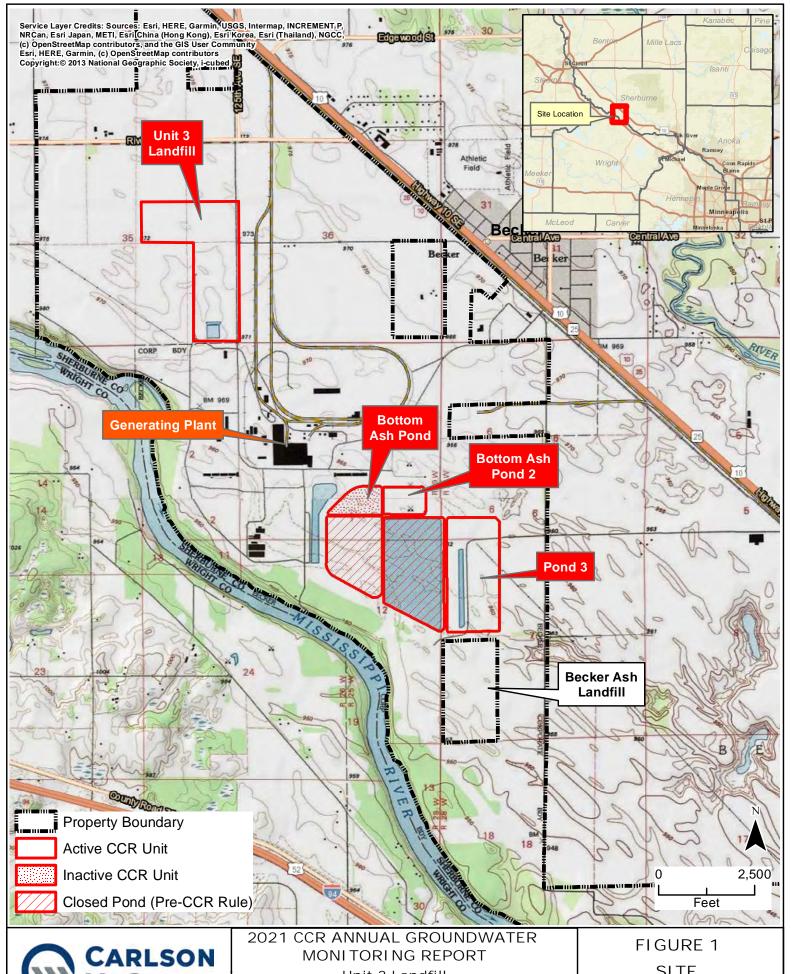
					Ap	pendix IV	Parameters	3						
							1	Well ID and	Sample Dat	e				
Parameter	Units	GWPS	P-73A-1	P-74-2	P-75-1	P-97-1	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A ¹	P-141
			10/19/2021	11/11/2021	10/19/2021	11/11/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/18/2021	10/19/2021
Antimony, total	mg/L	0.006	1	-										
Arsenic, total	mg/L	0.01	0.00104	0.00064	0.00093	0.00071	0.00074	0.00078	0.00083	0.00084	0.00107	0.00107		0.00089
Barium, total	mg/L	2	0.0615	0.0988	0.0864	0.094	0.082	0.0829	0.0824	0.0619	0.0881	0.122		0.0933
Beryllium, total	mg/L	0.004												
Cadmium,total	mg/L	0.005	1	-	-									
Chromium, total	mg/L	0.1	0.00239	0.00158	0.00109	0.00217	0.00125	0.00089	0.00094	0.00104	0.00097	0.00196		0.00188
Cobalt, total	mg/L	0.006	0.00087	<0.00050	<0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00067		0.00064
Fluoride, total	mg/L	4	1	-	-									
Lead, total	mg/L	0.015	1	-	-									
Lithium, total	mg/L	0.04												
Mercury, total	mg/L	0.002	1	-	-									
Molybdenum, total	mg/L	0.1	<0.00050	0.00053	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050		< 0.00050
Selenium, total	mg/L	0.05	<0.00050	<0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00133	< 0.00050	< 0.00050	0.00069		< 0.00050
Thallium, total	mg/L	0.002	1											
Radium, 226 and 228 combined	pCi/L	5												

				•		Field Para	meters	•	•	•				
							1	Well ID and	Sample Dat	e				
Parameter	Units	GWPS	P-73A-1	P-74-2	P-75-1	P-97-1	P-98	P-117	P-120	P-125	P-134	P-137A	P-138A ¹	P-141
			10/19/2021	11/11/2021	10/19/2021	11/11/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/19/2021	10/18/2021	10/19/2021
ORP	mV	NA	87	167	87	160	78	95	54	95	91	90		93
Oxygen, dissolved	mg/L	NA	10.1	8.6	9.3	6.5	8.7	8.6	8.1	10.2	8.4	8.5		9.6
pH, field	pН	NA	8	7.6	7.9	7.6	7.8	7.5	8.4	7.7	7.7	7.8		7.6
Specific Cond, field	μmhos/cm	NA	560	610	600	650	570	660	640	540	700	770		740
Static Water Level	ft	NA	34.5	38.22	37.85	41.2	40.19	35.04	40.6	30.72	31.2	33.36	29.4	32.75
Temperature	degrees C	NA	10.6	10.2	15.7	10	12.7	12.1	11.3	11.6	11.2	11.6		11.1
Turbidity, field	NTU	NA	2	3.2	1.8	3.6	2.9	3.5	1.9	5	5	1.5		1.7
Water Level Elevation	ft	NA	938.5	932.44	935.04	933.45	933.18	938.37	932.73	941.48	942.65	939.28	939.87	942.42
GWPS = Groundwater Protection	Standard	Two dashed lii	nes = Not Analy	zed	1 An obstruction	on in well P-138	A prevented sa	mples from beir	ng collected from	n the well duri	ng the fall moni	toring event.		

Downgradient Well

NA = Not Applicable

.	
H101114	α
F12ur	es
0	

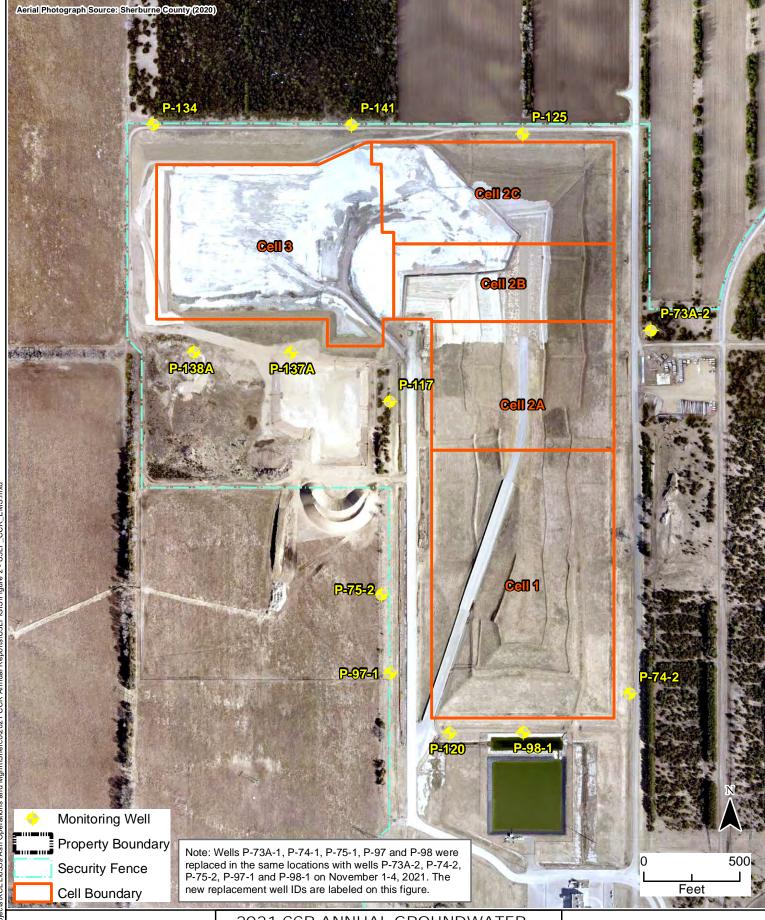




Unit 3 Landfill

Sherburne County Generating Plant Becker, Minnesota

SITE LOCATION MAP





2021 CCR ANNUAL GROUNDWATER
MONITORING REPORT
Sherco Unit 3 Landfill

Sherco Unit 3 Landfill Sherburne County Generating Plant Becker, Minnesota FIGURE 2

CCR GROUNDWATER

MONITORING SYSTEM

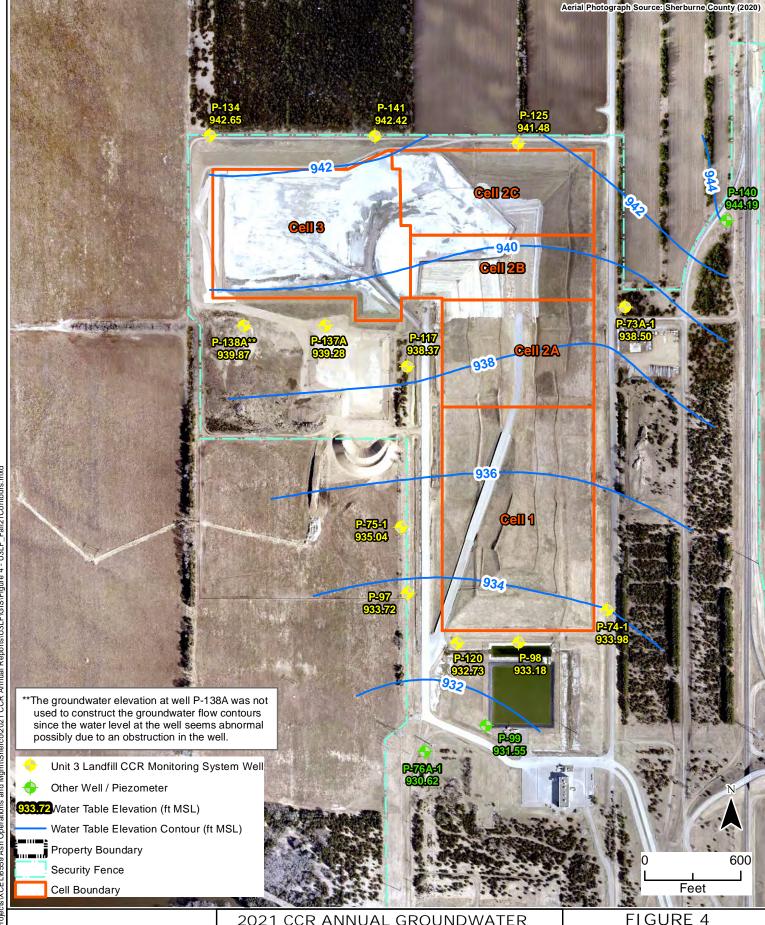




2021 CCR ANNUAL GROUNDWATER
MONITORING REPORT
Sherco Unit 3 Landfill
Sherburne County Generating Plant

Becker, Minnesota

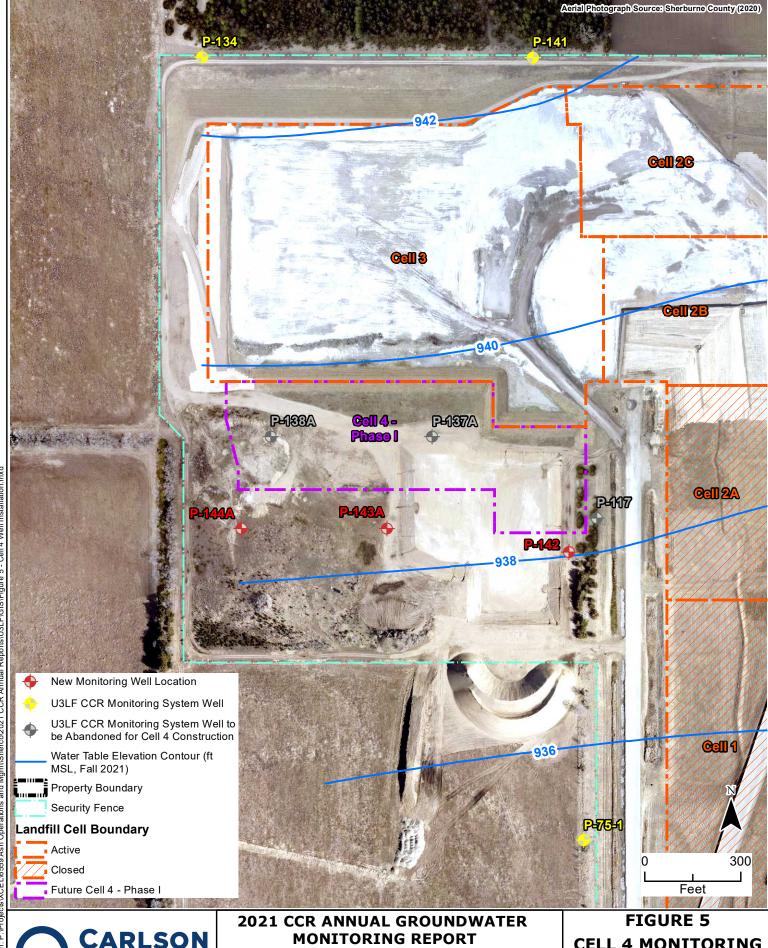
FIGURE 3 WATER TABLE ELEVATION CONTOUR MAP (3/22-24/2021)





2021 CCR ANNUAL GROUNDWATER MONITORING REPORT Sherco Unit 3 Landfill

Sherco Unit 3 Landfill Sherburne County Generating Plant Becker, Minnesota FIGURE 4 WATER TABLE ELEVATION CONTOUR MAP (10/18-19/2021)





Sherco Unit 3 Landfill

Sherburne County Generating Plant Becker, Minnesota

CELL 4 MONITORING NETWORK MODIFICATIONS

Appendix A

Spring 2021 Assessment Monitoring Event Field Datasheets and Laboratory Reports



Well Sampling Field Data Log Sheet

Clien Mo Purchase Day Purchase Day Purchase Day Purchase Day Tin	200 200 200 200 200		roject Sherco 3)				
	onitoring Point ID				7.66		-73A-1		
	Inside Diameter	(1112	nes) Key# 210	le	∠ Locked	d	Not Locked		
20	Casing Material:	₽VC	Steel	Stainless S					
		Depth Measurem	ent and Elevation	ns (from t	op of well	casing)	4		
2			Top of Casi				_Feet		
2	Total Well Depth 36.18 Feet								
	Static water level measurement before purging (Start Depth) 33.74 Feet								
	Static water level measurement at time of sampling (Final Depth) 33.74 Feet Static Water Level Elevation Before Purging NA Feet								
Pur	ge Method Tedin	cated Bladder Pun		ore ruiging	Pump ID	BPC-	_Feet		
Da	ate Purged	3/22/21	4	Wa	ter Column	2.44	Feet		
Tin	ne Purged 08:	35-0847			ing Volume	0.40			
P	ump Rate	0.15	GPM) LPM	Volu	me Purged	1.8	Gallons		
1	Date Sampled	3/2/21	Field	Paramete	r Measure	ments of	Sample		
	Time Sampled	0850	pH	17-6	(units)	D.O	12-0 (mg/l)		
	Sampling Equip.	Pump + Filter	Spec. Cond	. 580	_ (μmhos/cm)	Turbidity			
	Meter ID MPS-7 Temp. Observed 7.8 (°C) Eh 195 (mV)								
	Analyzed by R63 Temp. Corrected 7-7 (°C) Other M4								
	Field Measurements Temp. Corrected: Yes No NA								
	Sample for Soluble Metals Filtered in Field: X Yes No NA								
5 /	Temp	erature Correction F	actor: *o.\ °C						
vveat	Weather Conditions During Sampling: 36 Mostly Sunny, Welentel								
	unle Description:	-1 1	, , ,	WE COMP	-(
	ple Description:	clear no oder	/ - / / /	WE (o MP)	-(
	ple Description: Observations:	clear no oder	, = ,,	WE (0 PG)					
	Observations: _	XRadium Specifc Conductan	ce Temp (°C)	D.O.	Turbidity	Eh			
Sam	Observations: _ Observations: _	Specifc Conductan (µmhos/cm)	ce Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	(mV)	(cumulative gal)		
Sam Tim 083	Observations: Observations: pH (units) 7 7 5	Specific Conductan (µmhos/cm) 580	ce Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	(mV) 188	(cumulative gal)		
Tim 083	Observations: Observations: pH (units) 7.5 7.4	Specific Conductan (µmhos/cm) 580	Ce Temp (°C) (observed) 7. 7	D.O. (mg/l) 13. (Turbidity (NTU)	(mV) 188 192	(cumulative gal)		
Sam Tim 083	Observations: Observations: pH (units) 7 7 5 3 7 4	Specific Conductan (µmhos/cm) 580	ce Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	(mV) 188	(cumulative gal)		
Tim 083	Observations: Observations: pH (units) 7.5 7.4	Specific Conductan (µmhos/cm) 580	Ce Temp (°C) (observed) 7. 9 7. 8	D.O. (mg/l) 13. (12. Le 12. O	Turbidity (NTU)	(mV) 188 192	(cumulative gal)		
Tim 083	Observations: Observations: pH (units) 7.5 7.4	Specific Conductan (µmhos/cm) 580	Ce Temp (°C) (observed) 7. 9 7. 8	D.O. (mg/l) 13. [12. [_e 12. O	Turbidity (NTU)	(mV) 188 192	(cumulative gal)		
Tim 083 084	observations: Observations: Phe ph (units) 7 7 7 7 4 7 4 4	Specific Conductan (µmhos/cm) 580 580	Ce Temp (°C) (observed) 7. 9 7. 8 7. 8	D.O. (mg/l) 13. (12. Le 12. O	Turbidity (NTU)	(mV) 188 192	(cumulative gal)		
Tim O83 O84 O84	ple Description: Observations: PH (units) Records A A A A A A A A A A A A A A A A A A A	Specific Conductan (µmhos/cm) 580 580	ce Temp (°C) (observed) 7. 9 7. 8 7. 8	D.O. (mg/l) 13. (12. Le 12. O	Turbidity (NTU)	(mV) 188 192	1.20		
Tim O83 O84 O84 Camples cl	observations: Observations: Observations: pH (units) 7 7 7 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Specific Conductan (µmhos/cm) 580 580 580	Ce Temp (°C) (observed) 7. 9 7. 8 7. 8 Yes Ott	D.O. (mg/l) 13. (12. (c) 12. O	Turbidity (NTU)	(mV) 188 192	(cumulative gal)		
Tim O83 O84 O84 Camples cl	observations: Observations: Observations: pH (units) 7 7 7 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Specific Conductan (µmhos/cm) 580 580	Ce Temp (°C) (observed) 7. 9 7. 8 7. 8 Yes Ott	D.O. (mg/l) 13. (12. (e) 12. (o)	Turbidity (NTU)	(mV) 188 192	(cumulative gal)		
Tim O83 O84 O84 O84 Amples clare/Affiliation	observations: Observations: Observations: pH (units) 7 7 7 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Specific Conductan (µmhos/cm) 580 580 580 STRO	Ce Temp (°C) (observed) 7. 9 7. 8 7. 8 Yes Ott	D.O. (mg/l) 13. (12. (c) 12. O	Turbidity (NTU) NA NA NA	(mV) 188 192	(cumulative gal) `O. 60 1. Z O 1. 80		



Well Sampling Field Data Log Sheet

Information					0 14	prina	21 Projec	t No Z	1-4380		
	Monitoring Point ID						Lab	peled	74-1	_	
linfo	Inside Diameter		(inches)	Key # _ 2	10le	_			Not Locked		
Fresampiing	Casing Material: Y PVC Steel Stainless Steel										
	Depth Measurement and Elevations (from top of well casing)										
Š	Top of Casing Elevation Feet										
	Total Well Depth 38.10 Feet										
i anu	Static water level measurement before purging (Start Depth) ** Well Dry Feet Static water level measurement at time of sampling (Final Depth) ** WA* Feet										
	Static water level measurement at time of sampling (Final Depth) Feet Static Water Level Elevation Before Purging NA Feet										
nondupsan	Púrge Method		277 22.7				Pump ID		-		
5	Date Purged			3/22/)	Wat	er Column		Feet		
Mell	Time Purged				O	ne Casi	ng Volume		Gallon	S	
	Pump Rate			GPM/LP	M	Volu	me Purged _		Gallon	S	
	Date Sampled	3/22/21		Fie	ld Para	ameter	Measurer	ments o	f Sample		
	Time Sampled		-		рН		(units)	D.C) (m	ng/l)	
	Sampling Equip.	Pump + Filter		Spec. Co	ond.		(µmhos/cm)	Turbidity	/(N	ITU)	
Data	Meter ID	MPS-7	Те	mp. Obse	rved		(°C) 3/22/		-	ıV)	
100	Analyzed by	RGS	Te	mp. Corre	cted		(°C)	Othe		_	
Field Sampling	Field Measurements Temp. Corrected: Yes No NA Sample for Soluble Metals Filtered in Field: Yes No NA Temperature Correction Factor: **O.\ **O** Weather Conditions During Sampling: **A** Sample Description: **A**										
	Sample Description	NA	Observations: * Well Dry - No Sample Dry @ 34.75 * Wel = 35.89 Wort Madder Pump - ROS 3/24/21								
	Sample Description: Observations:		- Ala Sa	10	(D.	0	34.75		- 1		
			- NoSa	mple-	(Dr Ser Pic	40.	84.75 RGJ 3/24	1/21	*		
	Observations:	* well Dry * cul = 35.							Volume Pu	ıraed	
			uctance	Temp (° (observe	C)	D.O. (mg/l)	75 RGS 3/29 Turbidity (NTU)	Eh (mV)	Volume Pu (cumulative		
est	Observations:	* Well Dry * Well = 35-1	uctance	Temp (°	C)	D.O.	Turbidity	Eh			
on lest	Observations:	* Well Dry * Well = 35-1	uctance	Temp (°	C)	D.O.	Turbidity (NTU)	Eh			
zation lest	Observations:	* Well Dry * Well = 35-1	uctance	Temp (°	C)	D.O.	Turbidity (NTU)	Eh			
abilization rest	Observations:	* Well Dry * Well = 35-1	uctance	Temp (°	C)	D.O.	Turbidity (NTU) NA NA	Eh			
Stabilization lest	Observations:	* Well Dry * Well = 35-1	uctance	Temp (°	(C) (cd)	D.O.	Turbidity (NTU) NA NA	Eh			
Stabilization Test	Observations:	* Well Dry * Well = 35-1	uctance	Temp (°	(C) (cd)	D.O.	Turbidity (NTU) NA NA	Eh			
Stabilization	Observations: Time pH (units)	* Well Dry * WL = 35.	uctance m)	Temp (° (observe	C) sd) go) zhilt	D.O.	Turbidity (NTU) NA NA	Eh			
Stabilization	Observations:	* Well Dry * WL = 35.	uctance m)	Temp (°	(C) (cd)	D.O.	Turbidity (NTU) NA NA	Eh			
orm	Observations: PH (units) Imples chilled immediately Revised: 01/25/2021	Specific Condi (µmhos/c)	uctance m)	Temp (° (observe	C) sd) go) zhilt	D.O. (mg/l)	Turbidity (NTU) NA NA	Eh			
Stabilization	Observations: Time pH (units) mples chilled immediately	Specific Condi (µmhos/c)	uctance m)	Temp (° (observe	C) sd) go) zhilt	D.O. (mg/l)	Turbidity (NTU) NA NA NA	Eh	(cumulative		



Well Sampling Field Data Log Sheet

5	Client K	el Energ	Proje	ct Kel Unit 3	RESAMPL	E Projec	t No. 21	-04380	
Well Description and Presampling Information	Monitorin	g Point ID_	P-74-1			La	beled P	74-1	
Tor	Inside	Diameter	7 (inches)	Key# 2101	2	Locked	1 🗆	Not Locked	
<u></u>	Casing	g Material:	N PVC □ S		Stainless St	teel			
lidu		D	epth Measurement	and Elevation	s (from to	op of well	casing)		
esal	Top of Casing Elevation Feet								
Ì					Well Depth			Feet	
ĕ	Ct.		er level measurement b			10.40 CO POUL	+36.03 SIFIZI 36.0	Feet	
	Sta	alic water le	vel measurement at tim Static Water Lev	11 (1) (1) (1) (1) (1) (1) (1) (1) (1) (36.0	Feet	
5	Purge Met	hod (ar. in	ates Pemp	or Elevation Ben	ac r arging	Pump ID	0-2	1 001	
5		ged 5			Wa	ter Column		Feet	
Mell			0-1055			ng Volume		Gallons	
	Pump F	Rate	0.2	GPM / LPM	Volu	me Purged	30	Gallons	
1	Date	Sampled	5/7/21	Field F	arameter	Measure	ments of	Sample	
	4.3 () ()	Sampled _		рН	7.4	(units)	D.O	8 . D (mg/l)	
	Sampl	ing Equip	MPS-8 TMS @	Spec. Cond.	610	(μmhos/cm)	Turbidity	0-4 (NTU)	
	Meter ID Pump + Filer Diff Temp. Observed 12.0 (°C) Eh 214 (mV)								
2	Aı	nalyzed by _	Rus	Temp. Corrected	12.3	(°C)	Other	WA	
rieiu Sampiilig			ments Temp. Correcte		Yes	□ No	□ NA		
5	Sampl		e Metals Filtered in Fiel rature Correction Facto		Yes	☐ No	☐ NA	4 H	
	Weather C	Weather Conditions During Sampling: 515, Suncy NW 0.10 Mpg							
			cleer no oder	11 1 1 1 1 1 1	77.11				
		Observations: * Could not Sample as/ Bladder Pump due to Warter Level. Sampled as/ Grandfas							
	—— j	sump. Ea	ch Stabilization	eading is i	Consirrey	Vol. for a	n total o	f 9 "Vol." pur	
N	Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)	
į	1045	7,4	410	M.9-11.	7.9	NA	212	1.0	
	1050	7.4	leio	12.0	7.9	NA	213	2.0	
	1055	7,4	Leio	12.0	8.0	NA	214	3.0	
Stabilization rest			QTO		5				
3					5/7/2				
					3.710				
C	mulae abilled	immodiately	after collection:	J Vac □ c"	0.5				
	Revised: 01/25/20		after collection:	Yes Oth	er				
am	e/Affiliation of	Sampler(s)	Ziley Jacobsur	Pac	Land 1	See 1			
411	o., minduon on	(a).	May Jacobs	1 200	- INVAY	100			
			1 0		ı		5/7/2		



Information	Client X	ng Point ID	P-75-1	_ Project	Sherco	32	F Spring		ct No. 21	-4380
ıforn		Diameter		(inches)	Key# Z	106		∑ Locked		Not Locked
ng n	Casin	g Material:	₩ PVC	Ste	eel		Stainless St	eel		
Fresampling			epth Measi	urement a	nd Eleva	ations	(from to	op of well	casing)	*
200							The state of the state of	N		Feet
מוות ב		Static wat	ter level meas	irement he				39.1		Feet /37 Al - 3
	St		vel measurem							Feet (37. 41 - 3) Feet
				Vater Level						Feet
Describinon			ated Bladda	· Pump					BPC-	
	Date Pu		3/24/21	_				er Column		
MACI	Pump I		0.1		GPM ALP			ng Volume ne Purged		Gallons Gallons
			3/22/21		Fie	-	ALCOHOLD NOTICE	Measure	STATE OF THE PARTY AND ADDRESS.	
			11015 Nump + Filter		Spec C		7.6	(units) (μmhos/cm)		9. Z (mg/l) 2. 4 (NTU)
5	Gamp		MPS-7		mp. Obse	_		(°C)		187 (mV)
y Data	А	nalyzed by _		_	mp. Corre	_	~ .	(°C)		MA
u sampinig	Samp	le for Solubl Tempe	ements Temp. e Metals Filter erature Correc	ed in Field: tion Factor:	+0.1	°C	/es	☐ No ☐ No	□ NA □ NA	
Pield	Weather C	onditions D	uring Sampling	39F, 6	aning	N	QILOM	PH		2/22/2
	Sample D	escription: _	cleer no	Dev		3/22/2	1		M ~ 1 2 7	on 3/ce/zi
	Obs	servations	* Radioal	*Dry (c)	37.41	Pare	Jo San	De In	L) Appr	oximated on 3/24/2
	Time	рН	Specifc Con		Temp (°		D.O.	Turbidity	Eh	Volume Purged
7		(units)	(μmhos.		(observe	-	(mg/l)	(NTU)	(mV)	(cumulative gal)
<u>.</u>	1044		Lele C		7.0		9.6 9.3	NA	184	0.4
in in	1048	7-6	le te to				9.2	NA	187	0-8
JIIIZe	1052	7.6	(e.s.	0	7.0	,	7. 0	NA	107	1. Z
Stabilization rest							Res			
							3/24/21			
					1	704				
	mples chilled Revised: 01/25/20		after collection:	×	Yes	Othe	r			
			Riley Ja	cabson		P	· And	Lart		
			000	LOPSU		100	C FINA	ytical		
Le	ead Technicia	n Signature:	Kley	2				Date:	3/24	ly



	Client Xcel					-		-4380	_
III OTHIBAION	Monitoring Point ID _	P-97				Lal	beled	0-97	
	Inside Diameter_	2	(inches)	Key# 2100	2	∠ Locked		Not Locked	(4
•	Casing Material:	₽VC		Steel	Stainless S	teel			
	D	epth Meas	urement	and Elevation	s (from t	op of well	casing)		
				Top of Casing	Elevation	NA NA	r	Feet	
				Total	Well Depth	girh 39.4		Feet	
9				pefore purging (S			1	Feet (40. 47	5
	Static water lev			ne of sampling (F				Feet Ly3/24	
	Duran Mathad 3			el Elevation Befo	re Purging			Feet took Ble	4 1
The state of the s	Purge Method Dedice	cated Blad	der tung	0	10/0	Pump ID _ ter Column		Feet	- 1
	Time Purged			- 3/22	Zone Casi	ing Volume	_	Gallons	
	Pump Rate			GPM / LPM		me Purged		Gallons	
ı	Tump reaco								
	Date Sampled		_	Field P	aramete	r Measure	ments of	Sample	
	Time Sampled		_ 1	pH		(units)	D.O		1)
	Sampling Equip. <u>R</u>			Spec. Cond.		(µmhos/cm)	Turbidity		J)
	Meter ID _			Temp. Observed		(°C)	Eh)
	Analyzed by	865		Temp. Corrected		(°C)	Other		
2									
Sanding	Field Measure	ments Temp	. Correcte	d: 🗵	Yes Yes	☐ No	□ NA □ NA		
	Field Measure Sample for Soluble	ments Temp	. Correcte	d: 🔀	Yes Yes		□ NA □ NA		
	Field Measure Sample for Soluble	ments Temp e Metals Filte rature Correc	. Correcte red in Fiel	d: 🔀		☐ No		·	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description:	ements Temp e Metals Filte grature Correct tring Samplin	. Correcte red in Fiel ction Facto g: M	d: 🔀 d: '\' °C	Yes	☐ No ☐ No	□ NA		
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filte erature Corrections Samplin	. Correcte red in Fiel ction Facto g:	d: 🔀 d: 🗵 or: +0.\ °C	Yes - No	□ No □ No	□ NA	•	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filte erature Corrections Samplin	. Correcte red in Fiel ction Facto g:	d: 🔀	Yes - No	□ No □ No	□ NA	1430	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filter carature Corrections Samplin MA	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS (NE) D.O.	No No Sample	NA NA	Volume Purg	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Tempe Metals Filter rature Correcting Samplin	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS WE	No No No Sample LC - 3/2	□ NA		
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filter carature Corrections Samplin MA	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS (NE) D.O.	No No No Sample LC - 3/2 Turbidity (NTU) NA	NA NA	Volume Purg	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filter carature Corrections Samplin MA	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS (NE) D.O.	No N	NA NA	Volume Purg	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filter carature Corrections Samplin MA	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS (NE) D.O.	No No No Sample LC - 3/2 Turbidity (NTU) NA	NA NA	Volume Purg	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filter carature Corrections Samplin MA	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS (NE) D.O.	No N	NA NA	Volume Purg	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filter carature Corrections Samplin MA	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS (NE) D.O.	No N	NA NA	Volume Purg	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filter carature Corrections Samplin MA	. Correcte red in Fiel etion Factor g: MA	d:	Yes - No IS (NE) D.O.	No N	NA NA	Volume Purg	
	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations: Time pH (units)	ements Temple Metals Filterature Correcting Samplin	Correctered in Field tion Factors. Well Description for the control of the contr	d:	Yes No IS (NE) D.O. (mg/l)	No N	NA NA	Volume Purg	
S	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations:	ements Temple Metals Filterature Correcting Samplin	Correctered in Field tion Factors. Well Description for the control of the contr	d:	Yes No IS (NE) D.O. (mg/l)	No N	NA NA	Volume Purg	
Sam	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations: Time pH (units) Time pH (units)	Specific Cor (µmhos	Correctered in Field tion Factors. Well Description for the control of the contr	d: d: d: Sor: C Or: C O	Pes IS WE D.O. (mg/l)	No N	NA NA	Volume Purg	
Semm	Field Measure Sample for Soluble Tempe Weather Conditions Du Sample Description: Observations: Time pH (units) Amples chilled immediately a	Presents Temple Metals Filter rature Corrections Sampling Sampling Sampling Specific Corrections (umhos)	Correctered in Field tion Factors. Well Description for the control of the contr	d: d: d: Sor: C Or: C O	Pes IS WE D.O. (mg/l)	No N	NA NA	Volume Purg (cumulative g	



uo	Client	cel		Project	Sherco 3 L	.F/Resam	Projec	ct No. 21	-04380
Information	Monitorin	g Point ID	P-97				La	beled P	-97
form		Diameter	2	(inches)	Key# 210	le	☐ Locke		Not Locked
	Casing	g Material:	▼ PVC	☐ Ste	eel	Stainless S	teel		
Presampling		E CONTRACTOR E	Depth Measu	irement a	nd Elevation	ns (from to	op of well	casing)	11 MA - 11 L
esa					Top of Casin	g Elevation		-	Feet
d Pr		2				Well Depth			Feet
ı an	Cto				fore purging (S of sampling (F				Feet
tior	Sic	ilic water le			Elevation Befo				Feet Feet
scrip	Purge Met	hod Com	Afos Punp		Elevation Bole	no ranging	Pump ID		,,
Well Description and	Date Pur		5/7/21			Wa	ter Column	1.55	Feet
Nell	Time Pur		1005-10	20	6		ng Volume	0.25	
	Pump F	tate	0.1		GPM / LPM	Volu	me Purged	1.5	Gallons
	Date	Sampled	5/7/21		Field F	arameter	Measure	ments of	Sample
		Sampled_	1025	_	рН	7.4	(units)	D.O	8.9 (mg/l)
	Sampl		Pump + Gilter	4 y 1 1 1	Spec. Cond.		(µmhos/cm)	Turbidity	
Data			MPS -8		mp. Observed				205 (mV)
100 000		nalyzed by _			mp. Corrected				M
Sampling			ements Temp. le Metals Filter			Yes Yes	☐ No	□ NA	2
Sa	Gampi		erature Correc			163	☐ 1 10		
Field	Weather Co				Sunny, A	w @ 10	MPH		
	Sample De	escription:	clear no	oder	//				*
		ervations:	* Bladder P.	unp did i	Vaprug tor	61 too	shallow	of war	er depth.
	-		Sampled is	1 Counds	os, purg.v	19 2 E,	trac Vol.	per Da	vid K request
	Time	pH (units)	Specifc Con-		Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
Test	100%	7.4	460		12.5	9.6	NA	202	0.3
T no	1011	7.4	640		12.6	9.3	NA	205	O.Le
Stabilization	1014	7.4	640		12.6	9.0	NA	205	0.9
abill	1017	7.4	440		12.6	9.0	NA	205	1.2
ş	1020	7.4	660		12.00	8.9	NA	205	1.5
						5/7/4			
S	amples chilled	immediately	after collection:	×	Yes Oth	ner			
	Revised 01/25/20				^				
Nam	e/Affiliation of	Sampler(s):	Riley Jac Reley	obser	Pa	ce Analy	fical		
i	ood Toobnisies	n Cignot	211.	7.		1	Doto	1-1	
	eau recillicial	i oignature:	rule				Date:	5/7/	(1



5	Client X	cel		Projec	t Sherco	3 LF Spril	2 Proje	ct No. 2	-4380
well besonption and riesampling implination	Monitorir	ng Point ID_	P-98				La	abeled	0-98
	Inside	e Diameter_	2	(inches)	Key # _ 2	Ole		ed 🗌	Not Locked
•	Casin	g Material:	₩ PVC	□ s	teel	Stainless	Steel		
		D	epth Meas	urement	and Eleva	tions (from	top of well	casing)	
					Top of Ca	sing Elevation	on/\/	4	Feet
							oth 43.3		Feet *3/22/2
J	0.0		er level meas						_Feet '
ļ	St	atic water le	vel measuren			g (Final Dept Before Purgii			Feet Feet
	Purae Me	thod Dode	cated Blad	0		belote Fulgii		BPC-	-
1	Date Pu		3/23/21	SON HOME	-	V	Vater Column		Feet
	Time Pu		920-093	5		One Ca	asing Volume		Gallons
Ŋ	Pump I	Rate	0.15		GPM / LPI	V V	olume Purged	2.7	Gallons
	Date	e Sampled	3/23/21		Fiel	d Paramet	ter Measure	ements of	Sample
		e Sampled _		7 1 1		pH 7-4			8,7 (mg/l)
			ump + Filter	<u> </u>	Spec. Co		(μmhos/cm)	Turbidity	1.8 (NTU)
		Meter ID_			emp. Obser	ved 10 1	(°C)	Eh	195 (mV)
	Α	nalyzed by _	RUS	_ T	emp. Correc	ted 10.2	(°C)	Other	M
	F	ield Measure	ements Temp	Corrected	1:	✓ Yes	☐ No	□ NA	
	Samp		e Metals Filte				☐ No	☐ NA	
			erature Correc			°C			
	Weather C	onditions Du	uring Samplin	g: 41', K	uining,	NOGMA	11		
Ĭ			cleer no						
i	Ob	servations.	xRadions						:
			0 11 0		1 -		I - van	T =	
	Time	pH (units)	Specifc Cor (µmhos		Temp (°0 (observed		Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
	0925	7.7	550)	10.0	8. le	NA	193	0.75
	0930	7.6	550		10.1	817	NA	194	1.50
	0935	7.6e	550		10.1	8,7	NA	195	2.25
	~								
Stabilization 1035						RUS			
						312312	(
	Wilder and the same of		W 11 // 1		7				
	imples chilled Revised: 01/25/20		after collection	2	× Yes	Other			
			P.1. 1	100		0 1	Y 142 4		
n	e/Attiliation of	Sampler(s):	Kiley Ja	copson		Tack Ar	inly tical	-	
Le	ead Technicia	n Signature:	Telen (b			Date	: 3/2	3/4
	7 - 1 - 11 - 11		1	V					



Client Xcel	110,000	nerco 3 Lt S	pring 21 10je	01110. 221	4080
Monitoring Point ID P-117 Inside Diameter Casing Material: Depth			La	abeled P-	411
Inside Diameter	Z (inches) Key	# 210le	_ Locke	ed 🔲	Not Locked
Casing Material:	PVC Steel	☐ Stain	less Steel		
Depth	Measurement and	Elevations (fi	rom top of wel	casing)	
	То	p of Casing Ele	vation	A	Feet
	and the state of the state of	Total Well			Feet
	I measurement before				Feet
	asurement at time of sa Static Water Level Ele				Feet Feet
Purge Method Dedicated		vation before th		BPC -	
Date Purged 3/27			Water Column		
Time Purged 1576	1544	On	e Casing Volume	1.07	Gallons
Pump Rate v + 1	5	M)/LPM	Volume Purged	3.60	Gallons
Date Sampled 3/2	1/2	Field Para	meter Measure	ements of	Sample
Time Sampled 153		pH 7.			9.5 (mg/l)
Sampling Equip. Pump +		pec. Cond. 45			1.50 (NTU)
Meter ID MPS-		Observed 9-9			185 (mV)
Analyzed by Rb	Temp.	Corrected 9	9 (°C)	Other	MA
Field Measurements	Temp. Corrected:		☐ No	□ NA	
Field Measurements Sample for Soluble Meta	그렇게 하면 하면 하게 되었다. 그런 이번 이번 이번 때문에 다른 사람		☐ No	☐ NA	
Temperature	Correction Factor: 40		0 .		
Weather Conditions During S		My NO	Ce MPH		
Sample Description: dee		i v	(24) - Val. 6	1. 1. 2/20	10. 000
Observations: ** Rucko	M (1) Turb no	recorded o	ensite, est mo	ALG 3129	121 863
				T ==1	L 112 B
Time pH Spec			O.O. Turbidity mg/l) (NTU)	Eh (mV)	Volume Purgeo (cumulative gal)
		9,7 9.		183	1.7
1536 7.7 6		9.8 9.	5 NA	184	2.4
1544 7.4 6		9.8 9.		185	3.6
			RO)		
1528 7.7 6 1536 7.7 6 1544 7.4 6			12121		
Samples chilled immediately after co	ollection: Ye	s Other			
m Revised: 01/25/2021					
0.1	1	0	1		
me/Affiliation of Sampler(s):	Jacobson	Pace	Analytical		
ne/Affiliation of Sampler(s): <u>Rile:</u> Lead Technician Signature: <i>Rile:</i>	Jacobson	Pace	Analytical Date	: 3/22	121



	Monitoring Point ID Inside Diamete		(inches)	Key# 210(2	La Locke	d □	Not Locked
rresampling information	Casing Material	: PVC	☐ Ste		Stainless St	eel		
L		Depth Measu	rement a	nd Elevatior	ns (from to	op of well	casing)	
weir besonbroom and rices	Purge Method Ded Date Purged	3/23/21	ent at time later Level	ore purging (S of sampling (F Elevation Befo	Well Depth tart Depth) inal Depth) ore Purging Wat One Casi	48.5 39.8 N/ Pump ID ter Column ng Volume	3 6 Le A BPC-1 8·67	Feet Feet Feet Feet Feet Gallons Gallons
Sampling Data	Time Sampled Sampling Equip Meter ID Analyzed by	Pomp + Filter Pomp + Filte	Te Te Corrected:	pH Spec. Cond. mp. Observed mp. Corrected	7.5 620 9.8	Measure (units) (μmhos/cm) (°C) (°C) No	Turbidity Eh	8-1 (mg/l)
rieid Sa	Tem Weather Conditions Sample Description Observations	perature Correct During Sampling : <u>Aleur no e</u>	41F R	+0.1 °C				
oc piar i	Weather Conditions Sample Description Observations	perature Correct During Sampling Lear roe * * Radiom Specifc Cond	uctance	to. \ °C	D.O.	Turbidity	Eh	Volume Purged
	Weather Conditions Sample Description Observations Time pH (units)	During Sampling : clear ro e * Radiom Specifc Conc (µmhos/	luctance	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	(cumulative gal)
	Weather Conditions Sample Description Observations Time pH (units)	Specific Conceptions	luctance cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV) 700	(cumulative gal)
	Weather Conditions Sample Description Observations Time pH (units) 1015 7.5	Specific Conceptions	luctance	Temp (°C) (observed) 7. 7	D.O. (mg/l)	Turbidity (NTU)	Eh (mV) 700	(cumulative gal)
	Weather Conditions Sample Description Observations Time pH (units)	Specific Conceptions	luctance	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV) 700	(cumulative gal)
Stabilization lest	Weather Conditions Sample Description Observations Time pH (units) 1015 7.5	Specific Conceptions Specific Conceptions (µmhos/s) Le 7.0	luctance cm)	Temp (°C) (observed) 9.7 9.8	D.O. (mg/l)	Turbidity (NTU)	Eh (mV) 700	(cumulative gal)



	Client X		^		Sherco 3	7111		//C///	
	Monitorin	g Point ID_	P-125				La	beled P-	125
V	Inside	Diameter_	2	(inches)	Key # 210	le	∠ Locke	d 🗌	Not Locked
	Casin	g Material:	₽VC	Ste	eel	Stainless St	eel		
			epth Meas	urement a	and Elevatio	ns (from to	op of well	casing)	
					Top of Casir	ng Elevation	NI	+	Feet
						Well Depth			Feet
١	- 0				fore purging (Feet
	St	atic water le			of sampling (F				Feet
	Purae Me	thod D. I.			l Elevation Bef	ore Purging		BPC-1	Feet
	Date Pu		cated Bladd	ertump	-	Wat		6-75	Feet
			950-101	ч				1.10	
			0.15		GPM/ LPM		me Purged		
I					Field	Doromotor	Magazira	monto of	Comple
١			3/22/21	-		Parameter		***********	
1		e Sampled _		_		7.8	(units)		10 · 8 (mg/l)
	Samp		Comp + Filler		Spec. Cond emp. Observed		(μmhos/cm)		1. Z (NTU) 191 (mV)
	٨	nalyzed by	MPS-7		emp. Corrected		(°C)		191 (mV)
	^		KO3		inp. Corrected				7001
1	-	- 1 - 1 A A	and the Transport	0	57	1/	NI-	NIA.	
			ements Temp			Yes	☐ No	□ NA	
		le for Solubl	e Metals Filte	red in Field		Yes Yes	☐ No	□ NA	
	Samp	le for Solubl Tempe	le Metals Filte erature Correc	red in Field ction Factor	-to.\ °C	Yes	☐ No		
	Samp Weather C	le for Solubl Tempe onditions De	le Metals Filte erature Correc uring Samplin	red in Field ction Factor g: <u>39</u> F,		Yes	☐ No		4
	Samp Weather C Sample D	le for Solubl Tempe onditions Do escription:	e Metals Filte erature Correc uring Samplin	ered in Field etion Factor g: <u>39</u> F, 10 dest	-to.\ °C	Yes Webmp	□ No	□ NA	
	Samp Weather C Sample D	le for Solubl Tempe onditions Do escription:	e Metals Filte erature Correc uring Samplin	ered in Field etion Factor g: <u>39</u> F, 10 dest	10.1 °C	Yes Webmp	□ No	□ NA	•
	Samp Weather C Sample D Obs	le for Solubl Tempe onditions Do escription:	e Metals Filte erature Correct uring Samplin Clear No a *Radiom	red in Field etion Factor g: 39F, and a second etion Factor g: 39F, and a second etion for the second etion etion for the second etion for the second etion for the second etion etion for the second etion for the second etion for the second etion etion for the second etion	Temp (°C)	Yes WELLECTED D.O.	No No	□ NA	
	Samp Weather C Sample D Obs	le for Soluble Temper onditions Description:	Per Metals Filter Protection of the State of the State of the State of the State of the Specific Cornection (minus)	ered in Field ction Factor g: 39F, as dear and uctance solom)	CATE COL	Yes LECTED D.O. (mg/l)	No No Turbidity (NTU)	□ NA WELL Eh (mV)	(cumulative gal)
	Samp Weather C Sample D Obs Time	pH (units)	e Metals Filte erature Correct uring Samplin Clear No 6 *Radium Specifc Cor (µmhos	erred in Field ction Factor g: 39F, and a ction Factor g: 39F, and a ction factor g: 39F, and a ction factor g: 50FLI	Temp (°C) (observed)	Yes We GMP. LECTED D.O. (mg/l) 11.9	No No	SFLL Eh (mV) 193	(cumulative gal)
	Samp Weather C Sample D Obs	pH (units)	Per Metals Filter Protection of the State of the State of the State of the State of the Specific Cornection (minus)	erred in Field ction Factor g: 39F, and a ction Factor g: 39F, and a ction factor g: 39F, and a ction factor g: 50FLI	Temp (°C) (observed) 9, 3 9, 4	D.O. (mg/l)	No No Turbidity (NTU)	NA NA NA NA NA NA	(cumulative gal)
	Samp Weather C Sample D Obs Time	pH (units)	e Metals Filte erature Correct uring Samplin Clear No 6 *Radium Specifc Cor (µmhos	ared in Field ction Factor g: 39 f, and a second give a se	Temp (°C) (observed)	Yes We GMP. LECTED D.O. (mg/l) 11.9	Turbidity (NTU)	SFLL Eh (mV) 193	(cumulative gal)
The state of the s	Samp Weather C Sample D Obs Time 0958	pH (units)	Specific Cor (µmhos	ared in Field ction Factor g: 39 f, and a second give a se	Temp (°C) (observed) 9, 3 9, 4	D.O. (mg/l)	Turbidity (NTU) NA	NA NA NA NA NA NA	(cumulative gal)
	Samp Weather C Sample D Obs Time 0958	pH (units)	Specific Cor (µmhos	ared in Field ction Factor g: 39 f, and a second give a se	Temp (°C) (observed) 9, 3 9, 4	D.O. (mg/l) 11.9 11.4 10.8	Turbidity (NTU)	NA NA NA NA NA NA	(cumulative gal)
	Samp Weather C Sample D Obs Time 0958	pH (units)	Specific Cor (µmhos	ared in Field ction Factor g: 39 f, and a second give a se	Temp (°C) (observed) 9, 3 9, 4	D.O. (mg/l)	Turbidity (NTU)	NA NA NA NA NA NA	(cumulative gal)
	Samp Weather C Sample D Obs Time 0958 1006	pH (units)	Specifc Cor (µmhos	red in Field ction Factor g: 39F, 100 Aex and uctance s/cm)	Temp (°C) (observed) 9. 4	D.O. (mg/l) 11.9 11.4 10.8	Turbidity (NTU)	NA NA NA NA NA NA	(cumulative gal)
	Samp Weather C Sample D Obs Time 0958 1006	pH (units) 7.8 7.8	Specific Cor (µmhos	red in Field ction Factor g: 39F, 100 Aex and uctance s/cm)	Temp (°C) (observed) 9.3 9.4	D.O. (mg/l) 11.9 11.4 10.8	Turbidity (NTU)	NA NA NA NA NA NA	7.2
Sam	Samp Weather C Sample D Obs Time 0958 1006 1014 mples chilled Revised 01/25/20	pH (units) 7.8 7.8 7.8	Specific Cor (µmhos 520 520 520 after collection	red in Field ction Factor g: 39F, 100 Across	Temp (°C) (observed) 9. 4	D.O. (mg/l) 11.9 11.9 10.9 10.9 11.4 10.9	Turbidity (NTU) NA NA	NA NA NA NA NA NA	(cumulative gal)
n	Samp Weather C Sample D Obs Time 0958 1006 1014 mples chilled Revised 01/25/20	pH (units) 7.8 7.8 7.8	Specifc Cor (µmhos	red in Field ction Factor g: 39F, 100 Across	Temp (°C) (observed) 9. 4	D.O. (mg/l) 11.9 11.9 10.9 10.9 11.4 10.9	Turbidity (NTU)	NA NA NA NA NA NA	(cumulative gal)



uo	Client Xu	el		Project_S	nerco 3	LF Spring	2) Proje	ct No. 21	-4380
Well Description and Presampling Information	Monitoring	Point ID					,	abeled 7	
nfor	Inside	Diameter	2 (inc	ches) Key	# 210	e		d 🗌	Not Locked
ng li	Casing	Material:	₩ PVC	Steel		Stainless S	teel		
IIdu			Depth Measurer	ment and	Elevatio	ns (from t	op of well	casing)	*
esal				То	p of Casin	g Elevation	N	4	Feet
9		5.00					37.5		Feet
and	01		ter level measuren						Feet
Ilon	Star	tic water le	evel measurement						Feet Feet
спр	Purge Meth	to the	ated Blodder Pun		vation bei	ore Purging	Pump ID	BPC-1	- reet
Des	Date Purg			тр		Wa	ter Column		ρ Feet
ell			5-1209				ing Volume		
-	Pump Ra	ate	0-15	GP GP	M)/LPM	Volu	me Purged	3. Ce	Gallons
	Date	Sampled	3/22/21		Field F	Paramete	r Measure	ements of	Sample
			1215			124	(units)		9-8 (mg/l)
		_	Pump + Filter	Sr	ec. Cond.		_(μmhos/cm)		106
Data		12-00 PM 10-04	MPS-7		Observed		(°C)		185 (mV)
		alyzed by			Corrected	-	(°C)	Other	4
illi (Fie	ld Measure	ements Temp. Cor			Yes	□ No	□ NA	
Sampling			le Metals Filtered i		-	Yes	☐ No	☐ NA	
S			erature Correction						
Field	Weather Co	nditions D	uring Sampling: <u></u>	of Sunn	1, Nes	MPH			
	Sample De	scription:	clear no ada						
	Obse	ervations:	* Radium						
									· ·
	Time	pH (units)	Specifc Conduct (µmhos/cm)		emp (°C) observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
est	1153	7.7	740		9.0	7.8	NA	184	1.2
uc	1201	7,7	740	(1.0	9-8	NA	18Le	2.4
zatik	1109	7.6	740		7.0	9.8	NA	185	3. Le
Stabilization Test	-								
St						Ros			
						3/22/21			
0	amples shilled in	nmadiatel	after collection:		. 🗆	b.a.	-		
	amples chilled in Revised: 01/25/202		after collection:	× Ye	s Ot	her			
			Riley Jacob	05.0	P	ce Ann	1 20		
a (1)	erAllillation of 2	ampier(s):	Miley Vacor	501	10	LE MA	lytical		
L	ead Technician	Signature:	Killy h.	_			Date	: 3/22	121
			110					•	



-		cel	w	Project	Sherco 3	prina			
r tesampinig intornation		g Point ID_					1000	beled P13	7.0 (-2.0 %
	9.74	Diameter_		Part of the second	Key# 210	TTT KAN IS	X Locke	d 📙	Not Locked
2	Casin	g Material:	₹ PVC	Stee	el _	Stainless St	eel		
		D	epth Measur	ement ar	nd Elevatio	ns (from to	op of well	casing)	*
į					Top of Casir				Feet
		01-11	Salesea Louis			Well Depth			Feet
	Q+		er level measur vel measureme						Feet Feet
	0.	atic water je			Elevation Bef				Feet
	Purge Me	thod Dedic	ated Bladiter	Λ			Pump ID		
	Date Pu		127/21				ter Column	9.24	Feet
			5-1439			One Casi	ng Volume		Gallons
	Pump I	Rate	0.2		GPM/LPM	Volu	me Purged	4.8	Gallons
Ñ	Date	e Sampled _	3/22/21		Field I	Parameter	Measure	ements of	Sample
	Time	e Sampled_	1445		pH	7.6	(units)	D.O	9-1 (mg/l)
	Samp	ling Equip. <u>{</u>	ump + Filter	.:	Spec. Cond	800	(μmhos/cm)	Turbidity	55 (NTU)
		Meter ID _	MPS-7	Ter	np. Observed	11.7	(°C)		173 (mV)
	А	nalyzed by _	RUS	. Ter	np. Corrected	11.8	(°C)	Other	M
			ements Temp. (Yes	☐ No	□ NA	
Sumdinas	Samp		e Metals Filtere erature Correcti			Yes	☐ No	☐ NA	
	Weather C		uring Sampling:			10 24	DI-1		
	Sample D	escription:	light Brun	Do ada	onny, N	C H			
	Obs	servations: ,	Radium XB	ladder Pin	A not war	King Pina	ed w/ G	undfos.	-1
						3, 0			
	Time	рН	Specifc Cond	uctance	Temp (°C)	D.O.	Turbidity	Eh	Volume Purged
	Time	(units)	μmhos/c		(observed)	(mg/l)	(NTU)	(mV)	(cumulative gal)
	1423	7. Le	780		11.8	9.2	NA	172	· 1-6
	1431	7.6	800		11.7	9.1	NA	173	3.2
	1439	7-6	800		11.7	9.1	NA	173	4.8
Stabilization 153	-								
5						100)			
						3/22/21			
			after collection:	×	Yes O	her			
S	amples chilled	immediately		1					
	amples chilled Revised: 01/25/20								
rm	Revised: 01/25/20	021	0. 1	olpson	P	we Anal	whical		
m	Revised: 01/25/20	021	Riley Jac	obson	R	ice Anal	ytical	3/22/	



on	Client _	xcel		Project	sheres pana	15/3 regn	you Proje	2011 ct No	21-04716
nati	Monitori	ng Point ID	P-137A				La	abeled PI	37A
for				inches)	Key# Udu	2	☐ Locke	d 🗌	Not Locked
ng In	Casir	ng Material:	Ŋ PVC	Ste	H X A STATE	Stainless S	Steel		
Presampling Information		-0[epth Measure	ement a	nd Elevation	ns (from t	op of well	casing)	
esal					Top of Casin	g Elevation	NA NA		Feet
I Pr							41.70		Feet
ant	0		ter level measure				-		Feet
tion	5	tatic water is	evel measuremer		Elevation Befo			,)	Feet Feet
Well Description and	Purae Me	ethod did	icated bin			ne r arging	Pump ID	BPC-1	1 661
Des		irged 6/10		, , , ₁	. 4	Wa	ater Column		Feet
Vell		irged 083					sing Volume		Gallons
>	Pump	Rate 0.	2		GPM / LPM	Volu	ıme Purged	6.6	Gallons
	Dat	te Sampled	6/10/21		Field F	aramete	r Measure	ments of	Sample
	-3.72	e Sampled			рН	6.6	(units)	D.O	8.6 (mg/l)
	Samp	oling Equip.	ump + filt	ev	Spec. Cond.	350	(μmhos/cm)	Turbidity	3.2 (NTU)
Data		Meter ID	MPJ-8, TM-X	Те	mp. Observed	11.4	_(°C)		20% (mV)
	A	nalyzed by	LAT / RGT	Те	mp. Corrected	11.7	_(°C)	Other	NA
Sampling			ements Temp. C			Yes	☐ No	□ NA	
Sar	Samp		le Metals Filtered erature Correctio			Yes	☐ No	☐ NA	
Field	Weather C		uring Sampling:			CN IM	nd a) 1	manla	
-			clear + odi			V		r i fr.	
		servations:							
	_								
	Time	pH (units)	Specifc Condu		Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
sst	0841	6.8	350		(1.5	8.3	NA	208	2. 2
n Te	0852	6.8	350		11.4	8.6	NA	208	4.4
zatio	0903	6.8	350		11.4	8.6	NA	208	6.6
Stabilization Test					KAJ 194	121	L T		
St					10 374	14			
Sa	imples chilled	Immediately	after collection:	X	Yes Oth	er			
Form	Revised: 01/25/2	021		<u></u>		4.10	Q III		
lam	e/Affiliation of	Sampler(s):	Kendall	10NV	son t	Rilay	Saco.	oson	
Ų.	الدور و معالی دوروز و معالی		War			V		6/10/	
Le	ead Technicia	n Signature:	MAY	~			Date:	01101	Ч



lou	Client Xcel		Project	Sherco 3	LF Spring	2) Projec	t No. 21	-4380
Presampling Information	Monitoring Point II	P-138A				Lal	beled P-	138 A
ıfor	Inside Diamete	r 2	(inches)	Key# 2100	Q	X Locked		Not Locked
<u>.</u>	Casing Materia	I: PVC	☐ Ste	el 🗌	Stainless St	eel		
lidu		Depth Measu	urement a	nd Elevation	ns (from to	op of well	casing)	*
200				Top of Casin	g Elevation	NA	r	Feet
			ALL DA		Well Depth			Feet
ann		vater level meas						Feet
2	Static water	level measurem		of sampling (F Elevation Befo				Feet Feet
dis	Purge Method Ded			Lievation beit	ne ruiging.	Pump ID		reet
8	Date Purged		- Twing		Wat	er Column		Feet
wen Description	Time Purged 12					ng Volume		
	Pump Rate	0.15	(GPM / LPM	Volur	me Purged_	4.05	Gallons
	Date Sample	d 2/22/71		Field F	arameter	Measure	ments of	Sample
	Time Sample			pH	7.5	(units)	D.O	8.5 (mg/l)
		Pump + Filter		Spec. Cond.		(µmhos/cm)	Turbidity	
Data		nps-7		mp. Observed	9.8	(°C)	Eh	188 (mV)
	Analyzed b	y R63	_ Ter	mp. Corrected	9.9	(°C)	Other	_ ret
	Field Meas	urements Temp.	Corrected:		Yes	☐ No	□ NA	
Sampling		uble Metals Filter			Yes	☐ No	☐ NA	
riela		perature Correc				m1		
L	Weather Conditions Sample Description			may, N	WOTM	77		
. 1	Observations		dev					
	0,000,70,001,00	X Kaccos)		• •
	Time pH	Specifc Con	ductance	Temp (°C)	D.O.	Turbidity	Eh	Volume Purged
	Time pn (units)	(μmhos		(observed)	(mg/l)	(NTU)	(mV)	(cumulative gal)
Š	1239 7.5	790)	9.7	8.7	NA	189	1.35
	1248 7.5	790		9. 7	8.5	NA	188	2.70
zan	1257 75	790)	9.8	8.5	NA	188	4.05
Stabilization rest		A I and a second			(2)			
ñ					127121			
W								
Sa	amples chilled immediate	ely after collection	×	Yes Ott	ner			
	Revised: 01/25/2021							
am	e/Affiliation of Sampler(s	s): Riley Ja	cobson	Pa	ce Anal	ytical		
1300		00 0)	(4)	- 100	7		
L	ead Technician Signatur	e: Killy	h			Date:	3/20	12/2/



Client Xcel		The second second	Sherco 3				
Monitoring Point ID Inside Diameter Casing Material: Static water I Purge Method Date Purged Time Purged	P-140			. 5		eled P-	
Inside Diameter	2	(inches)	Key# 210	Le			Not Locked
Casing Material:	₩ PVC	Ste	eel] Stainless St	eel		
	Depth Measi	urement a	nd Elevation	ns (from to	p of well o	casing)	*
				ng Elevation			Feet
	na aming relative	T. e co é es de s		Well Depth			Feet *3/22/21
Static water I	ater level meas						_Feet
Static water i	evel measurem		Elevation Be				Feet Feet
Purge Method	Static			ore runging	Pump ID		_1 cct
Date Purged				Wat	er Column		Feet
Time Purged				One Casir	ng Volume _		Gallons
Pump Rate			GPM / LPM	Volur	me Purged _		Gallons
Date Sampled	3/22/21		Field	Parameter	Measurer	nents of	Sample
Time Sampled			pl	1	(units)	D.O	(mg/l)
Sampling Equip.	Pump + Filter		Spec. Cond		(humboalout)	Turbidity	(NTU)
Meter ID	MPS-7	_ Te	mp. Observe	d	(°C)	Eh	(mV)
Analyzed by Field Measur Sample for Solub	rements Temp.	Corrected:		Yes Yes	(°C) No No	Other NA NA	
Field Measur Sample for Solub	rements Temp. ble Metals Filter berature Correct During Sampling	Corrected: red in Field: tion Factor:	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Yes Yes	☐ No ☐ No	□ NA □ NA	
Field Measur Sample for Solut Temp Weather Conditions D Sample Description:	rements Temp. ble Metals Filter berature Correct During Sampling	Corrected: red in Field: stion Factor: g:	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Yes Yes	□ No □ No	□ NA	
Field Measur Sample for Solut Temp Weather Conditions D Sample Description:	rements Temp. ble Metals Filte perature Correct During Sampling	Corrected: red in Field: stion Factor: g:	*o.\ °C	Yes Yes	□ No □ No	□ NA	
Field Measur Sample for Solut Temp Weather Conditions D Sample Description:	rements Temp. ble Metals Filte perature Correct During Sampling	Corrected: red in Field: stion Factor: g: MA	*o.\ °C	Yes Yes	□ No □ No	□ NA	Volume Purgeo (cumulative gal)
Field Measure Sample for Solute Temp Weather Conditions Description: Observations:	rements Temp. ble Metals Filter berature Correct During Sampling A * Specific Con	Corrected: red in Field: stion Factor: g: MA		Yes Yes	□ No □ No □ Turbidity □	□ NA □ NA	Volume Purgeo
Field Measure Sample for Solute Temp Weather Conditions Description: Observations:	rements Temp. ble Metals Filter berature Correct During Sampling A * Specific Con	Corrected: red in Field: stion Factor: g: MA		Yes Yes	No No	□ NA □ NA	Volume Purgeo
Field Measure Sample for Solute Temp Weather Conditions Description: Observations:	rements Temp. ble Metals Filter berature Correct During Sampling A * Specific Con	Corrected: red in Field: stion Factor: g: MA		Yes Yes	Turbidity (NTU)	□ NA □ NA	Volume Purgeo
Field Measure Sample for Solute Temp Weather Conditions Description: Observations:	rements Temp. ble Metals Filter berature Correct During Sampling A * Specific Con	Corrected: red in Field: stion Factor: g: MA		Yes Yes D.O. (mg/l)	Turbidity (NTU)	□ NA □ NA	Volume Purgeo
Field Measure Sample for Solute Temp Weather Conditions Description: Observations:	rements Temp. ble Metals Filter berature Correct During Sampling A * Specific Con	Corrected: red in Field: stion Factor: g: MA		Yes Yes D.O. (mg/l)	Turbidity (NTU)	□ NA □ NA	Volume Purgeo
Field Measure Sample for Solute Temp Weather Conditions Description: Observations:	rements Temp. ble Metals Filter berature Correct During Sampling A * Specific Con	Corrected: red in Field: stion Factor: g: MA		Yes Yes D.O. (mg/l)	Turbidity (NTU)	□ NA □ NA	Volume Purgeo
Field Measure Sample for Solute Temp Weather Conditions Description: Observations:	rements Tempole Metals Filter perature Correct Ouring Sampling A Specifc Con (µmhos	Corrected: red in Field: stion Factor: g: MA ONLY ductance /cm)	Temp (°C) (observed)	Yes Yes D.O. (mg/l)	Turbidity (NTU)	□ NA □ NA	Volume Purgeo
Field Measur Sample for Solutions Description: Observations: Time pH (units) Samples chilled immediately in Revised 01/25/2021	rements Tempole Metals Filter perature Correct Ouring Sampling A Specifc Con (µmhos	Corrected: red in Field: stion Factor: g: MA ONLY ductance /cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	□ NA □ NA	Volume Purgeo
Field Measur Sample for Solutions Description: Observations: Time pH (units)	rements Tempole Metals Filter perature Correct Ouring Sampling A Specifc Con (µmhos	Corrected: red in Field: stion Factor: g: MA ONLY ductance /cm)	Temp (°C) (observed)	D.O. (mg/l) Res ther	Turbidity (NTU)	□ NA □ NA	Volume Purgeo
Field Measur Sample for Solutions Description: Observations: Time pH (units) amples chilled immediately Revised: 01/25/2021	rements Tempole Metals Filter ple Metals Filter perature Correct Ouring Sampling ** Specific Con (µmhos) ** Aley Jan **	Corrected: red in Field: stion Factor: g: MA ONLY ductance /cm)	Temp (°C) (observed)	D.O. (mg/l) Res ther	Turbidity (NTU)	□ NA □ NA	Volume Purgeo (cumulative gal)



ĕ		ng Point ID	0	- Print	Sherco 3	pring		abeled P	
Presampling Intormation		Diameter		nches)	Key# 2100		Locke		Not Locked
		g Material:	₩ PVC	☐ Ste		Stainless St		• □	Not Edding
	Odsiri				7	Late of Marie A.		onning)	
- E			Depth Measure	ement a					Foot
3					Top of Casin	Well Depth			_Feet Feet
		Static wa	ater level measure	ement be					Feet
	St		evel measuremer						Feet
i			Static Wa	ter Level	Elevation Befo	ore Purging	N	4	Feet
5			ated Bladder P	mp			Pump ID		1
5	Date Pu		3/22/21				er Column	-	
wen bescription and	Time Pu		00 - 1124		6DW LDW		ng Volume		
	Pump	Rate	0.15		GPMY LPM	Volui	me Purged	3.60	Gallons
7	Date	e Sampled	3/22/21		Field F	Parameter	Measure	ements of	Sample
À		e Sampled	1130		рН	7.6	(units)		10.5 (mg/l)
	Samp		Pump + Filter		Spec. Cond.		(µmhos/cm)	Turbidity	
			MPS-7	1 1 2 3 3	mp. Observed		(°C)		188 (mV)
	Α	nalyzed by	RGS	Те	mp. Corrected	8. Le	(°C)	Other	
rieid Sainpillig	Samp Weather C	le for Solub Temp onditions D	rements Temp. Colle Metals Filtered erature Correction puring Sampling:	in Field: n Factor: 4 7 ^F	±0.\ °C	Yes Yes	□ No □ No	□ NA □ NA	
			deer no a	del					•
		servations.	* Radium						
	Time	pH (units)	Specifc Condu		Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
122	1108	7.7	810	./	8.5	10.4	NA	188	1.2
	1116	7.6	810		8.5	10.5	NA	188	2.4
olabilization.	1124	7.6	810		8.5	10.5	NA	188	3.6
		1, 4	0.0		0)	10.5	7471	100	-
					RES				
5					3127.17				
5									
	amples chilled	immediately	after collection:	- F	Type Dot	nor.			
Sa	amples chilled		/ after collection:	×	Yes Oti	ner			
Sa	Revised: 01/25/20	021	0		Yes Ou	-	17.1		
Sa	Revised: 01/25/20	Sampler(s):	Riley Juca		Yes Ott	-	ytical	3/22/-	





30 April 2021

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco Unit 3 LF Spring

Enclosed are the results of analyses for samples received by the laboratory on 03/24/2021 14:17. If you have any questions concerning this report, please feel free to contact me.

CC:

I certify that this analysis report was prepared under my direction or supervision under a system designed to assure that qualified personnel analyzed the submitted samples. All protocols for analysis were followed as required by Minnesota Rules and the Applicable Management Plan.

Sincerely,

Steve Davis

Project Manager



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-73A-1		MGC0217-01	Water	03/22/2021 8:50	03/24/2021 14:17
P-75-1		MGC0217-03	Water	03/24/2021 10:55	03/24/2021 14:17
P-98		MGC0217-05	Water	03/23/2021 9:40	03/24/2021 14:17
P-117		MGC0217-06	Water	03/22/2021 15:50	03/24/2021 14:17
P-120		MGC0217-07	Water	03/23/2021 10:40	03/24/2021 14:17
P-125		MGC0217-08	Water	03/22/2021 10:20	03/24/2021 14:17
P-134		MGC0217-09	Water	03/22/2021 12:15	03/24/2021 14:17
P-137A		MGC0217-10	Water	03/22/2021 14:45	03/24/2021 14:17
P-138A		MGC0217-12	Water	03/22/2021 13:00	03/24/2021 14:17
P-141		MGC0217-14	Water	03/22/2021 11:30	03/24/2021 14:17
Duplicate		MGC0217-20	Water	03/22/2021 10:20	03/24/2021 14:17
Rinse		MGC0217-21	Water	03/22/2021 16:30	03/24/2021 14:17



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-73A-1 MGC0217-01 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatogra	phy									
Chloride	19.9	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 14:38	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 14:38	EPA 300.0	CRL
Sulfate	36.6	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 14:38	EPA 300.0	CRL
Wet Chemistry										
рН	7.89		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 13:15	SM 4500-H+ B	HRD
Total Dissolved Solids	316	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.580	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Barium	61.5	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Chromium	1.03	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Selenium	0.557	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:07	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.127	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/2/21 14:39	EPA 200.7	HRD
Calcium	73.7	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/2/21 14:37	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/2/21 14:37	EPA 200.7	HRD



Minneapolis MN, 55401

Minneapolis Testing Laboratory 1518 Chestnut Ave N Minneapolis, MN 55043 Certification # MN-027-053-197 WI-999071150 Christine Keefe, Supervisor (612) 630-4506

Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza Reported:

Project Manager: Eric Ealy 04/30/2021 10:12

P-73A-1 MGC0217-01 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Diluti	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:11	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-75-1
MGC0217-03 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatogra	phy									
Chloride	32.9	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 15:19	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 15:19	EPA 300.0	CRL
Sulfate	25.2	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 15:19	EPA 300.0	CRL
Wet Chemistry										
рН	7.91		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 13:35	SM 4500-H+ B	HRD
Total Dissolved Solids	334	25.0	mg/L		1	BGC0577	3/29/21 9:09	3/29/21 9:09	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0576	3/29/21 7:06	3/29/21 7:06	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.747	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Barium	86.8	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Chromium	0.704	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Selenium	0.651	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:10	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/2/21 14:45	EPA 200.7	HRD
Calcium	78.6	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/2/21 14:42	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/2/21 14:42	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-75-1 MGC0217-03 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilution	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:13	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-98
MGC0217-05 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	24.3	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:00	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:00	EPA 300.0	CRL
Sulfate	15.8	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:00	EPA 300.0	CRL
Wet Chemistry										
pH	7.90		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 13:49	SM 4500-H+ B	HRD
Total Dissolved Solids	294	25.0	mg/L		1	BGC0577	3/29/21 9:09	3/29/21 9:09	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0576	3/29/21 7:06	3/29/21 7:06	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.668	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Barium	81.4	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Chromium	0.689	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:22	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:09	EPA 200.7	HRD
Calcium	66.2	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:07	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:07	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy

04/30/2021 10:12

P-98 MGC0217-05 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier Dilutio	n Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:15	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-117 MGC0217-06 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	37.3	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:20	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:20	EPA 300.0	CRL
Sulfate	21.1	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:20	EPA 300.0	CRL
Wet Chemistry										
pH	7.91		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 13:56	SM 4500-H+ B	HRD
Total Dissolved Solids	370	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.718	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Barium	81.2	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Chromium	0.642	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:26	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:15	EPA 200.7	HRD
Calcium	78.8	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:13	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:13	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

P-117 MGC0217-06 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilution	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:16	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-120 MGC0217-07 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograph	У									
Chloride	29.7	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:41	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:41	EPA 300.0	CRL
Sulfate	36.2	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 16:41	EPA 300.0	CRL
Wet Chemistry										
рН	7.91		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 14:02	SM 4500-H+ B	HRD
Total Dissolved Solids	336	25.0	mg/L		1	BGC0577	3/29/21 9:09	3/29/21 9:09	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0576	3/29/21 7:06	3/29/21 7:06	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.763	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Barium	77.5	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Chromium	0.863	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Selenium	1.01	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:30	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0724	0.0500	mg/L	•	1	BGC0632	3/30/21 10:03	4/5/21 13:21	EPA 200.7	HRD
Calcium	77.6	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:18	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:18	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

04/30/2021 10:12

P-120 MGC0217-07 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilutio	n Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:18	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-125 MGC0217-08 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	25.2	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 17:01	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 17:01	EPA 300.0	CRL
Sulfate	12.0	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 17:01	EPA 300.0	CRL
Wet Chemistry										
pH	8.04		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 14:09	SM 4500-H+ B	HRD
Total Dissolved Solids	292	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.709	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Barium	58.1	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Chromium	0.623	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:34	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:27	EPA 200.7	HRD
Calcium	60.1	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:24	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:24	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

O4/30/2021 10:12

P-125 MGC0217-08 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilutio	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:20	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-134 MGC0217-09 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograph	ny									
Chloride	41.7	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 19:03	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 19:03	EPA 300.0	CRL
Sulfate	32.6	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 19:03	EPA 300.0	CRL
Wet Chemistry										
рН	7.95		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 14:16	SM 4500-H+ B	HRD
Total Dissolved Solids	410	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.907	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Barium	96.2	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:38	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L	•	1	BGC0632	3/30/21 10:03	4/5/21 13:32	EPA 200.7	HRD
Calcium	92.2	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:30	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:30	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-134 MGC0217-09 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier Dilution	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:22	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-137A MGC0217-10 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	36.8	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 19:24	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 19:24	EPA 300.0	CRL
Sulfate	95.7	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 19:24	EPA 300.0	CRL
Wet Chemistry										
рН	7.87		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 14:24	SM 4500-H+ B	HRD
Total Dissolved Solids	472	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	334	10.0	mg/L		1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	2.31	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Barium	160	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Cobalt	2.44	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Chromium	6.03	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Molybdenum	0.544	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Lead	0.972	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Selenium	0.752	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:42	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.146	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:37	EPA 200.7	HRD
Calcium	100	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:36	EPA 200.7	HRD
Lithium	0.0155	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:36	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

P-137A

MGC0217-10 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier Diluti	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:23	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-138A MGC0217-12 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograp	ohy									
Chloride	49.8	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 20:05	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 20:05	EPA 300.0	CRL
Sulfate	31.0	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 20:05	EPA 300.0	CRL
Wet Chemistry										
pH	7.88		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 14:44	SM 4500-H+ B	HRD
Total Dissolved Solids	448	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.761	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Barium	111	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Chromium	0.527	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:46	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:43	EPA 200.7	HRD
Calcium	95.1	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:41	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:41	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

O4/30/2021 10:12

P-138A

MGC0217-12 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier Dilution	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:29	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

P-141
MGC0217-14 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	55.1	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 20:45	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 20:45	EPA 300.0	CRL
Sulfate	79.4	1.00	mg/L		1	BGD0059	4/1/21 19:20	4/2/21 20:45	EPA 300.0	CRL
Wet Chemistry										
рН	7.97		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 14:58	SM 4500-H+ B	HRD
Total Dissolved Solids	472	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.790	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Barium	95.6	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Chromium	1.22	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Selenium	0.645	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:50	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0569	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:49	EPA 200.7	HRD
Calcium	94.3	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:47	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:47	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

P-141 MGC0217-14 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilution	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:30	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

Duplicate MGC0217-20 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograp	hy									
Chloride	24.5	1.00	mg/L		1	BGD0068	4/2/21 10:14	4/3/21 12:23	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0068	4/2/21 10:14	4/3/21 12:23	EPA 300.0	CRL
Sulfate	11.6	1.00	mg/L		1	BGD0068	4/2/21 10:14	4/3/21 12:23	EPA 300.0	CRL
Wet Chemistry										
рН	8.08		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 15:40	SM 4500-H+ B	HRD
Total Dissolved Solids	292	25.0	mg/L		1	BGC0549	3/26/21 8:55	3/26/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0548	3/26/21 7:12	3/26/21 7:12	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.733	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Barium	58.2	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Chromium	0.514	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:54	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:55	EPA 200.7	HRD
Calcium	60.9	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:52	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:52	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Duplicate

MGC0217-20 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier Dilu	ution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BGC0636	3/30/21 10:18	3/31/21 16:32	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

Rinse MGC0217-21 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatogra	phy									
Chloride	< 1.00	1.00	mg/L		1	BGD0068	4/2/21 10:14	4/3/21 12:44	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGD0068	4/2/21 10:14	4/3/21 12:44	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BGD0068	4/2/21 10:14	4/3/21 12:44	EPA 300.0	CRL
Wet Chemistry										
рН	6.27		pH Units	M_TTT	1	BGC0554	3/25/21 11:43	3/25/21 15:53	SM 4500-H+ B	HRD
Total Dissolved Solids	< 25.0	25.0	mg/L	M_K-06	1	BGC0577	3/29/21 9:09	3/29/21 9:09	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGC0576	3/29/21 7:06	3/29/21 7:06	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGC0633	3/30/21 10:05	4/7/21 8:58	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 14:01	EPA 200.7	HRD
Calcium	< 1.50	1.50	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:59	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGC0632	3/30/21 10:03	4/5/21 13:59	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

Rinse

MGC0217-21 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilution	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGC0636	3/30/21 10:18	3/31/21 16:34	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGD0059 - Wet Prep										
Blank (BGD0059-BLK1)				Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGD0059-BLK2)				Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	<1.00	1.00	mg/L			<u> </u>			<u> </u>	<u> </u>
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGD0059-BS1)				Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	25.267	1.00	mg/L	25.000		101	90-110			
Fluoride	2.3690	0.750	mg/L	2.5000		94.8	90-110			
Sulfate	25.136	1.00	mg/L	25.000		101	90-110			
LCS (BGD0059-BS2)				Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	24.900	1.00	mg/L	25.000		99.6	90-110			
Fluoride	2.4300	0.750	mg/L	2.5000		97.2	90-110			
Sulfate	24.734	1.00	mg/L	25.000		98.9	90-110			
LCS (BGD0059-BS3)				Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	25.219	1.00	mg/L	25.000		101	90-110			
Fluoride	2.4430	0.750	mg/L	2.5000		97.7	90-110			
Sulfate	25.013	1.00	mg/L	25.000		100	90-110			
Duplicate (BGD0059-DUP1)	So	urce: MGC02	17-01	Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	19.756	1.00	mg/L	<u> </u>	19.896			0.706	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	36.635	1.00	mg/L		36.577			0.158	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
•	resuit	Lillin	Office	Level	resuit	701120	Lillito	THE D	Liiiiit	140103
Batch BGD0059 - Wet Prep										
Duplicate (BGD0059-DUP2)	Sou	rce: MGC02	17-02	Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	13.877	1.00	mg/L		14.128			1.79	20	
Fluoride	< 0.750	0.750	mg/L		<0.750				20	
Sulfate	12.842	1.00	mg/L		13.074			1.79	20	
Matrix Spike (BGD0059-MS1)	Sou	rce: MGC02	17-01	Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	51.155	1.25	mg/L	31.250	19.896	100	90-110			
Fluoride	3.2450	0.938	mg/L	3.1250	<0.938	104	90-110			
Sulfate	67.918	1.25	mg/L	31.250	36.577	100	90-110			
Matrix Spike (BGD0059-MS2)	Sou	rce: MGC02	17-02	Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	44.716	1.25	mg/L	31.250	14.128	97.9	90-110			
Fluoride	3.1988	0.938	mg/L	3.1250	<0.938	102	90-110			
Sulfate	43.621	1.25	mg/L	31.250	13.074	97.8	90-110			
Matrix Spike Dup (BGD0059-MSD1)	Sou	rce: MGC02	17-01	Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	50.278	1.25	mg/L	31.250	19.896	97.2	90-110	1.73	20	
Fluoride	2.8563	0.938	mg/L	3.1250	< 0.938	91.4	90-110	12.7	20	
Sulfate	67.181	1.25	mg/L	31.250	36.577	97.9	90-110	1.09	20	
Matrix Spike Dup (BGD0059-MSD2)	Sou	rce: MGC02	17-02	Prepared:	04/01/202	21 Analyze	ed: 04/02/2	021		
Chloride	44.638	1.25	mg/L	31.250	14.128	97.6	90-110	0.176	20	
Fluoride	3.0150	0.938	mg/L	3.1250	<0.938	96.5	90-110	5.91	20	
Sulfate	43.484	1.25	mg/L	31.250	13.074	97.3	90-110	0.316	20	
Batch BGD0068 - Wet Prep										
Blank (BGD0068-BLK1)				Prepared:	04/02/202	21 Analyze	ed: 04/03/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	< 0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGD0068 - Wet Prep										
Blank (BGD0068-BLK2)				Prepared:	04/02/202	21 Analyze	ed: 04/03/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGD0068-BS1)				Prepared:	04/02/202	21 Analyze	ed: 04/03/2	021		
Chloride	25.599	1.00	mg/L	25.000		102	90-110			
Fluoride	2.7780	0.750	mg/L	2.5000		111	90-110			M_LCS-H
Sulfate	25.560	1.00	mg/L	25.000		102	90-110			
LCS (BGD0068-BS2)				Prepared:	04/02/202	21 Analyze	ed: 04/03/2	021		
Chloride	25.073	1.00	mg/L	25.000		100	90-110			
Fluoride	2.6170	0.750	mg/L	2.5000		105	90-110			
Sulfate	25.023	1.00	mg/L	25.000		100	90-110			
LCS (BGD0068-BS3)				Prepared:	04/02/202	21 Analyze	ed: 04/03/2	021		
Chloride	24.775	1.00	mg/L	25.000		99.1	90-110			
Fluoride	2.5600	0.750	mg/L	2.5000		102	90-110			
Sulfate	24.618	1.00	mg/L	25.000		98.5	90-110			
Duplicate (BGD0068-DUP1)	Sour	ce: MGC02	17-19	Prepared:	04/02/202	21 Analyze	ed: 04/03/2	021		
Chloride	38.993	1.00	mg/L		38.174			2.12	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	97.609	1.00	mg/L		95.595			2.08	20	
Duplicate (BGD0068-DUP2)	Sour	ce: MGC02	17-20	Prepared:	04/02/202	21 Analyze	ed: 04/03/2	021		
Chloride	25.459	1.00	mg/L		24.515			3.78	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	12.037	1.00	mg/L		11.620			3.53	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGD0068 - Wet Prep										
Matrix Spike (BGD0068-MS1)	Sour	ce: MGC02	17-19	Prepared:	04/02/202	21 Analyze	ed: 04/03/2	2021		
Chloride	67.705	1.25	mg/L	31.250	38.174	94.5	90-110			
Fluoride	2.8863	0.938	mg/L	3.1250	<0.938	92.4	90-110			
Sulfate	125.17	1.25	mg/L	31.250	95.595	94.6	90-110			
Matrix Spike (BGD0068-MS2)	Sour	ce: MGC02	17-20	Prepared:	04/02/202	21 Analyze	ed: 04/03/2	2021		
Chloride	56.405	1.25	mg/L	31.250	24.515	102	90-110			
Fluoride	3.3063	0.938	mg/L	3.1250	<0.938	106	90-110			
Sulfate	43.280	1.25	mg/L	31.250	11.620	101	90-110			
Matrix Spike Dup (BGD0068-MSD1)	Sour	ce: MGC02	17-19	Prepared:	04/02/202	21 Analyze	ed: 04/03/2	2021		
Chloride	68.683	1.25	mg/L	31.250	38.174	97.6	90-110	1.43	20	
Fluoride	3.2300	0.938	mg/L	3.1250	<0.938	103	90-110	11.2	20	
Sulfate	126.92	1.25	mg/L	31.250	95.595	100	90-110	1.38	20	
Matrix Spike Dup (BGD0068-MSD2)	Sour	ce: MGC02	17-20	Prepared:	04/02/202	21 Analyze	ed: 04/03/2	2021		
Chloride	56.158	1.25	mg/L	31.250	24.515	101	90-110	0.440	20	
Fluoride	3.2638	0.938	mg/L	3.1250	<0.938	104	90-110	1.29	20	
Sulfate	43.030	1.25	mg/L	31.250	11.620	101	90-110	0.579	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGC0548 - Wet Prep										
Blank (BGC0548-BLK1)				Prepared	& Analyze	d: 03/26/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGC0548-BS1)				Prepared	& Analyze	d: 03/26/2	021			
Total Suspended Solids	96.000	5.00	mg/L	102.20		93.9	70-130			
Duplicate (BGC0548-DUP1)	Sour	ce: MGC02	17-01	Prepared	& Analyze	d: 03/26/2	021			
Total Suspended Solids	<10.0	10.0	mg/L		<10.0				20	
Duplicate (BGC0548-DUP2)	Sour	ce: MGC02	17-13	Prepared	& Analyze	d: 03/26/2	021			
Total Suspended Solids	62.000	10.0	mg/L		59.200			4.62	20	
Batch BGC0549 - Wet Prep										
Blank (BGC0549-BLK1)				Prepared	& Analyze	d: 03/26/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGC0549-BS1)				Prepared	& Analyze	d: 03/26/2	.021			
Total Dissolved Solids	104.00	25.0	mg/L	104.50	•	99.5	70-130			
Duplicate (BGC0549-DUP1)	Sour	ce: MGC02	17-01	Prepared	& Analyze	d: 03/26/2	:021			
Total Dissolved Solids	328.00	25.0	mg/L		316.00			3.73	20	
Duplicate (BGC0549-DUP2)	Sour	ce: MGC02	17-13	Prepared	& Analyze	d: 03/26/2	:021			
Total Dissolved Solids	448.00	25.0	mg/L		448.00			0.00	20	
Batch BGC0554 - Wet Prep										
				Dropared	& Analyzo	d: 03/2E/2	0021			
LCS (BGC0554-BS1)	7.1800		pH Units	7.0000	& Analyze	103	90-110			



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
7 Halyto	rtodit		Office	LOVOI	Troount	701120	Liiiito			140103
Batch BGC0554 - Wet Prep										
LCS (BGC0554-BS2)				Prepared	& Analyze	d: 03/25/2	2021			
рН	7.2000		pH Units	7.0000		103	90-110			
Duplicate (BGC0554-DUP1)	Sou	rce: MGC02	17-01	Prepared	& Analyze	d: 03/25/2	2021			
рН	7.9500		pH Units		7.8900			0.758	20	
Duplicate (BGC0554-DUP2)	Sou	rce: MGC02	17-11	Prepared	& Analyze	d: 03/25/2	2021			
pH	8.0900		pH Units		7.9400			1.87	20	
Batch BGC0576 - Wet Prep										
Blank (BGC0576-BLK1)				Prepared	& Analyze	d: 03/29/2	2021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGC0576-BS1)				Prepared	& Analyze	d: 03/29/2	2021			
Total Suspended Solids	86.000	5.00	mg/L	102.20		84.1	70-130			
Duplicate (BGC0576-DUP1)	Sou	rce: MGC02	17-16	Prepared	& Analyze	d: 03/29/2	2021			
Total Suspended Solids	65.000	12.5	mg/L		69.000			5.97	20	
Duplicate (BGC0576-DUP2)	Sou	rce: MGC02	18-01	Prepared	& Analyze	d: 03/29/2	2021			
Total Suspended Solids	318.00	50.0	mg/L		314.00			1.27	20	
Batch BGC0577 - Wet Prep										
Blank (BGC0577-BLK1)				Prepared	& Analyze	d: 03/29/2	2021			
Total Dissolved Solids	<25.0	25.0	mg/L	•	<u> </u>					



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

	Reporting		Spike	Source		%REC		RPD	
Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
			Prepared	& Analyze	d: 03/29/2	021			
94.000	25.0	mg/L	104.50		90.0	70-130			
Source	ce: MGC021	7-16	Prepared	& Analyze	d: 03/29/2	021			
418.00	25.0	mg/L		420.00			0.477	20	
Source	ce: MGC021	8-01	Prepared	& Analyze	d: 03/29/2	021			
1686.0	25.0	mg/L		1694.0			0.473	20	
	94.000 Sour 418.00 Sour	94.000 25.0 Source: MGC021 418.00 25.0 Source: MGC021	94.000 25.0 mg/L Source: MGC0217-16 418.00 25.0 mg/L Source: MGC0218-01	Result Limit Units Level Prepared 94.000 25.0 mg/L 104.50 Source: MGC0217-16 Prepared 418.00 25.0 mg/L Source: MGC0218-01 Prepared	Prepared & Analyze 94.000 25.0 mg/L 104.50	Result Limit Units Level Result %REC Prepared & Analyzed: 03/29/2 94.000 25.0 mg/L 104.50 90.0 Source: MGC0217-16 Prepared & Analyzed: 03/29/2 418.00 25.0 mg/L 420.00 Source: MGC0218-01 Prepared & Analyzed: 03/29/2	Result Limit Units Level Result %REC Limits Prepared & Analyzed: 03/29/2021 94.000 25.0 mg/L 104.50 90.0 70-130 Source: MGC0217-16 Prepared & Analyzed: 03/29/2021 418.00 25.0 mg/L 420.00 Source: MGC0218-01 Prepared & Analyzed: 03/29/2021	Result Limit Units Level Result %REC Limits RPD Prepared & Analyzed: 03/29/2021 94.000 25.0 mg/L 104.50 90.0 70-130 Source: MGC0217-16 Prepared & Analyzed: 03/29/2021 418.00 25.0 mg/L 420.00 0.477 Source: MGC0218-01 Prepared & Analyzed: 03/29/2021	Result Limit Units Level Result %REC Limits RPD Limit Prepared & Analyzed: 03/29/2021 94.000 25.0 mg/L 104.50 90.0 70-130 Source: MGC0217-16 Prepared & Analyzed: 03/29/2021 418.00 25.0 mg/L 420.00 0.477 20 Source: MGC0218-01 Prepared & Analyzed: 03/29/2021



RPD

%REC

Environmental Services-Water Minneapolis
250 Marquette Plaza
Minneapolis MN, 55401
Project Manager: Eric Ealy
Project Manager: Eric Ealy

04/30/2021 10:12

Total Metals by ICPMS - Quality Control

Snika

Source

Reporting

Availab	5 "	Reporting	11	Spike	Source	0/ 850	%REC	DES	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGC0633 - EPA 200.2, EPA	A 3005									
Blank (BGC0633-BLK1)				Prepared:	03/30/202	21 Analyze	d: 04/07/20	021		
Chromium	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Beryllium	<0.100	0.100	ug/L							
Barium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
rsenic	<0.500	0.500	ug/L							
ead	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
hallium	<0.500	0.500	ug/L							
CS (BGC0633-BS1)				Prepared:	: 03/30/202	21 Analyze	ed: 04/07/20	021		
Nolybdenum	97.398	0.500	ug/L	100.00		97.4	85-115			
ntimony	96.962	0.500	ug/L	100.00		97.0	85-115			
chromium	105.59	0.500	ug/L	100.00		106	85-115			
obalt	97.102	0.500	ug/L	100.00		97.1	85-115			
ead	91.816	0.500	ug/L	100.00		91.8	85-115			
elenium	100.74	0.500	ug/L	100.00		101	85-115			
hallium	93.930	0.500	ug/L	100.00		93.9	85-115			
Arsenic	95.872	0.500	ug/L	100.00		95.9	85-115			
arium	97.053	0.500	ug/L	100.00		97.1	85-115			
Beryllium	107.29	0.100	ug/L	100.00		107	85-115			
Cadmium	101.33	0.100	ug/L	100.00		101	85-115			
Ouplicate (BGC0633-DUP1)	Sou	rce: MGC02	17-05	Prepared:	: 03/30/202	21 Analyze	ed: 04/07/20	021		
Selenium	<0.500	0.500	ug/L		<0.500				20	
hallium	0.039286	0.500	ug/L		<0.500				20	
eryllium	<0.100	0.100	ug/L		<0.100				20	
ntimony	<0.500	0.500	ug/L		<0.500				20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Nolybdenum	0.20516	0.500	ug/L		0.16533			21.5	20	M_D-R
Cobalt	<0.500	0.500	ug/L		<0.500				20	
ead	<0.500	0.500	ug/L		<0.500				20	
Chromium	0.73415	0.500	ug/L		0.68930			6.30	20	
Arsenic	0.71708	0.500	ug/L		0.66762			7.14	20	
Barium	79.152	0.500	ug/L		81.442			2.85	20	

Xcel Energy Minneapolis Testing Lab



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Total Metals by ICPMS - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGC0633 - EPA 200.2, EPA 30	05									
Duplicate (BGC0633-DUP2)	Sou	rce: MGC02	17-06	Prepared:	03/30/202	1 Analyze	d: 04/07/2	021		
Cobalt	0.13155	0.500	ug/L		0.11263			15.5	20	
Γhallium	<0.500	0.500	ug/L		<0.500				20	
Arsenic	0.63558	0.500	ug/L		0.71802			12.2	20	
Barium	81.347	0.500	ug/L		81.243			0.129	20	
Beryllium	<0.100	0.100	ug/L		<0.100				20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Chromium	0.69068	0.500	ug/L		0.64179			7.34	20	
Nolybdenum	0.15674	0.500	ug/L		0.14860			5.33	20	
ead	<0.500	0.500	ug/L		<0.500				20	
Selenium	<0.500	0.500	ug/L		<0.500				20	
ntimony	<0.500	0.500	ug/L		<0.500				20	
latrix Spike (BGC0633-MS1)	Sou	rce: MGC02	17-05	Prepared:	03/30/202	1 Analyze	d: 04/07/2	021		
Nolybdenum	102.77	0.500	ug/L	100.00	0.16533	103	75-125			
cadmium	104.62	0.100	ug/L	100.00	<0.100	105	75-125			
Selenium	104.89	0.500	ug/L	100.00	<0.500	105	75-125			
ead	91.037	0.500	ug/L	100.00	<0.500	91.0	75-125			
rsenic	105.10	0.500	ug/L	100.00	0.66762	104	75-125			
arium	179.35	0.500	ug/L	100.00	81.442	97.9	75-125			
hromium	103.35	0.500	ug/L	100.00	0.68930	103	75-125			
Beryllium	102.81	0.100	ug/L	100.00	<0.100	103	75-125			
cobalt	96.482	0.500	ug/L	100.00	<0.500	96.5	75-125			
hallium	96.076	0.500	ug/L	100.00	<0.500	96.1	75-125			
ntimony	102.61	0.500	ug/L	100.00	<0.500	103	75-125			
latrix Spike (BGC0633-MS2)	Sou	rce: MGC02	17-06	Prepared:	03/30/202	1 Analyze	d: 04/07/2	021		
rsenic	107.38	0.500	ug/L	100.00	0.71802	107	75-125			
ead	92.933	0.500	ug/L	100.00	<0.500	92.9	75-125			
Barium	184.80	0.500	ug/L	100.00	81.243	104	75-125			
ntimony	105.41	0.500	ug/L	100.00	<0.500	105	75-125			
Chromium	105.80	0.500	ug/L	100.00	0.64179	105	75-125			
Nolybdenum	105.71	0.500	ug/L	100.00	0.14860	106	75-125			
elenium	105.14	0.500	ug/L	100.00	<0.500	105	75-125			
Beryllium	102.06	0.100	ug/L	100.00	<0.100	102	75-125			
hallium	97.472	0.500	ug/L	100.00	<0.500	97.5	75-125			
Cobalt	102.05	0.500	ug/L	100.00	0.11263	102	75-125			
Cadmium	102.95	0.100	ug/L	100.00	<0.100	103	75-125			

Xcel Energy Minneapolis Testing Lab



RPD

%REC

Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

Total Metals by ICPMS - Quality Control

Spike

Source

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGC0633 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BGC0633-MSD1)	Sour	ce: MGC021	17-05	Prepared:	03/30/202	21 Analyze	ed: 04/07/2	.021		
Cobalt	105.26	0.500	ug/L	100.00	<0.500	105	75-125	8.70	20	
Molybdenum	108.14	0.500	ug/L	100.00	0.16533	108	75-125	5.09	20	
Chromium	105.10	0.500	ug/L	100.00	0.68930	104	75-125	1.68	20	
Beryllium	102.63	0.100	ug/L	100.00	<0.100	103	75-125	0.172	20	
Cadmium	104.14	0.100	ug/L	100.00	<0.100	104	75-125	0.453	20	
Arsenic	108.06	0.500	ug/L	100.00	0.66762	107	75-125	2.78	20	
Barium	184.93	0.500	ug/L	100.00	81.442	103	75-125	3.06	20	
Selenium	105.44	0.500	ug/L	100.00	<0.500	105	75-125	0.525	20	
Lead	91.734	0.500	ug/L	100.00	<0.500	91.7	75-125	0.762	20	
Thallium	95.024	0.500	ug/L	100.00	<0.500	95.0	75-125	1.10	20	
Antimony	105.94	0.500	ug/L	100.00	<0.500	106	75-125	3.20	20	
Matrix Spike Dup (BGC0633-MSD2)	Sour	ce: MGC021	17-06	Prepared:	03/30/202	21 Analyze	ed: 04/07/2	2021		
Cadmium	103.68	0.100	ug/L	100.00	<0.100	104	75-125	0.707	20	
Beryllium	100.55	0.100	ug/L	100.00	<0.100	101	75-125	1.49	20	
「hallium	97.171	0.500	ug/L	100.00	<0.500	97.2	75-125	0.310	20	
Selenium	106.63	0.500	ug/L	100.00	<0.500	107	75-125	1.41	20	
Molybdenum	108.07	0.500	ug/L	100.00	0.14860	108	75-125	2.21	20	
Barium	183.95	0.500	ug/L	100.00	81.243	103	75-125	0.459	20	
Arsenic	106.40	0.500	ug/L	100.00	0.71802	106	75-125	0.914	20	
Antimony	105.12	0.500	ug/L	100.00	<0.500	105	75-125	0.278	20	
_ead	91.741	0.500	ug/L	100.00	<0.500	91.7	75-125	1.29	20	
Chromium	107.82	0.500	ug/L	100.00	0.64179	107	75-125	1.90	20	
Cobalt	105.18	0.500	ug/L	100.00	0.11263	105	75-125	3.02	20	
Batch BGD0244 - EPA 200.2, EPA 3005										
Blank (BGD0244-BLK1)				Prepared:	04/12/202	21 Analyze	ed: 04/14/2	.021		
Barium	<0.500	0.500	ug/L	•						
Chromium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Beryllium	<0.100	0.100	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							
ead	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Гhallium	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							

Xcel Energy Minneapolis Testing Lab



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGD0244 - EPA 200.2, EPA 30	005									
LCS (BGD0244-BS1)				Prepared:	04/12/202	1 Analyze	ed: 04/14/2	021		
Cobalt	100.78	0.500	ug/L	100.00		101	85-115			
Antimony	105.09	0.500	ug/L	100.00		105	85-115			
Arsenic	102.57	0.500	ug/L	100.00		103	85-115			
Molybdenum	98.803	0.500	ug/L	100.00		98.8	85-115			
Lead	98.140	0.500	ug/L	100.00		98.1	85-115			
Selenium	99.737	0.500	ug/L	100.00		99.7	85-115			
Гhallium	101.14	0.500	ug/L	100.00		101	85-115			
Beryllium	98.840	0.100	ug/L	100.00		98.8	85-115			
Cadmium	100.96	0.100	ug/L	100.00		101	85-115			
Chromium	100.99	0.500	ug/L	100.00		101	85-115			
Barium	102.20	0.500	ug/L	100.00		102	85-115			
Ouplicate (BGD0244-DUP1)	So	urce: MGC02	17-22	Prepared:	04/12/202	1 Analyze	ed: 04/14/2	021		
ead	<0.500	0.500	ug/L		<0.500				20	
Antimony	0.39615	0.500	ug/L		0.39495			0.305	20	
Selenium	487.86	0.500	ug/L		497.46			1.95	20	
Cadmium	0.14162	0.100	ug/L		0.12201			14.9	20	
Nolybdenum	225.39	0.500	ug/L		226.39			0.443	20	
Cobalt	0.60772	0.500	ug/L		0.63416			4.26	20	
Barium	61.494	0.500	ug/L		61.300			0.316	20	
Arsenic	2.3906	0.500	ug/L		2.1859			8.94	20	
-hallium	<0.500	0.500	ug/L		<0.500				20	
Chromium	65.748	0.500	ug/L		68.032			3.41	20	
Beryllium	<0.100	0.100	ug/L		<0.100				20	
Matrix Spike (BGD0244-MS1)	So	urce: MGC02	17-22	Prepared:	04/12/202	1 Analyze	ed: 04/14/2	021		
Molybdenum	330.37	0.500	ug/L	100.00	226.39	104	75-125			
Cadmium	98.448	0.100	ug/L	100.00	0.12201	98.3	75-125			
Гhallium	90.280	0.500	ug/L	100.00	<0.500	90.3	75-125			
Lead	85.472	0.500	ug/L	100.00	<0.500	85.5	75-125			
Barium	166.38	0.500	ug/L	100.00	61.300	105	75-125			
Cobalt	103.76	0.500	ug/L	100.00	0.63416	103	75-125			
Selenium	615.98	0.500	ug/L	100.00	497.46	119	75-125			
Antimony	106.61	0.500	ug/L	100.00	0.39495	106	75-125			
Chromium	172.75	0.500	ug/L	100.00	68.032	105	75-125			
Beryllium	88.229	0.100	ug/L	100.00	<0.100	88.2	75-125			
Arsenic	123.36	0.500	ug/L	100.00	2.1859	121	75-125			

Xcel Energy Minneapolis Testing Lab



Batch BGD0244 - EPA 200.2, EPA 3005

Lead

Selenium

Cadmium

Barium

Minneapolis Testing Laboratory 1518 Chestnut Ave N Minneapolis, MN 55043 Certification # MN-027-053-197 WI-999071150 Christine Keefe, Supervisor (612) 630-4506

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

Total Metals by ICPMS - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Matrix Spike Dup (BGD0244-MSD1)	Sour	ce: MGC021	7-22	Prepared	: 04/12/202	1 Analyz	ed: 04/14/2	021	
Cobalt	105.99	0.500	ug/L	100.00	0.63416	105	75-125	2.12	20
Molybdenum	321.57	0.500	ug/L	100.00	226.39	95.2	75-125	2.70	20
Arsenic	124.37	0.500	ug/L	100.00	2.1859	122	75-125	0.816	20
Thallium	89.058	0.500	ug/L	100.00	<0.500	89.1	75-125	1.36	20
Beryllium	88.356	0.100	ug/L	100.00	<0.100	88.4	75-125	0.144	20
Chromium	177.44	0.500	ug/L	100.00	68.032	109	75-125	2.68	20
Antimony	104.93	0.500	ug/L	100.00	0.39495	105	75-125	1.59	20

ug/L

ug/L

ug/L

ug/L

100.00

100.00

100.00

100.00

< 0.500

497.46

0.12201

61.300

84.7

114

94.5

103

75-125

75-125

75-125

75-125

0.868

0.761

3.99

0.990

20

20

20

20

0.500

0.500

0.100

0.500

84.733

611.31

94.601

164.74



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGC0632 - EPA 200.2, EPA	3005									
Blank (BGC0632-BLK1)				Prepared	03/30/202	1 Analyze	ed: 04/02/2	021		
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BGC0632-BS1)				Prepared	03/30/202	1 Analyze	ed: 04/02/2	021		
Lithium	0.96404	0.0150	mg/L	1.0000		96.4	85-115			
Calcium	95.798	1.50	mg/L	100.00		95.8	85-115			
Boron	0.92285	0.0500	mg/L	1.0000		92.3	85-115			
Duplicate (BGC0632-DUP1)	Sou	rce: MGC021	17-01	Prepared	03/30/202	1 Analyze	ed: 04/02/2	021		
Boron	0.12590	0.0500	mg/L		0.12715			0.988	20	
Calcium	72.732	1.50	mg/L		73.725			1.36	20	
Lithium	0.0073250	0.0150	mg/L		0.0080269			9.14	20	
Duplicate (BGC0632-DUP2)	Sou	rce: MGC021	17-03	Prepared	03/30/202	1 Analyze	ed: 04/02/2	021		
Boron	0.045501	0.0500	mg/L		0.045593			0.202	20	
Lithium	0.0069080	0.0150	mg/L		0.0083356			18.7	20	
Calcium	78.349	1.50	mg/L		78.577			0.289	20	
Matrix Spike (BGC0632-MS1)	Sou	rce: MGC021	17-01	Prepared	03/30/202	1 Analyze	ed: 04/02/2	021		
Boron	1.0823	0.0500	mg/L	1.0000	0.12715	95.5	70-130			
Calcium	177.48	1.50	mg/L	100.00	73.725	104	70-130			
Lithium	0.99246	0.0150	mg/L	1.0000	0.0080269	98.4	70-130			
Matrix Spike (BGC0632-MS2)	Sou	rce: MGC021	17-03	Prepared	03/30/202	1 Analyze	ed: 04/02/2	021		
Boron	1.0020	0.0500	mg/L	1.0000	0.045593	95.6	70-130			
Calcium	179.66	1.50	mg/L	100.00	78.577	101	70-130			
Lithium	0.99428	0.0150	mg/L	1.0000	0.0083356	98.6	70-130			



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGC0632 - EPA 200.2, EPA 30	05									
Matrix Spike Dup (BGC0632-MSD1)	So	urce: MGC02	17-01	Prepared	: 03/30/202	1 Analyze	ed: 04/02/2	021		
Calcium	168.30	1.50	mg/L	100.00	73.725	94.6	70-130	5.31	20	
Lithium	0.96282	0.0150	mg/L	1.0000	0.0080269	95.5	70-130	3.03	20	
Boron	1.0476	0.0500	mg/L	1.0000	0.12715	92.0	70-130	3.26	20	
Matrix Spike Dup (BGC0632-MSD2)	So	urce: MGC02	17-03	Prepared	: 03/30/202	1 Analyze	ed: 04/02/2	021		
Boron	0.98746	0.0500	mg/L	1.0000	0.045593	94.2	70-130	1.46	20	
Lithium	0.96927	0.0150	mg/L	1.0000	0.0083356	96.1	70-130	2.55	20	
Calcium	173.95	1.50	mg/L	100.00	78.577	95.4	70-130	3.23	20	
Batch BGD0243 - EPA 200.2, EPA 30	05									
Blank (BGD0243-BLK1)				Prepared	: 04/12/202	1 Analyze	ed: 04/22/2	021		
Lithium	<0.0150	0.0150	mg/L							
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BGD0243-BS1)				Prepared	: 04/12/202	1 Analyze	ed: 04/22/2	021		
Boron	1.0481	0.0500	mg/L	1.0000		105	85-115			
Lithium	1.0528	0.0150	mg/L	1.0000		105	85-115			
Calcium	106.14	1.50	mg/L	100.00		106	85-115			
Duplicate (BGD0243-DUP1)	So	urce: MGD003	37-01	Prepared	: 04/12/202	1 Analyze	ed: 04/22/2	021		
Boron	0.080354	0.0500	mg/L		0.082774			2.97	20	
Calcium	105.77	1.50	mg/L		110.30			4.19	20	
Lithium	0.038983	0.0150	mg/L		0.041019			5.09	20	
Duplicate (BGD0243-DUP2)	So	urce: MGD003	37-03	Prepared	: 04/12/202	1 Analyze	ed: 04/22/2	021		
Calcium	53.579	1.50	mg/L		54.932			2.49	20	
Boron	0.050629	0.0500	mg/L		0.059295			15.8	20	
Lithium	0.021732	0.0150	mg/L		0.021779			0.213	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

04/30/2021 10:12

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGD0243 - EPA 200.2, EPA 3005										
Matrix Spike (BGD0243-MS1)	Sou	ırce: MGD003	37-01	Prepared	: 04/12/202	1 Analyze	ed: 04/22/2	021		
Lithium	1.1049	0.0150	mg/L	1.0000	0.041019	106	70-130			
Calcium	219.98	1.50	mg/L	100.00	110.30	110	70-130			
Boron	1.1158	0.0500	mg/L	1.0000	0.082774	103	70-130			
Matrix Spike (BGD0243-MS2)	Sou	ırce: MGD003	37-03	Prepared	: 04/12/202	1 Analyze	ed: 04/22/2	021		
Lithium	1.0610	0.0150	mg/L	1.0000	0.021779	104	70-130			
Calcium	157.76	1.50	mg/L	100.00	54.932	103	70-130			
Boron	1.0997	0.0500	mg/L	1.0000	0.059295	104	70-130			
Matrix Spike Dup (BGD0243-MSD1)	Sou	ırce: MGD003	Prepared: 04/12/2021 Analyzed: 04/22/2021							
Lithium	1.1034	0.0150	mg/L	1.0000	0.041019	106	70-130	0.129	20	
Boron	1.1420	0.0500	mg/L	1.0000	0.082774	106	70-130	2.32	20	
Calcium	217.54	1.50	mg/L	100.00	110.30	107	70-130	1.11	20	
Matrix Spike Dup (BGD0243-MSD2)	Sou	ırce: MGD003	37-03	Prepared	: 04/12/202	1 Analyze	ed: 04/22/2	021		
Boron	1.0971	0.0500	mg/L	1.0000	0.059295	104	70-130	0.235	20	
Lithium	1.0511	0.0150	mg/L	1.0000	0.021779	103	70-130	0.932	20	
Calcium	156.18	1.50	mg/L	100.00	54.932	101	70-130	1.01	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 04/30/2021 10:12

Mercury - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGC0636 - EPA 245.1, EPA 7470A										
Blank (BGC0636-BLK1)				Prepared:	03/30/202	1 Analyze	ed: 03/31/2	021		
Mercury	<0.200	0.200	ug/L							
LCS (BGC0636-BS1)				Prepared:	03/30/202	1 Analyze	ed: 03/31/2	021		
Mercury	2.7639	0.200	ug/L	3.0000		92.1	85-115			
Duplicate (BGC0636-DUP1)	Sourc	e: MGC021	17-07	Prepared:	03/30/202	1 Analyze	ed: 03/31/2	021		
Mercury	<0.200	0.200	ug/L		<0.200				20	
Duplicate (BGC0636-DUP2)	Sourc	e: MGC021	17-08	Prepared:	03/30/202	1 Analyze	ed: 03/31/2	021		
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BGC0636-MS1)	Sourc	e: MGC021	17-07	Prepared:	03/30/202	1 Analyze	ed: 03/31/2	021		
Mercury	2.6637	0.200	ug/L	3.0000	<0.200	88.8	70-130			
Matrix Spike (BGC0636-MS2)	Sourc	e: MGC021	17-08	Prepared:	03/30/202	1 Analyze	ed: 03/31/2	021		
Mercury	2.7162	0.200	ug/L	3.0000	<0.200	90.5	70-130			
Matrix Spike Dup (BGC0636-MSD1)	Sourc	e: MGC021	17-07	Prepared:	03/30/202	1 Analyze	d: 03/31/2	021		
Mercury	2.7276	0.200	ug/L	3.0000	<0.200	90.9	70-130	2.37	20	
Matrix Spike Dup (BGC0636-MSD2)	Sourc	e: MGC021	17-08	Prepared:	03/30/202	1 Analyze	ed: 03/31/2	021		
Mercury	2.6530	0.200	ug/L	3.0000	<0.200	88.4	70-130	2.35	20	



Environmental Services-Water Minneapolis
250 Marquette Plaza
Minneapolis MN, 55401
Project Manager: Eric Ealy
Project Manager: Eric Ealy

04/30/2021 10:12

Qualifiers and Definitions

M_TTT Sample received at the lab outside of required hold time.

M_LCS-H The recovery of this analyte in the LCS was above the control limits. The sample result may be biased high.

M_K-06 The reporting limit has been increased, the reported result is acceptable. The maximum routine sample volume was used,

but the amount of residue measured was below reference method limits.

M_D-RL The RPD for the sample duplicate was outside of QC acceptance limits due to<RL.

Z Non Accredited Analyte

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page Project No. DRINKING WATE OTHER Samples Intact N/A N/A SAMPLE CONDITIONS OTHER MCES of Custody Sealed Cooler 0 N/A N/A REGULATORY AGENCY L × × Page: 1 Ice 24.50 N/A N/A Received on <u>_</u> ☐ NPDES GROUND WATER ☐ SCT O° ni qmaT L × × LHO × × × × × TIME L N 1111 I RCRA L LOCATION 3/246 iltered (Y/N) SITE DATE × T UST × × Requested Analysis: × × × ACCEPTED BY / AFFILIATION lethanol EOSSSE! HOBI 101 EONH yey Las book -*OSZ upreserved Steve Davis 0 0 0 0 m # OF CONTAINERS SAMPLER NAME AND SIGNATURE Chris Pelosi COLLECTION TA 9MPLE TEMP AT TIME 1410 कर्वा भीर्याह J21/10 0850 3/22/10 0925 3/24/21 1058 3/22/10/1020 3/23/21 0835 3/23/21 0940 TIME 3/23/21 NA 3hilu MA 2 3/23/21/101 Project Name. Xcel Energy Sherco Unit 3 LF Spring Pace Pronts # 3/22/21 3/2/12/ DATE DATE COLLECTED ace Quote Reference: Pace Project Manager: RELINQUISHED BY / AFFILIATION TIME Invoice Information: Company Name Section C DATE Attention: SAMPLE TYPE G=GRAB C=COMP O O 0 0 0 0 0 9 0 0 0 0 WT WT WT Riley Jacobson W WT TW WT TW WT WT WT WT MATRIX CODE Chris Pelosi Required Project Information: urchase Order No. Project Number Section B Report To: MATRIX
DRINKING WATER
WATER
WASTE WATER
PRODUCT
SOLUSOLD Copy To: EP-76A-75 4 strys MD00402 P-75-1 P-76B-1 P-73A-1 P-73B-1 P.744 000 P-117 P-120 P-98 P-125 Environmental Services 2 Weeks Section D Required Client Inform One Character per box. (A-Z, 0-9 / ;-) Sample IDs MUST BE UNIQUE SAMPLE ID Chris Pelosi Xcel Energy IR GUN MYCOSYI MP-7 Fax: Required Client Information: tequested Due Date/TAT: Additional Comments: hone; (612) 597-7254 Section A mail To: ddress: 4 # MHTI

e-File(ALLQ020rev.3,31Mar05))22Jun2005

3/24/2

Pace Analytical" www.peoelebs.com

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Cli	Section A Required Client Information:	Required Pro	Required Project Information:	Invoice Information								STATE OF THE PERSON NAMED IN	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:		Steve Davis	avis			REGUL/	REGULATORY AGENCY	SENCY	
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:					□ NPDES	GROUND WATER	NATER	DRINK	DRINKING WATER
	MP-7			Address:					L UST	L RCRA	L	OTHER	OTHER MCES
Email To:	Chris Pelosi	Purchase Order No.:	er No.:	Pace Quote Reference:	nce:				SITE	NC (L L	L	L
Phone; (612) 597-7254	397-7254 Fax:	Project Number	er	Pace Project Manager:		Chris Pelosi			LOCATION		L scL	> IM	OTHER
Requested I	Requested Due Date/TAT: 2 Weeks	Project Name:	Xcel Energy	Sherco Unit 3 LF Spring	Spring Pace Profile #				Filtered (Y/N)	111	111	11	
	mation	Valid Matrix Codes MATRIX DRANKING WATER WATER WASTE WATER PRODUCT SOLL FOLID OU.	SE SE NOSE	SAB C=COMP	COLLECTED	IPLE TEMP AT	CONTAINERS		Requested Analysis:		TI PO GEN W	CONSTRUCTION OF THE PROPERTY O	
t Mati	Sample IDs MUST BE UNIQUE		AM AS	DATE TIME	COMPOSITE ENDIGRABI		Unprese	Office Nascan Na	3.No 400.No		Penpisery Syden Rid 400		Pace Project No. Lab I.D.
	P-134		WT G		3/21/10 1/2/5		4 1	1 2	×	×	×		
2	P-137A		WT G		3/22/10 1445		1	2	×	×	×		
8	P-137B		WT G		3/22/10 1/510		3 1	+	×		×		
4	P-138A		WT G		3trello 1335	1300	4 1	2	×	×	×		
2	P-138B		WT G		3/22/10 1335		2	r	×		×		
9	P-141		WT G		3/22/10 1130		4	1 2	×	×	×		
7	P-142		WT G		3/23/21 1410		3	-	×		×		
8	P-143A		WT G		3/13/14 1335	1310	9	-	×		×		
6	P-143B		WT G		3/23/11 1335		£	-	×		×		
10	P-144A		WT G		3/25/W 1235	1.	3	-	×		×		
11	P-144B		WT G		3/23/21 12/25/2		3	-	×		×		
12	DUPLICATE	(p-125	WT G		3/20/10 1020		4	1 2	×	×	×		
Additional Comments:	Comments:		RELINQUISHED B	SHED BY / AFFILIATION	DATE		CCEPTE	ACCEPTED BY / AFFILIATION	DATE	TIME	2	CONDI	SNOIL
			L MAN	tack	3/24/2/ 1410	0	2	The same	12/22/2	1111	2.7	N	0
			10									N/A N/A	N/A
,												N/A	N/A
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				SAME	SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER.	SNATURE	Jecobson	AVIOLITY Spring MALIPUTA			O° ni qma no baviace	lce Custody	aled Cooler
				OKANA	ME OI SAMITLEIN M	lend	\	man and the state of	1	12/22/2		*	

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical"

DRINKING WATER OTHER N/A N/A Samples Intact SAMPLE CONDITIONS OTHER MCES of Custody Sealed Cooler 0 N/A N/A N N REGULATORY AGENCY Page: 3 2.46 N/A N/A Received on ☐ NPDES ▼ GROUND WATER ☐ _ SCT O° ni qmeT NM □ HO TIME 1417 L T RCRA L LOCATION 3/24/21 SITE iltered (Y/N) DATE T UST Requested Analysis: ACCEPTED BY / AFFILIATION EOSSSEV HOBN HCI EONH POS2H Steve Davis # OF CONTAINERS SAMPLER NAME AND SIGNATURE Chris Pelosi SAMPLE TEMP AT TIME DIT! TIME 3/12/11/1430 3/2/1/21/0915 Project Name: Xcel Energy Sherco Unit 3 LF Spring Pace Pronts # 3/4/21 DATE RELINQUISHED BY / AFFILIATION DATE COLLECTED ace Quote Reference: Pace Project Manager: TIME Invoice Information: Startles Company Name Section C 2 DATE Attention: SAMPLE TYPE GRAB C=COMP 0 0 TW Riley Jacobson TW **BOOD XINTAM** Chris Pelosi Required Project Information: CODE urchase Order No.: Project Number Section B Report To: Copy To: LEACHATE RINSE **Environmental Services** 2 Weeks Section D Required Client Inform One Character per box. (A-Z, 0-9 / .-)
Sample IDs MUST BE UNIQUE SAMPLE ID Xcel Energy Chris Pelosi MP-7 Fax Required Client Information: Requested Due Date/TAT: Additional Comments: Phone; (612) 597-7254 Section A mail To: ITEM #

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3/24/21

Lacebser

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19 May 2021 Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco Unit 3 LF Spring

Enclosed are the results of analyses for samples received by the laboratory on 05/07/2021 12:43. If you have any questions concerning this report, please feel free to contact me.

CC:

I certify that this analysis report was prepared under my direction or supervision under a system designed to assure that qualified personnel analyzed the submitted samples. All protocols for analysis were followed as required by Minnesota Rules and the Applicable Management Plan.

Sincerely,

Steve Davis

Project Manager



Environmental Services-Water Minneapolis	Project Name/Location: Sherco Unit 3 LF Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2021 07:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-74-1		MGE0086-01	Water	05/07/2021 11:00	05/07/2021 12:43
P-97		MGE0086-03	Water	05/07/2021 10:25	05/07/2021 12:43



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/19/2021 07:12

P-74-1
MGE0086-01 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograph	ıy									
Chloride	21.6	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:46	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:46	EPA 300.0	CRL
Sulfate	18.5	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:46	EPA 300.0	CRL
Wet Chemistry										
рН	7.64		pH Units	M_TTT	1	BGE0181	5/10/21 7:27	5/10/21 8:10	SM 4500-H+ B	CRL
Total Dissolved Solids	332	25.0	mg/L		1	BGE0227	5/12/21 8:51	5/12/21 8:51	SM 2540C	HSD
Total Suspended Solids	12.0	5.00	mg/L		1	BGE0226	5/12/21 6:43	5/12/21 6:43	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.639	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Barium	98.9	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Cobalt	2.02	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Chromium	10.3	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Molybdenum	1.00	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:46	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0851	0.0500	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 10:13	EPA 200.7	HRD
Calcium	78.8	1.50	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 10:12	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 10:12	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

P-74-1 MGE0086-01 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilutio	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGE0404	5/17/21 18:06	5/18/21 20:11	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/19/2021 07:12

P-97 MGE0086-03 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	29.9	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 16:27	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 16:27	EPA 300.0	CRL
Sulfate	26.3	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 16:27	EPA 300.0	CRL
Wet Chemistry										
pH	7.69		pH Units	M_TTT	1	BGE0181	5/10/21 7:27	5/10/21 8:24	SM 4500-H+ B	CRL
Total Dissolved Solids	346	25.0	mg/L		1	BGE0227	5/12/21 8:51	5/12/21 8:51	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0226	5/12/21 6:43	5/12/21 6:43	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.759	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Barium	80.3	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Cobalt	4.69	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Chromium	1.88	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Selenium	0.684	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:50	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0730	0.0500	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 10:18	EPA 200.7	HRD
Calcium	78.1	1.50	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 10:17	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 10:17	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

05/19/2021 07:12

P-97 MGE0086-03 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilution	on Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGE0404	5/17/21 18:06	5/18/21 20:12	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/19/2021 07:12

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0276 - Wet Prep										
Blank (BGE0276-BLK1)				Prepared:	05/12/202	21 Analyze	ed: 05/13/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGE0276-BLK2)				Prepared:	05/12/202	21 Analyze	ed: 05/13/2	021		
Chloride	<1.00	1.00	mg/L					<u> </u>	<u> </u>	
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGE0276-BS1)				Prepared:	05/12/202	21 Analyze	ed: 05/13/2	021		
Chloride	25.516	1.00	mg/L	25.000		102	90-110			
Fluoride	2.5640	0.750	mg/L	2.5000		103	90-110			
Sulfate	25.621	1.00	mg/L	25.000		102	90-110			
LCS (BGE0276-BS2)				Prepared:	05/12/202	21 Analyze	ed: 05/13/2	021		
Chloride	25.482	1.00	mg/L	25.000		102	90-110			
Fluoride	2.6830	0.750	mg/L	2.5000		107	90-110			
Sulfate	25.908	1.00	mg/L	25.000		104	90-110			
LCS (BGE0276-BS3)				Prepared:	05/12/202	21 Analyze	ed: 05/13/2	021		
Chloride	25.461	1.00	mg/L	25.000		102	90-110	<u> </u>		
Fluoride	2.6430	0.750	mg/L	2.5000		106	90-110			
Sulfate	25.664	1.00	mg/L	25.000		103	90-110			
Duplicate (BGE0276-DUP1)	So	urce: MGE007	77-18	Prepared:	05/12/202	21 Analyze	ed: 05/13/2	021		
Chloride	3.9280	1.00	mg/L	<u> </u>	3.9370			0.229	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	38.517	1.00	mg/L		38.597			0.207	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/19/2021 07:12

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
					. 1000	70.120		2		
Batch BGE0276 - Wet Prep										
Duplicate (BGE0276-DUP2)	Sou	rce: MGE007	7-19	Prepared:	05/12/202	21 Analyze	ed: 05/13/2	2021		
Chloride	4.6080	1.00	mg/L		4.6800			1.55	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	60.342	1.00	mg/L		60.783			0.728	20	
Matrix Spike (BGE0276-MS1)	Sou	rce: MGE007	7-18	Prepared:	05/12/202	21 Analyze	ed: 05/13/2	2021		
Chloride	34.561	1.25	mg/L	31.250	3.9370	98.0	90-110			
Fluoride	2.9413	0.938	mg/L	3.1250	<0.938	94.1	90-110			
Sulfate	69.708	1.25	mg/L	31.250	38.597	99.6	90-110			
Matrix Spike (BGE0276-MS2)	Sou	rce: MGE007	7-19	Prepared:	05/12/202	21 Analyze	ed: 05/13/2	2021		
Chloride	36.119	1.25	mg/L	31.250	4.6800	101	90-110			
Fluoride	3.2013	0.938	mg/L	3.1250	<0.938	102	90-110			
Sulfate	91.926	1.25	mg/L	31.250	60.783	99.7	90-110			
Matrix Spike Dup (BGE0276-MSD1)	Sou	rce: MGE007	7-18	Prepared:	05/12/202	21 Analyze	ed: 05/13/2	2021		
Chloride	34.850	1.25	mg/L	31.250	3.9370	98.9	90-110	0.832	20	
Fluoride	3.2950	0.938	mg/L	3.1250	<0.938	105	90-110	11.3	20	
Sulfate	69.993	1.25	mg/L	31.250	38.597	100	90-110	0.408	20	
Matrix Spike Dup (BGE0276-MSD2)	Sou	rce: MGE007	7-19	Prepared:	05/12/202	21 Analyze	ed: 05/13/2	2021		
Chloride	35.874	1.25	mg/L	31.250	4.6800	99.8	90-110	0.681	20	
Fluoride	3.3475	0.938	mg/L	3.1250	<0.938	107	90-110	4.47	20	
Sulfate	91.925	1.25	mg/L	31.250	60.783	99.7	90-110	0.00135	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/19/2021 07:12

		- ·		0 "	-		0/ DEC		DDE	
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0181 - Wet Prep										
LCS (BGE0181-BS1)				Prepared	& Analyze	d: 05/10/2	2021			
рН	7.0600		pH Units	7.0000		101	90-110			
LCS (BGE0181-BS2)				Prepared	& Analyze	d: 05/10/2	2021			
рН	7.0800		pH Units	7.0000		101	90-110			
Duplicate (BGE0181-DUP1)	Sou	rce: MGE00	86-01	Prepared	& Analyze	d: 05/10/2	2021			
рН	7.6100		pH Units		7.6400			0.393	20	
Batch BGE0226 - Wet Prep										
Blank (BGE0226-BLK1)				Prepared	& Analyze	d: 05/12/2	2021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0226-BS1)				Prepared	& Analyze	d: 05/12/2	2021			
Total Suspended Solids	94.000	5.00	mg/L	104.10		90.3	70-130			
Duplicate (BGE0226-DUP1)	Sou	rce: MGE00	77-27	Prepared	& Analyze	d: 05/12/2	2021			
Total Suspended Solids	0.80000	10.0	mg/L		0.60000			28.6	20	M_D-RL, M_K-06
Batch BGE0227 - Wet Prep										
Blank (BGE0227-BLK1)				Prepared	& Analyze	d: 05/12/2	2021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0227-BS1)				Prepared	& Analyze	d: 05/12/2	2021			
Total Dissolved Solids	102.00	25.0	mg/L	100.10		102	70-130			



Environmental Services-Water Minneapolis
250 Marquette Plaza
Minneapolis MN, 55401
Project Manager: Eric Ealy
Project Manager Services Unit 3 LF Spring
Reported:
05/19/2021 07:12

- [1
		Reporting		Spike	Source		%REC		RPD		l
	Analyte Res	ult Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	l

Batch	BGE0227	- Wet Prep
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Duplicate (BGE0227-DUP1)	Source:	MGE007	7-27	Prepared & Analyzed: 05/12/2021		
Total Dissolved Solids	336.00	25.0	mg/L	348.00	3.51	20



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

05/19/2021 07:12

Total Metals by ICPMS - Quality Control

	5 "	Reporting		Spike	Source	0/ DEC	%REC	555	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0217 - EPA 200.2, EPA 3005	i									
Blank (BGE0217-BLK1)				Prepared:	05/11/202	1 Analyze	d: 05/12/20	021		
Cadmium	<0.100	0.100	ug/L							
Lead	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Molybdenum	< 0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
⁻ hallium	<0.500	0.500	ug/L							
Beryllium	<0.100	0.100	ug/L							
Barium	<0.500	0.500	ug/L							
rsenic	<0.500	0.500	ug/L							
CS (BGE0217-BS1)				Prepared:	05/11/202	1 Analyze	d: 05/12/20	021		
Beryllium	100.93	0.100	ug/L	100.00		101	85-115			
Cobalt	99.424	0.500	ug/L	100.00		99.4	85-115			
Barium	102.16	0.500	ug/L	100.00		102	85-115			
Chromium	101.39	0.500	ug/L	100.00		101	85-115			
ead	99.059	0.500	ug/L	100.00		99.1	85-115			
Nolybdenum	98.237	0.500	ug/L	100.00		98.2	85-115			
Arsenic	99.962	0.500	ug/L	100.00		100	85-115			
Cadmium	95.833	0.100	ug/L	100.00		95.8	85-115			
-hallium	100.25	0.500	ug/L	100.00		100	85-115			
Antimony	101.42	0.500	ug/L	100.00		101	85-115			
elenium	100.52	0.500	ug/L	100.00		101	85-115			
Duplicate (BGE0217-DUP1)	So	urce: MGE007	77-20	Prepared:	05/11/202	1 Analyze	d: 05/12/20	021		
ead	0.27296	0.500	ug/L		0.26012			4.82	20	
Beryllium	<0.100	0.100	ug/L		<0.100				20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
3arium	53.986	0.500	ug/L		51.412			4.89	20	
Selenium	6.6916	0.500	ug/L		6.4361			3.89	20	
Thallium	0.042402	0.500	ug/L		<0.500				20	
Cobalt	0.36438	0.500	ug/L		0.33380			8.76	20	
Arsenic	0.72361	0.500	ug/L		0.67141			7.48	20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	2.5762	0.500	ug/L		2.4802			3.79	20	
Chromium	8.5361	0.500	ug/L		8.8178			3.25	20	

Xcel Energy Minneapolis Testing Lab



RPD

%REC

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

05/19/2021 07:12

Total Metals by ICPMS - Quality Control

Spike

Source

Reporting

100.74

0.100

ug/L

100.00

< 0.100

101

75-125

1.47

20

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0217 - EPA 200.2, EPA 300)5									
Matrix Spike (BGE0217-MS1)	Soui	ce: MGE007	77-20	Prepared	: 05/11/202	21 Analyze	ed: 05/12/2	021		
Molybdenum	104.22	0.500	ug/L	100.00	2.4802	102	75-125			
Lead	91.554	0.500	ug/L	100.00	0.26012	91.3	75-125			
Beryllium	99.268	0.100	ug/L	100.00	<0.100	99.3	75-125			
Barium	158.78	0.500	ug/L	100.00	51.412	107	75-125			
Selenium	112.43	0.500	ug/L	100.00	6.4361	106	75-125			
Cobalt	95.711	0.500	ug/L	100.00	0.33380	95.4	75-125			
Cadmium	98.449	0.100	ug/L	100.00	<0.100	98.4	75-125			
Chromium	110.65	0.500	ug/L	100.00	8.8178	102	75-125			
Thallium	93.113	0.500	ug/L	100.00	<0.500	93.1	75-125			
Antimony	101.06	0.500	ug/L	100.00	<0.500	101	75-125			
Arsenic	104.45	0.500	ug/L	100.00	0.67141	104	75-125			
Matrix Spike Dup (BGE0217-MSD1)	Soui	ce: MGE007	77-20	Prepared	: 05/11/202	21 Analyze	ed: 05/12/2	021		
Molybdenum	100.97	0.500	ug/L	100.00	2.4802	98.5	75-125	3.17	20	
Barium	157.81	0.500	ug/L	100.00	51.412	106	75-125	0.617	20	
Thallium	97.453	0.500	ug/L	100.00	< 0.500	97.5	75-125	4.55	20	
Selenium	113.38	0.500	ug/L	100.00	6.4361	107	75-125	0.843	20	
Cadmium	98.262	0.100	ug/L	100.00	<0.100	98.3	75-125	0.190	20	
Cobalt	101.17	0.500	ug/L	100.00	0.33380	101	75-125	5.54	20	
Antimony	103.49	0.500	ug/L	100.00	<0.500	103	75-125	2.37	20	
Chromium	114.78	0.500	ug/L	100.00	8.8178	106	75-125	3.66	20	
Lead	93.073	0.500	ug/L	100.00	0.26012	92.8	75-125	1.65	20	
Arsenic	103.39	0.500	ug/L	100.00	0.67141	103	75-125	1.01	20	

Beryllium



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

05/19/2021 07:12

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0216 - EPA 200.2, EPA 3005										
Blank (BGE0216-BLK1)				Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Calcium	<1.50	1.50	mg/L							
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
LCS (BGE0216-BS1)				Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Boron	0.94056	0.0500	mg/L	1.0000		94.1	85-115			
Lithium	0.97273	0.0150	mg/L	1.0000		97.3	85-115			
Calcium	98.116	1.50	mg/L	100.00		98.1	85-115			
Duplicate (BGE0216-DUP1)	Sou	rce: MGE007	7-18	Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Lithium	<0.0150	0.0150	mg/L		0.0043374				20	
Calcium	64.074	1.50	mg/L		63.223			1.34	20	
Boron	0.16959	0.0500	mg/L		0.17192			1.37	20	
Duplicate (BGE0216-DUP2)	Sou	rce: MGE007	7-19	Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Calcium	77.840	1.50	mg/L		77.544			0.381	20	
Lithium	<0.0150	0.0150	mg/L		<0.0150				20	
Boron	0.22155	0.0500	mg/L		0.22570			1.86	20	
Matrix Spike (BGE0216-MS1)	Sou	rce: MGE007	7-18	Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Calcium	163.84	1.50	mg/L	100.00	63.223	101	70-130			
Lithium	0.99376	0.0150	mg/L	1.0000	0.0043374	98.9	70-130			
Boron	1.1228	0.0500	mg/L	1.0000	0.17192	95.1	70-130			
Matrix Spike (BGE0216-MS2)	Sou	rce: MGE007	7-19	Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Calcium	180.94	1.50	mg/L	100.00	77.544	103	70-130			
Boron	1.1753	0.0500	mg/L	1.0000	0.22570	95.0	70-130			
Lithium	0.99455	0.0150	mg/L	1.0000	<0.0150	99.5	70-130			



RPD

%REC

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Total Metals by ICP - Quality Control

Spike

Source

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0216 - EPA 200.2, EPA 300	5									
Matrix Spike Dup (BGE0216-MSD1)	Sour	rce: MGE007	77-18	Prepared	: 05/11/202	1 Analyze	d: 05/16/2	021		
Boron	1.1179	0.0500	mg/L	1.0000	0.17192	94.6	70-130	0.433	20	
Calcium	164.96	1.50	mg/L	100.00	63.223	102	70-130	0.683	20	
Lithium	0.98139	0.0150	mg/L	1.0000	0.0043374	97.7	70-130	1.25	20	
Matrix Spike Dup (BGE0216-MSD2)	Sou	rce: MGE007	77-19	Prepared	: 05/11/202	1 Analyze	d: 05/16/2	021		
Boron	1.1789	0.0500	mg/L	1.0000	0.22570	95.3	70-130	0.306	20	
Lithium	1.0081	0.0150	mg/L	1.0000	<0.0150	101	70-130	1.35	20	
Calcium	183.55	1.50	mg/L	100.00	77.544	106	70-130	1.44	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/19/2021 07:12

Mercury - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0404 - EPA 245.1, EPA 7470A										
Blank (BGE0404-BLK1)				Prepared:	05/17/202	21 Analyze	ed: 05/18/2	021		
Mercury	<0.200	0.200	ug/L							
LCS (BGE0404-BS1)				Prepared:	05/17/202	21 Analyze	ed: 05/18/2	021		
Mercury	2.8760	0.200	ug/L	3.0000		95.9	85-115			
Duplicate (BGE0404-DUP1)	Sourc	ce: MGE007	7-21	Prepared:	05/17/202	21 Analyze	ed: 05/18/2	021		
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BGE0404-MS1)	Sourc	ce: MGE007	7-21	Prepared:	05/17/202	21 Analyze	ed: 05/18/2	021		
Mercury	2.8111	0.200	ug/L	3.0000	<0.200	93.7	70-130			
Matrix Spike Dup (BGE0404-MSD1)	Sourc	ce: MGE007	7-21	Prepared:	05/17/202	21 Analyze	ed: 05/18/2	021		
Mercury	2.8174	0.200	ug/L	3.0000	<0.200	93.9	70-130	0.224	20	



Environmental Services-Water Minneapolis
250 Marquette Plaza
Minneapolis MN, 55401
Project Manager: Eric Ealy
Project Name/Location: Sherco Unit 3 LF Spring

Reported:
05/19/2021 07:12

Qualifiers and Definitions

M_TTT Sample received at the lab outside of required hold time.

M_K-06 The reporting limit has been increased, the reported result is acceptable. The maximum routine sample volume was used,

but the amount of residue measured was below reference method limits.

M_D-RL The RPD for the sample duplicate was outside of QC acceptance limits due to<RL.

Z Non Accredited Analyte

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Pace Analytical"

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Environmental Services MP-7 Chris Pelosi Chris Pelosi Chris Pelosi SAMPLE ID One Christ Pelosi (A-2, 0-91,-) Sample IDs MUST BE UNIQUE P-76A-1 P-97 P-99 Comments:	Required Client Information:	ormation:	Required Proje	Required Project Information:		Inv	Invoice Information	ion;										r age.	5	-
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Total Number Page Name	Email To:	Chris Pelosi	Purchase Orde	r No.:		Pa	se Quote Rei	erence:							SITE	1200	L	z L		
Required Cloth to Large Management (Note of the County of	Phone; (612) 597-7254	Fax:	Project Number	7		Pa	se Project Ma	anager:	O	rris Pelc	Si				OCATION	L	L	-5		ER
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21 June 2021 Eric Ealy Environmental Services-Water Minneapolis 250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco Unit 3 LF Spring

Enclosed are the results of analyses for samples received by the laboratory on 06/11/2021 09:35. If you have any questions concerning this report, please feel free to contact me.

CC:

I certify that this analysis report was prepared under my direction or supervision under a system designed to assure that qualified personnel analyzed the submitted samples. All protocols for analysis were followed as required by Minnesota Rules and the Applicable Management Plan.

Sincerely,

Steve Davis

Project Manager



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

06/21/2021 09:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-137A		MGF0112-01	Water	06/10/2021 9:10	06/11/2021 9:35



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 06/21/2021 09:18

P-137A MGF0112-01 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	52.1	1.00	mg/L		1	BGF0343	6/16/21 7:06	6/16/21 13:21	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGF0343	6/16/21 7:06	6/16/21 13:21	EPA 300.0	CRL
Sulfate	32.4	1.00	mg/L		1	BGF0343	6/16/21 7:06	6/16/21 13:21	EPA 300.0	CRL
Wet Chemistry										
pH	7.64		pH Units	M_TTT	1	BGF0264	6/11/21 9:54	6/11/21 12:49	SM 4500-H+ B	HRD
Total Dissolved Solids	440	25.0	mg/L		1	BGF0275	6/14/21 9:01	6/14/21 9:01	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGF0274	6/14/21 6:31	6/14/21 6:31	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.878	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Barium	110	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Chromium	1.02	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Selenium	0.500	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGF0279	6/14/21 7:38	6/15/21 8:47	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGF0278	6/14/21 7:36	6/16/21 17:10	EPA 200.7	HRD
Calcium	99.4	1.50	mg/L		1	BGF0278	6/14/21 7:36	6/16/21 17:08	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGF0278	6/14/21 7:36	6/16/21 17:08	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

06/21/2021 09:18

P-137A

MGF0112-01 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilu	ution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BGF0306	6/14/21 15:12	6/15/21 12:59	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 06/21/2021 09:18

Anions by Ion Chromatography - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGF0343 - Wet Prep										
Blank (BGF0343-BLK1)				Prepared	& Analyze	d: 06/16/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGF0343-BLK2)				Prepared	& Analyze	d: 06/16/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
.CS (BGF0343-BS1)				Prepared	& Analyze	d: 06/16/2	021			
Chloride	25.292	1.00	mg/L	25.000		101	90-110			
luoride	2.7060	0.750	mg/L	2.5000		108	90-110			
Sulfate	25.356	1.00	mg/L	25.000		101	90-110			
.CS (BGF0343-BS2)				Prepared	& Analyze	d: 06/16/2	021			
Chloride	25.533	1.00	mg/L	25.000		102	90-110			
Fluoride	2.7760	0.750	mg/L	2.5000		111	90-110			M_LCS-H
Sulfate	25.684	1.00	mg/L	25.000		103	90-110			
.CS (BGF0343-BS3)				Prepared	& Analyze	d: 06/16/2	021			
Chloride	25.577	1.00	mg/L	25.000		102	90-110			
Fluoride	2.8560	0.750	mg/L	2.5000		114	90-110			M_LCS-H
Sulfate	25.694	1.00	mg/L	25.000		103	90-110			
_CS (BGF0343-BS4)				Prepared:	06/16/202	21 Analyze	d: 06/18/2	021		
Chloride	24.176	1.00	mg/L	25.000		96.7	90-110			
Fluoride	2.2970	0.750	mg/L	2.5000		91.9	90-110			
Sulfate	24.034	1.00	mg/L	25.000		96.1	90-110			



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 06/21/2021 09:18

Anions by Ion Chromatography - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGF0343 - Wet Prep										
LCS (BGF0343-BS5)				Prepared:	06/16/202	21 Analyze	ed: 06/18/2	2021		
Chloride	24.328	1.00	mg/L	25.000		97.3	90-110			
Fluoride	2.6140	0.750	mg/L	2.5000		105	90-110			
Sulfate	24.497	1.00	mg/L	25.000		98.0	90-110			
Duplicate (BGF0343-DUP1)	Sou	rce: MGF011	3-01	Prepared	& Analyze	d: 06/16/2	021			
Chloride	45.576	1.00	mg/L		45.619			0.0943	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	33.820	1.00	mg/L		33.851			0.0916	20	
Duplicate (BGF0343-DUP2)	Sou	rce: MGF011	3-02	Prepared	& Analyze	d: 06/16/2	021			
Chloride	11.379	1.00	mg/L		11.392			0.114	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	40.230	1.00	mg/L		40.263			0.0820	20	
Matrix Spike (BGF0343-MS1)	Sou	rce: MGF011	3-01	Prepared	& Analyze	d: 06/16/2	021			
Chloride	76.500	1.25	mg/L	31.250	45.619	98.8	90-110			
Fluoride	3.3138	0.938	mg/L	3.1250	<0.938	106	90-110			
Sulfate	65.006	1.25	mg/L	31.250	33.851	99.7	90-110			
Matrix Spike (BGF0343-MS2)	Sou	rce: MGF011	3-02	Prepared	& Analyze	d: 06/16/2	021			
Chloride	42.870	1.25	mg/L	31.250	11.392	101	90-110			
Fluoride	3.5600	0.938	mg/L	3.1250	<0.938	114	90-110			M_MS
Sulfate	71.821	1.25	mg/L	31.250	40.263	101	90-110			
Matrix Spike Dup (BGF0343-MSD1)	Sou	rce: MGF011	3-01	Prepared	& Analyze	d: 06/16/2	021			
Chloride	76.820	1.25	mg/L	31.250	45.619	99.8	90-110	0.417	20	
Fluoride	3.4600	0.938	mg/L	3.1250	<0.938	111	90-110	4.32	20	M_MS
Sulfate	65.353	1.25	mg/L	31.250	33.851	101	90-110	0.531	20	



Analyte

Minneapolis Testing Laboratory 1518 Chestnut Ave N Minneapolis, MN 55043 Certification # MN-027-053-197 WI-999071150 Christine Keefe, Manager (612) 630-4506

RPD

Limit

Notes

RPD

%REC

Limits

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

06/21/2021 09:18

Anions by Ion Chromatography - Quality Control

Units

Reporting

Limit

Result

Batch BGF0343 - Wet Prep										
Matrix Spike Dup (BGF0343-MSD2)	Sour	ce: MGF011	3-02	Prepared	& Analyze	d: 06/16/2	2021			
Chloride	42.335	1.25	mg/L	31.250	11.392	99.0	90-110	1.26	20	
Fluoride	3.5700	0.938	mg/L	3.1250	<0.938	114	90-110	0.281	20	M_MS
Sulfate	70.934	1.25	mg/L	31.250	40.263	98.1	90-110	1.24	20	

Spike

Level

Source

Result

%RFC



Environmental Services-Water Minneapolis
250 Marquette Plaza
Minneapolis MN, 55401
Project Manager: Eric Ealy
Project Manager Services Unit 3 LF Spring
Reported:
06/21/2021 09:18

Wet Chemistry - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGF0264 - Wet Prep										
LCS (BGF0264-BS1)				Prepared	& Analyze	d: 06/11/2	2021			
pH	7.0900		pH Units	7.0000		101	90-110			
LCS (BGF0264-BS2)				Prepared	& Analyze	d: 06/11/2	2021			
pH	7.0700		pH Units	7.0000		101	90-110			
Duplicate (BGF0264-DUP1)	Soul	rce: MGF01	12-01	Prepared	& Analyze	d: 06/11/2	2021			
pH	7.6700		pH Units		7.6400			0.392	20	
Batch BGF0274 - Wet Prep										
Blank (BGF0274-BLK1)				Prepared	& Analyze	d: 06/14/2	2021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGF0274-BS1)				Prepared	& Analyze	d: 06/14/2	2021			
Total Suspended Solids	98.000	5.00	mg/L	109.10		89.8	70-130			
Duplicate (BGF0274-DUP1)	Soui	rce: MGF01	12-01	Prepared	& Analyze	d: 06/14/2	2021			
Total Suspended Solids	<12.5	12.5	mg/L		<12.5				20	M_K-06
Batch BGF0275 - Wet Prep										
Blank (BGF0275-BLK1)				Prepared	& Analyze	d: 06/14/2	2021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGF0275-BS1)				Prepared	& Analyze	d: 06/14/2	2021			
Total Dissolved Solids	108.00	25.0	mg/L	112.10		96.3	70-130			



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 LF Spring

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 06/21/2021 09:18

Wet Chemistry - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGF0275 - Wet Prep							
Duplicate (BGF0275-DUP1)	Sourc	e: MGF011	2-01	Prepared & Analyzed: 06/14/2021			
Total Dissolved Solids	444.00	25.0	mg/L	440.00	0.905	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

06/21/2021 09:18

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGF0279 - EPA 200.2, EPA 3005										
Blank (BGF0279-BLK1)				Prepared:	06/14/202	1 Analyze	ed: 06/15/2	021		
Antimony	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							
Lead	<0.500	0.500	ug/L							
Beryllium	<0.100	0.100	ug/L							
Chromium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Гhallium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
.CS (BGF0279-BS1)				Prepared:	06/14/202	1 Analyze	ed: 06/15/2	021		
ead	95.375	0.500	ug/L	100.00		95.4	85-115			
Chromium	101.30	0.500	ug/L	100.00		101	85-115			
Cobalt	97.699	0.500	ug/L	100.00		97.7	85-115			
Fhallium	97.189	0.500	ug/L	100.00		97.2	85-115			
Molybdenum	100.25	0.500	ug/L	100.00		100	85-115			
Cadmium	94.981	0.100	ug/L	100.00		95.0	85-115			
Arsenic	97.514	0.500	ug/L	100.00		97.5	85-115			
Beryllium	100.12	0.100	ug/L	100.00		100	85-115			
Selenium	101.66	0.500	ug/L	100.00		102	85-115			
Antimony	98.771	0.500	ug/L	100.00		98.8	85-115			
Barium	103.14	0.500	ug/L	100.00		103	85-115			
Duplicate (BGF0279-DUP1)	So	urce: MGF011	3-01	Prepared:	06/14/202	1 Analyze	ed: 06/15/2	021		
Barium	70.429	0.500	ug/L		71.421			1.40	20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Cobalt	0.28800	0.500	ug/L		0.30047			4.24	20	
Arsenic	0.35727	0.500	ug/L		0.31598			12.3	20	
Beryllium	<0.100	0.100	ug/L		<0.100				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Thallium .	<0.500	0.500	ug/L		<0.500				20	
Chromium	0.96426	0.500	ug/L		1.0625			9.69	20	
Selenium	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	0.33180	0.500	ug/L		0.22267			39.4	20	M_D-RL
_ead	0.10739	0.500	ug/L		0.096536			10.6	20	_

Xcel Energy Minneapolis Testing Lab

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

06/21/2021 09:18

Total Metals by ICPMS - Quality Control

Analyte Result Limit Units Level Result %REC Limits RPD Limit Notes		Reporting		Spike	Source		%REC		RPD	
	Analyte	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BGF0279 - EPA 200.2, EPA 300)5									
Matrix Spike (BGF0279-MS1)	Sour	ce: MGF011	3-01	Prepared	: 06/14/202	1 Analyz	ed: 06/15/2	021		
Thallium	96.669	0.500	ug/L	100.00	<0.500	96.7	75-125			
Lead	94.494	0.500	ug/L	100.00	0.096536	94.4	75-125			
Cobalt	96.769	0.500	ug/L	100.00	0.30047	96.5	75-125			
Arsenic	102.92	0.500	ug/L	100.00	0.31598	103	75-125			
Antimony	99.995	0.500	ug/L	100.00	<0.500	100	75-125			
Selenium	105.35	0.500	ug/L	100.00	<0.500	105	75-125			
Barium	172.76	0.500	ug/L	100.00	71.421	101	75-125			
Cadmium	95.344	0.100	ug/L	100.00	<0.100	95.3	75-125			
Chromium	99.064	0.500	ug/L	100.00	1.0625	98.0	75-125			
Beryllium	106.01	0.100	ug/L	100.00	<0.100	106	75-125			
Nolybdenum	101.68	0.500	ug/L	100.00	0.22267	101	75-125			
Matrix Spike Dup (BGF0279-MSD1)	Sour	ce: MGF011	3-01	Prepared	: 06/14/202	1 Analyz	ed: 06/15/2	021		
hallium	95.314	0.500	ug/L	100.00	<0.500	95.3	75-125	1.41	20	
Cobalt	105.90	0.500	ug/L	100.00	0.30047	106	75-125	9.01	20	
rsenic	103.03	0.500	ug/L	100.00	0.31598	103	75-125	0.114	20	
antimony	102.02	0.500	ug/L	100.00	<0.500	102	75-125	2.00	20	
Cadmium	101.17	0.100	ug/L	100.00	<0.100	101	75-125	5.93	20	
Selenium	106.88	0.500	ug/L	100.00	<0.500	107	75-125	1.44	20	
Beryllium	105.83	0.100	ug/L	100.00	<0.100	106	75-125	0.172	20	
ead	92.449	0.500	ug/L	100.00	0.096536	92.4	75-125	2.19	20	
Molybdenum	104.00	0.500	ug/L	100.00	0.22267	104	75-125	2.26	20	
arium	175.00	0.500	ug/L	100.00	71.421	104	75-125	1.29	20	
Chromium	110.87	0.500	ug/L	100.00	1.0625	110	75-125	11.2	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 LF Spring

Reported:

06/21/2021 09:18

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGF0278 - EPA 200.2, E	PA 3005									
Blank (BGF0278-BLK1)				Prepared	: 06/14/202	21 Analyze	ed: 06/16/2	.021		
Calcium	<1.50	1.50	mg/L							
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
LCS (BGF0278-BS1)				Prepared	: 06/14/202	21 Analyze	ed: 06/16/2	.021		
Boron	1.1473	0.0500	mg/L	1.0000		115	85-115			
Calcium	104.52	1.50	mg/L	100.00		105	85-115			
Lithium	1.0319	0.0150	mg/L	1.0000		103	85-115			
Duplicate (BGF0278-DUP1)	Sc	ource: MGF011	12-01	Prepared	: 06/14/202	21 Analyze	ed: 06/16/2	.021		
Lithium	<0.0150	0.0150	mg/L		<0.0150				20	
Boron	0.035197	0.0500	mg/L		0.040627			14.3	20	
Calcium	93.241	1.50	mg/L		99.405			6.40	20	
Matrix Spike (BGF0278-MS1)	Sc	ource: MGF011	12-01	Prepared	: 06/14/202	21 Analyze	ed: 06/16/2	2021		
Boron	1.0118	0.0500	mg/L	1.0000	0.040627	97.1	70-130			
Calcium	202.07	1.50	mg/L	100.00	99.405	103	70-130			
Lithium	1.0101	0.0150	mg/L	1.0000	<0.0150	101	70-130			
Matrix Spike Dup (BGF0278-MSD	1) Sc	ource: MGF011	12-01	Prepared	: 06/14/202	21 Analyze	ed: 06/16/2	.021		
Boron	1.0135	0.0500	mg/L	1.0000	0.040627	97.3	70-130	0.169	20	
Calcium	202.99	1.50	mg/L	100.00	99.405	104	70-130	0.453	20	
Lithium	1.0093	0.0150	mg/L	1.0000	<0.0150	101	70-130	0.0865	20	
Littliaiii	1.0093	0.0130	mg/L	1.0000	~U.U 13U	101	10-130	0.0000	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Mercury - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGF0306 - EPA 245.1, EPA 7470A										
Blank (BGF0306-BLK1)				Prepared:	06/14/202	21 Analyze	ed: 06/15/2	2021		
Mercury	<0.200	0.200	ug/L							
LCS (BGF0306-BS1)				Prepared:	06/14/202	21 Analyze	ed: 06/15/2	2021		
Mercury	2.7691	0.200	ug/L	3.0000		92.3	85-115			
Duplicate (BGF0306-DUP1)	Soui	ce: MGF011	3-02	Prepared:	06/14/202	21 Analyze	ed: 06/15/2	2021		
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BGF0306-MS1)	Soui	ce: MGF011	3-02	Prepared:	06/14/202	21 Analyze	ed: 06/15/2	2021		
Mercury	2.7475	0.200	ug/L	3.0000	<0.200	91.6	70-130			
Matrix Spike Dup (BGF0306-MSD1)	Soui	ce: MGF011	3-02	Prepared:	06/14/202	21 Analyze	ed: 06/15/2	2021		
Mercury	2.7651	0.200	ug/L	3.0000	<0.200	92.2	70-130	0.639	20	



Environmental Services-Water Minneapolis	Project Name/Location: Sherco Unit 3 LF Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/21/2021 09:18

Qualifiers and Definitions

M_MS	The percent recovery and/or RPD were outside the acceptance limits for the MS/MSD due to possible matrix interference and/or non-homogeneous sample matrix.
M_LCS-H	The recovery of this analyte in the LCS was above the control limits. The sample result may be biased high.
M_K-06	The reporting limit has been increased, the reported result is acceptable. The maximum routine sample volume was used, but the amount of residue measured was below reference method limits.
M_D-RL	The RPD for the sample duplicate was outside of QC acceptance limits due to <rl.< td=""></rl.<>

Z Non Accredited Analyte
DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

Sample received at the lab outside of required hold time.

NR Not Reported

M_TTT

dry Sample results reported on a dry weight basis

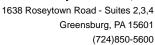
RPD Relative Percent Difference

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	mation:									Page: 1	of 1
Company: Xcel Energy	Report To: Chris Pelosi	Attention:			Stev	Steve Davis	10			REGUL	REGULATORY AGENCY	GENCY	
Address: Environmental Services	Copy To: Riley Jacobson	Company Name.	ame:						□ NPDES	1	GROUND WATER	DRIN	DRINKING WATER
MP-7		Address:							☐ UST	L	L	OTHE	OTHER MCES
Email To: Chris Pelosi	Purchase Order No.:	Pace Quote Reference	Reference	as a					SITE	NC WN	N II	Z Z	M
Phone; (612) 587-7254 Fax:	Project Number	Pace Project Manager:	t Manager	17	Chris Pelosi/ Riley Jacobson	losi/ Ril	ey Jacok	son	LOCATION		H SC	N N	OTHER
Requested Due Date/TAT: 2 Weeks	Project Name: Xcel Energy Sherco Spring RE	nerco Spring		Pace Profile #:	#:				Filtered (Y/N)	// (N	111	111	/
Section D Required Client Information SAMPLE ID One Character per box. (A.Z. 0.9 /)	Valid Matrix Codes CODE CODE CODE WATERIX WWW COD WWW WWW COD WWW WW COD WW WW COD WWW COD WW WW WW WW WW WW WW WW WW	MAPLE TYPE	COLLECTED	CTED	TA 9M3T 3J9N	: CONTAINERS	peved		Requested Analysis:	100 NB 20		(NA) europy)	
Sample IDS MUST BE UNIQUE	W	D=5	L		IAS	_	10 ³ 20 ⁴ 1btes	_	DO N	1 / / / / / / / / / / / / / / / / / / /	0150		Pace Project No.
111		DATE	TIME	DATE	TIME		zH.	Na Na HC	19		000		Lab I.D
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Additional Comments:	RELINQUISHED	D BY / AFFILIATION	ATION	DATE	TIME	ACC	EPTED BY	ACCEPTED BY / AFFILIATION	N DATE	TIME	SAMPL	SAMPLE CONDITIONS	ITIONS
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15805W DV												N/A	N/A
												N/A	N/A
			SAMPLE PRINT Name	SAMPLER NAME A	SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: (AY) S. Pelov.	URE Pelos:	工	Kendaul 10	10) n (0).		⊃° ni qr	lce lce	d Cooler
			SIGNATURE	SIGNATURE of SAMPLER:	Jens,	+ Karlan		Sign	(MM/DD/YY)		neT		Seale

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April 19, 2021

Christopher Pelosi Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414

RE: Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Dear Christopher Pelosi:

Enclosed are the analytical results for sample(s) received by the laboratory on March 30, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

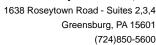
Carin a. Ferris

Carin Ferris
carin.ferris@pacelabs.com
724-850-5615
Project Manager

Enclosures

cc: Eric Ealy, Xcel Energy
Christine M. Keefe, Xcel Energy
Ciara Ruikkie, Pace Analytical Services - Field Svcs
Division







CERTIFICATIONS

Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590 Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694

Delaware Certification EPA Region 4 DW Rad

Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET

Guam Certification Hawaii Certification Idaho Certification Illinois Certification Indiana Certification Iowa Certification #: 391

Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221

Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020 Maryland Certification #: 308

KY WW Permit #: KY0000221

Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991 Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457

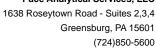
New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



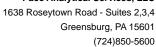


SAMPLE SUMMARY

Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30412639001	P-73A-1	Water	03/22/21 08:50	03/30/21 09:15
30412639002	P-75-1	Water	03/24/21 10:55	03/30/21 09:15
30412639003	P-98	Water	03/23/21 09:40	03/30/21 09:15
30412639004	P-117	Water	03/22/21 15:50	03/30/21 09:15
30412639005	P-120	Water	03/23/21 10:40	03/30/21 09:15
30412639006	P-125	Water	03/22/21 10:20	03/30/21 09:15
30412639007	P-134	Water	03/22/21 12:15	03/30/21 09:15
30412639008	P-137A	Water	03/22/21 14:45	03/30/21 09:15
30412639009	P-138A	Water	03/22/21 13:00	03/30/21 09:15
30412639010	P-141	Water	03/22/21 11:30	03/30/21 09:15
30412639011	DUPLICATE (P-125)	Water	03/22/21 10:20	03/30/21 09:15
30412639012	RINSE	Water	03/22/21 16:30	03/30/21 09:15



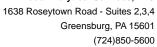


SAMPLE ANALYTE COUNT

Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30412639001	P-73A-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639002	P-75-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639003	P-98	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639004	P-117	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639005	P-120	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639006	P-125	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639007	P-134	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639008	P-137A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639009	P-138A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639010	P-141	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639011	DUPLICATE (P-125)	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30412639012	RINSE	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA





SAMPLE ANALYTE COUNT

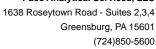
Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Analytes

Lab ID Sample ID Method Analysts Reported Laboratory

PASI-PA = Pace Analytical Services - Greensburg





PROJECT NARRATIVE

Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Pace-MN Field Services Division

Date: April 19, 2021

General Information:

12 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

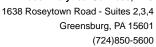
Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:





PROJECT NARRATIVE

Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Pace-MN Field Services Division

Date: April 19, 2021

General Information:

12 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

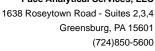
Additional Comments:

Analyte Comments:

QC Batch: 441716

1c: MB reported in pCi/L.

- BLANK (Lab ID: 2132293)
 - Radium-228





PROJECT NARRATIVE

Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Method: Total Radium Calculation
Description: Total Radium 228+226

Client: Pace-MN Field Services Division

Date: April 19, 2021

General Information:

12 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

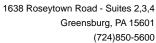
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.





Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

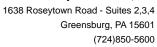
Sample: P-73A-1	Lab ID: 30412		Received:	03/30/21 09:15	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg		•	- \	
Radium-226	EPA 903.1	0.199 ± 0.391 (0.714) C:NA T:95%	pCi/L	04/13/21 16:37	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.261 ± 0.502 (1.10) C:67% T:86%	pCi/L	04/15/21 15:47	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.460 ± 0.893 (1.81)	pCi/L	04/16/21 09:15	7440-14-4	
Sample: P-75-1 PWS:	Lab ID: 30412 Site ID:		Received:	03/30/21 09:15	Matrix: Water	
PW5:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	-0.113 ± 0.259 (0.611) C:NA T:96%	pCi/L	04/13/21 16:37	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.256 ± 0.487 (1.07) C:62% T:86%	pCi/L	04/15/21 15:47	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	$0.256 \pm 0.746 (1.68)$	pCi/L	04/16/21 09:15	7440-14-4	
Sample: P-98	Lab ID: 30412	2639003 Collected: 03/23/21 09:40	Received:	03/30/21 09:15	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg		•		
Radium-226	EPA 903.1	-0.0607 ± 0.315 (0.729) C:NA T:89%	pCi/L	04/13/21 16:37	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.0376 ± 0.420 (0.961) C:66% T:93%	pCi/L	04/15/21 15:47	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.0376 ± 0.735 (1.69)	pCi/L	04/16/21 09:15	7440-14-4	



Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Sample: P-117 PWS:	Lab ID: 30412 Site ID:	2639004 Collected: 03/22/21 15:50 Sample Type:	Received:	03/30/21 09:15 N	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	0.259 ± 0.360 (0.601) C:NA T:83%	pCi/L	04/13/21 16:37	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.253 ± 0.504 (1.11) C:63% T:83%	pCi/L	04/15/21 15:47	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.512 ± 0.864 (1.71)	pCi/L	04/16/21 09:15	7440-14-4	
Sample: P-120 PWS:	Lab ID: 30412 Site ID:	2639005 Collected: 03/23/21 10:40 Sample Type:	Received:	03/30/21 09:15 N	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical	Services - Greensburg		•		
Radium-226	EPA 903.1	0.194 ± 0.421 (0.777) C:NA T:89%	pCi/L	04/13/21 16:37	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	-0.323 ± 0.577 (1.38) C:61% T:78%	pCi/L	04/15/21 15:47	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.194 ± 0.998 (2.16)	pCi/L	04/16/21 09:15	7440-14-4	
Sample: P-125	Lab ID: 30412	2639006 Collected: 03/22/21 10:20	Received:	03/30/21 09:15 N	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical	Services - Greensburg		·		
Radium-226	EPA 903.1	0.113 ± 0.384 (0.742) C:NA T:98%	pCi/L	04/13/21 16:37	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.365 ± 0.530 (1.14) C:62% T:81%	pCi/L	04/15/21 15:47	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.478 ± 0.914 (1.88)	pCi/L	04/16/21 09:15	7440-14-4	

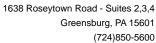




Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

Sample: P-134 PWS:	Lab ID: 30412639007 Collected: 03/22/21 12:15 Site ID: Sample Type:		Received:	03/30/21 09:15	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.0570 ± 0.403 (0.803) C:NA T:93%	pCi/L	04/13/21 16:3	7 13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0		pCi/L	04/15/21 15:4	7 15262-20-1	
	Pace Analytical S					
Total Radium	Total Radium Calculation	0.0570 ± 0.842 (1.89)	pCi/L	04/16/21 09:1	5 7440-14-4	
Sample: P-137A PWS:	Lab ID: 30412 Site ID:	2639008 Collected: 03/22/21 14:45 Sample Type:	Received:	03/30/21 09:15	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.621 ± 0.493 (0.641) C:NA T:86%	pCi/L	04/13/21 16:5	7 13982-63-3	
	Pace Analytical S					
Radium-228	EPA 904.0	EPA 904.0 1.24 ± 0.666 (1.21) C:57% T:85%		04/15/21 15:4	7 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	1.86 ± 1.16 (1.85)	pCi/L	04/16/21 09:1	5 7440-14-4	
Sample: P-138A	Lab ID: 30412639009 Collected: 03/22/21 13:00		Received:	03/30/21 09:15	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S					
Radium-226	EPA 903.1	-0.107 ± 0.244 (0.575) C:NA T:98%	pCi/L	04/13/21 16:5	7 13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.142 ± 0.488 (1.10) C:68% T:85%	pCi/L	04/15/21 15:4	7 15262-20-1	
	Pace Analytical S					
Total Radium	Total Radium Calculation	0.142 ± 0.732 (1.68)	pCi/L	04/16/21 09:1	5 7440-14-4	





Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

	e Analytical Services - -0.06 C:NA	· ·	Units	Analyzed	CAS No.	Qual
	.1 -0.06 C:NA	· ·			*	Quai
Radium-226 EPA 903.	C:NA					
		34 ± 0.289 (0.588) \ T:90%	pCi/L	04/13/21 16:57	13982-63-3	
Pace	Pace Analytical Services - Greensburg					
Radium-228 EPA 904.		l ± 0.542 (1.18) % T:74%	pCi/L	04/15/21 15:47	15262-20-1	
Pace	e Analytical Services -	Greensburg				
Total Radium Total Rad Calculati		l ± 0.831 (1.77)	pCi/L	04/16/21 09:15	7440-14-4	
. ,	b ID: 30412639011 e ID:	Collected: 03/22/21 10:20 Sample Type:	Received:	03/30/21 09:15 N	Matrix: Water	
Parameters I	Method Ac	et ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pac	e Analytical Services -	Greensburg		•		
Radium-226 EPA 903) ± 0.272 (0.438) \ T:90%	pCi/L	04/13/21 16:57	13982-63-3	
Pace	Pace Analytical Services - Greensburg					
Radium-228 EPA 904.		6 ± 0.438 (0.989) % T:88%	pCi/L	04/15/21 15:47	15262-20-1	
Pace	Pace Analytical Services - Greensburg					
Total Radium Total Rad Calculati	· · · · · · · · · · · · · · · · · · ·	5 ± 0.710 (1.43)	pCi/L	04/16/21 09:15	7440-14-4	
	Lab ID: 30412639012 Collected: 03/22/21 16:30		Received:	03/30/21 09:15 M	Matrix: Water	
PWS: Sit	e ID:	Sample Type:				
Parameters I	Method Ad	et ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
Pac	Pace Analytical Services - Greensburg					
Radium-226 EPA 903.		± 0.346 (0.488) A T:80%	pCi/L	04/13/21 16:57	13982-63-3	
Pace	Pace Analytical Services - Greensburg					
Radium-228 EPA 904.		2 ± 0.654 (1.46) % T:70%	pCi/L	04/15/21 15:48	15262-20-1	
Pace	e Analytical Services -	Greensburg				
Total Radium Total Rad Calculati	0.000	3 ± 1.000 (1.95)	pCi/L	04/16/21 09:15	7440-14-4	





QUALITY CONTROL - RADIOCHEMISTRY

Xcel Energy Sherco Unit 3 LF Project:

Pace Project No.: 30412639

QC Batch: 441715 Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226

> Laboratory: Pace Analytical Services - Greensburg

30412639001, 30412639002, 30412639003, 30412639004, 30412639005, 30412639006, 30412639007, Associated Lab Samples:

30412639008, 30412639009, 30412639010, 30412639011, 30412639012

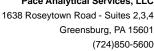
METHOD BLANK: 2132292 Matrix: Water

30412639001, 30412639002, 30412639003, 30412639004, 30412639005, 30412639006, 30412639007, Associated Lab Samples:

30412639008, 30412639009, 30412639010, 30412639011, 30412639012

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers Radium-226 -0.0420 ± 0.247 (0.551) C:NA T:99% pCi/L 04/13/21 16:25

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALITY CONTROL - RADIOCHEMISTRY

Xcel Energy Sherco Unit 3 LF Project:

Pace Project No.: 30412639

QC Batch: 441716 Analysis Method: EPA 904.0 QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg 30412639001, 30412639002, 30412639003, 30412639004, 30412639005, 30412639006, 30412639007, Associated Lab Samples:

30412639008, 30412639009, 30412639010, 30412639011, 30412639012

METHOD BLANK: 2132293 Matrix: Water

30412639001, 30412639002, 30412639003, 30412639004, 30412639005, 30412639006, 30412639007, Associated Lab Samples:

30412639008, 30412639009, 30412639010, 30412639011, 30412639012

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers Radium-228 $0.0616 \pm 0.370 \quad (0.848) \text{ C:}68\% \text{ T:}88\%$ pCi/L 04/15/21 15:48 1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

QUALIFIERS

Project: Xcel Energy Sherco Unit 3 LF

Pace Project No.: 30412639

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 04/19/2021 08:48 AM

1c MB reported in pCi/L.

CHAIN-OF-CUSTODY / Analytical MO#:30412639

Section C

Face Analytical"

Page Project No. Lee LD. DRINKING WATER OTHER_ SAMPLE CONDITIONS OTHER MCES F00 L ≅ N N REGULATORY AGENCY 3,5 0 50 930 00% 00 200 Cag **3** ✓ GROUND WATER S 등 Z TIME RCRA LOCATION ☐ NPDES Filtered (Y/N) DATE SITE × × ⊓ UST Requested Analysis: × × × × × ACCEPTED BY / AFFILIATION Methanol 482S2O3 HOB MN 55408 2 7 7 7 N N 2 ²ONH os^zl Jubteserved 1700 SE Elm St, Minneapolis, Ciara Ruikkie þ þ N N N 2 N N Ŋ Tom Halverson # ОЕ СОИТАІИЕКЗ Pace MN Field Services Carin Ferris SAMPLE TEMP AT COLLECTION TIME 145 1300 0880 1130 AX 2121 2501 ž 55.51 TIME 28 0,00 0701 Paco Profile #: 3/22/21 3/22/21 3/22/21 3/23/21 3/22/21 3/22/21 3/22/21 3/24/21 3/22/21 3/23/21 3/22/21 3/22/21 DATE DATE COLLECTED Pace Quote Reference: Pace Project Manager: RELINQUISHED BY / AFFILIATION Energy Sherco Unit 3 LF Spring TIME nvoice Information: Company Name: COMPOSITE START DATE Attention: Address: чмоэ=э вьяэ=э ტ Ø Ø Ø Ø Ø Ø O Ø Ø Ø Ø W ¥ Ž Riley Jacobson WT ΜŢ Ϋ́ ¥ ¥ M ¥ Ş Σ MATRIX CODE Chris Pelosi Required Project Information: Xcel Purchase Order No.: Project Number Project Name: Section B 9 MATRIX
DRINKING WATER
WATER
WASTE WATER
PRODUCT
PRODUCT
OIL Θ Report To: Copy To: Required Client Information P-73A-1 P-125 P-137A P-138A P-74-1 P-117 P-120 P.134 P-141 P-98 P-97 2 Weeks One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE c/o Pace MN Field SAMPLE ID Xcel Energy Chris Pelosi RADIUM Section A Required Client Information: Fax Requested Due Date/TAT: Additional Comments: Section D Phone; (612) 597-7254 Company: Email To: Address: 9 ILEW #

3/24/21 DATE Signod (MM/DD/YY) Lace bear PRINT Namo of SAMPLER: SIGNATURE of SAMPLER

SAMPLER NAME AND SIGNATURE

e-File(ALLQ020rev.3,31Mar05))22Jun2005

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RUS 3124/21

Samples Intact

Sealed Cooler

Custody

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Temp in °C

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Face Analytical"

Pass Project No. Lee I.D. Samples Intact DRINKING WATER NØ. N/A N/A N/A OTHER SAMPLE CONDITIONS OTHER MCES ŏ 8/A N/A N/A N/A. REGULATORY AGENCY L <u>></u> 210 Page: 2 611 Ø\Y N/A N/A N/A Ļ ScT GROUND WATER T .5 E Ţ Z ō TIME 0415 ĮΣ RCRA L 0 0 186 ACE 855. AS M LOCATION ပ 12-04-6 DATE T NPDES Filtered (Y/N) SITE × × TS∪ T Requested Analysis: N × 4 ACCEPTED BY / AFFILIATION Rec Иеграпо 492S2O3 HOS 1700 SE Elm St, Minneapolis, MN 55408 1CI 2 **=** HOOH ¹08²F pevieseidni Ciara Ruikkie c) Tom Halverson # OF CONTRINERS Pace MN Field Services Carin Ferris SAMPLE TEMP AT COLLECTION 1030 TIME 3/22/21/1020 1630 COMPOSITE END/GRAB Xoel Energy Sherco Unit 3 LF Spring Page Promo #: 3/24/21 3/22/21 DATE DATE COLLECTED Pace Quote Reference: Pace Project Manager: RELINQUISHED BY / AFFILIATION TIME Invoice Information: Company Name: COMPOSITESTARY Tare Section C DATE Attention: Address: HE SEL 3 SAMPLE TYPE 9MOD=D BA9D=D O O Ϋ́ WT Riley Jacobson MATRIX CODE Chris Pelosi Required Project Information: Jurchase Order No.: (P-125 Project Number Project Name: Section B Valid Matrix Coc MATRIX DRINGOVATER WATER WASTE WATER PRODUCT PRODUCT OIL Report To: Copy To: Required Client Information DUPLICATE RINSE 2 Weeks One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE c/o Pace MN Field SAMPLE ID Chris Pelosi Xcel Energy RADIUM Required Client Information: Fax Requested Due Date/TAT: Additional Comments: Section D Phone: (612) 597-7254 Section A Company: Email To: Address: ILEM #

e-File(ALLQ020rev.3,31Mar05))22Jun2005

Sealed Cooler

Custody

Received on Ice

Temp in °C

12/20/5

DATE Signed (MM/DD/YY)

Rey Jacobson

SAMPLER NAME AND SIGNATURE

RINT Name of SAMPLER:

SIGNATURE of SAMPLER

Pace Analytical "

Client

Site

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Sample Line Item

7484 Profile Number Xcel Energy (Pace MN)

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Glass	0000

Container Codes

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	GIASS	ũ		
BJN	1 Gallon Jug with HNO3	DG9S	40mL amber VOA vial H2SO4	
AG5U	100mL amber glass unprserved	VG9U	40mL clear VOA vial	
AG5T	100mL amber glass Na Thiosulfate	VG9T	40mL clear VOA vial Na Thiosul	
SJN	i Gallon Jug	У СЭН	40mL clear VOA vial HCI	
AG1S	1L amber glass H2SO4	JGFU	4oz amber wide jar	
AG1H	1L amber glass HCl	WGFU	4oz wide jar unpreserved	
AG1T	∤L amber glass Na Thiosulfate	BG2U	500mL clear glass unpreserved	٠
BG1U	11. clear glass unpreserved	AG2U	AG2U 500mL amber glass unpreserved	
AG3S	250mL amber glass H2SO4	WGKU	WGKU 8oz wide jar unpreserved	
AG3U	250mL amber glass unpreserved			

Misc.	5g Encore	Kit for Volatile Solid	Wipe/Swab	Ziploc Bag
Mi	3 gS	Kit f	Wip	Zipi
Plastic /	EZI	VOAK	_	ZPLC
las				
<u>~</u>			fate	

120mL Coliform Na Thiosulfate

L plastic unpreserved 50mL plastic H2SO4

IL plastic HNO3

BP1N

SP5T

1/2 Gallon Cubitainer

2GN

3CUB 1 Gallon Cubitainer

ved		Water Solid Non-aqueous liquid
	WP	WP Wipe

50mL plastic unpreserv

50ml plastic NAOH

BP3C BP2S

50mL plastic HNO3

BP3N BP3U

BP3S

500mL plastic unpreserved

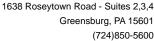
500mL plastic H2SO4

Pittsburgh Lab Sample Condit	ion (Jpor	ı Re	ceipt	
Pâce Analytical Client Name:	\rightarrow	<u>{c.</u>	_ ا	Energy	Project # # 3 0 4 1 2 6
Courier: Fed Ex UPS USPS Client Tracking #: 9550 9942 222		Comme	∍rcial	Pace Other	Label Um LIMS Login BR
Custody Seal on Cooler/Box Present: yes		10	Seals	intact: yes	Ino
Thermometer Used NA				Blue Mone	
Cooler Temperature Observed Temp	_	٠c	Corre	ection Factor:	°C Final Temp: °C
Temp should be above freezing to 6°C		-			
				pH paper Lot#	Date and Initials of person examining contents: 190 3-30-71
Comments:	Yes	No	N/A	100101	
Chain of Custody Present:	/			1.	
Chain of Custody Filled Out:	/			2.	
Chain of Custody Relinquished:	/			3.	
Sampler Name & Signature on COC:	/			4.	
Sample Labels match COC:	/			5.	
-Includes date/time/ID Matrix: <i>U</i>	<u>ب 7</u>		_		
Samples Arrived within Hold Time:	/			6.	
Short Hold Time Analysis (<72hr remaining):		/		7.	
Rush Turn Around Time Requested:	<u> </u>	/		8.	
Sufficient Volume:	/			9.	
Correct Containers Used:			ļ	10.	
-Pace Containers Used:	/				
Containers Intact:	/			11.	
Orthophosphate field filtered			1	12.	
Hex Cr Aqueous sample field filtered			/	13.	
Organic Samples checked for dechlorination:			/	14.	
Filtered volume received for Dissolved tests	ļ		1	15.	
All containers have been checked for preservation.				16. PHL7	,
exceptions: VOA, coliform, TOC, O&G, Phenolics, Non-aqueous matrix	Rador),		1112	
All containers meet method preservation requirements.	/			Initial when / completed	Date/time of preservation
requirements.	L	·	<u> </u>	Lot # of added preservative	The second secon
Headspace in VOA Vials (>6mm):				17.	
Trip Blank Present:			/	18.	
Trip Blank Custody Seals Present			/		
Rad Samples Screened < 0.5 mrem/hr	/			Initial when completed:	Date: 3-30-71 Survey Meter
Client Notification/ Resolution:			4		
Person Contacted:			Date/	Time:	Contacted By:
Comments/ Resolution:					

 \square A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.





June 07, 2021

Christopher Pelosi Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414

RE: Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

Dear Christopher Pelosi:

Enclosed are the analytical results for sample(s) received by the laboratory on May 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carin Ferris

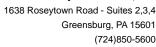
Carin a. Ferris

carin.ferris@pacelabs.com 724-850-5615 Project Manager

Enclosures

cc: Eric Ealy, Xcel Energy
Christine M. Keefe, Xcel Energy
Ciara Ruikkie, Pace Analytical Services - Field Svcs
Division







CERTIFICATIONS

Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification

California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694

Delaware Certification EPA Region 4 DW Rad

Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET

Guam Certification Hawaii Certification Idaho Certification Illinois Certification Indiana Certification Iowa Certification #: 391

Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020 Maryland Certification #: 308

Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991 Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888

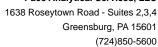
New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



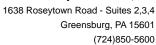


SAMPLE SUMMARY

Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30420943001	P-74-1	Water	05/07/21 11:00	05/12/21 10:30
30420943002	P-97	Water	05/07/21 10:25	05/12/21 10:30





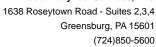
SAMPLE ANALYTE COUNT

Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

				Analytes	
Lab ID	Sample ID	Method	Analysts	Reported	Laboratory
30420943001	P-74-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420943002	P-97	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg





Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Pace-MN Field Services Division

Date: June 07, 2021

General Information:

2 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:





Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Pace-MN Field Services Division

Date: June 07, 2021

General Information:

2 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:





Xcel Energy Sherco Unit 3 LF S Project:

Pace Project No.: 30420943

Method: **Total Radium Calculation** Description: Total Radium 228+226

Client: Pace-MN Field Services Division

Date: June 07, 2021

General Information:

2 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

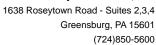
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



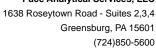


ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

Sample: P-74-1 PWS:	Lab ID: 304209 Site ID:	43001 Collected: 05/07/21 11:00 Sample Type:	Received:	05/12/21 10:30 M	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	0.382 ± 0.581 (1.00) C:NA T:86%	pCi/L	06/06/21 13:13	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	0.0929 ± 0.455 (1.02) C:65% T:94%	pCi/L	06/03/21 11:43	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.475 ± 1.04 (2.02)	pCi/L	06/07/21 14:49	7440-14-4	
Sample: P-97 PWS:	Lab ID: 304209 Site ID:	143002 Collected: 05/07/21 10:25 Sample Type:	Received:	05/12/21 10:30 N	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	0.0689 ± 0.405 (0.827) C:NA T:93%	pCi/L	06/06/21 13:13	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
	EPA 904.0	$0.342 \pm 0.424 (0.902)$	pCi/L	06/03/21 11:43	15262-20-1	
Radium-228		C:71% T:85%				
Radium-228	Pace Analytical Se	C:71% T:85% ervices - Greensburg				





QUALITY CONTROL - RADIOCHEMISTRY

Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

QC Batch: 449757 Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30420943001, 30420943002

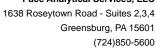
METHOD BLANK: 2170318 Matrix: Water

Associated Lab Samples: 30420943001, 30420943002

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.0954 ± 0.281 (0.631) C:74% T:92%
 pCi/L
 06/03/21 11:39

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALITY CONTROL - RADIOCHEMISTRY

Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

QC Batch: 449756 Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30420943001, 30420943002

METHOD BLANK: 2170317 Matrix: Water

Associated Lab Samples: 30420943001, 30420943002

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.124 ± 0.384 (0.744) C:NA T:87%
 pCi/L
 06/06/21 12:45

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

QUALIFIERS

Project: Xcel Energy Sherco Unit 3 LF S

Pace Project No.: 30420943

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Date: 06/07/2021 02:53 PM

Page Project No. DRINKING WATE VW WW Semples Intact N/A N/A SAMPLE CONDITIONS OTHER MCES Sealed Cooler NB N/A N/A N/A e-File(ALLQ020rev.3,31Mar05))22Jun2005 WO#:30420943 062 <u>></u> REGULATORY AGENCY 0 90| ØΥ N/A N/A Received on ☐ NPDES F GROUND WATER F SCT 7 O' ni qmaT 1_ 동 1030 TIME IL_Q RCRA L LOCATION Filtered (Y/N) DATE SITE × TSU L 12212 Requested Analysis: × Kensle I John SCN Other ACCEPTED BY / AFFILIATION The Chain-of-Custody is a LEGAL DOCUMENT. All relevant f yethanol CHAIN-OF-CUSTODY / Analytical cOsSseV HOB 1700 SE Elm St, Minneapolis, MN 55408 ЮI ON N *OS^zI peviesenda Ciara Ruikkie Tom Halverson # ОЕ СОИТИИЕКЗ Pace MN Field Services SAMPLER NAME AND SIGNATURE Carin Ferris COLLECTION 1330 TA 9MBT B19MA8 TIME PRINT Name of SAMPLER: N. C. 1925 Ö TIME COMPOSITE END/ORAB Project Name: Xcel Energy Sherco Unit 3 LF Spring Pass Premis #: SIGNATURE of SAMPLER; #17/21 12/4/51 SIFIU DATE DAITE COLLECTED Pace Quote Reference: Pace Project Manager: TIME RELINQUISHED BY / AFFILIATION Invoice Information: ŧ (Company Name: Freh COMPOSITE START Section C DATE Attention: 4ddress: } G=GRAB C=COMP O ര 34YT ∃J9MA8 Riley Jacobson Σ Σ MATRIX CODE Chris Pelosi Required Project Information: Purchase Order No.: Project Number Section B Report To: Copy To: Section D Required Client Information P-74-1 2 Weeks P-97 One Character per box. (A-Z, 0-9 / ,-) Sample IDS MUST BE UNIQUE c/o Pace MN Field SAMPLE ID Xcel Energy Chris Pelosi RADIUM Face Analytical Required Client Information: Requested Due Date/TAT: Additional Comments: Phone: (612) 597-7254 Company: Email To: Address: # MBTI Page 12 of 14

Pace Greensburg Lab -Sample Container Count

eace Analytical *

Client

Site

M) # 43,04209 Profile Number Notes XCel Energy Shere Unit 3LF Spring

Line Matrix Metrix A Constant A C	1 1~1	2 MT	3	4	2	9	2	00	o o	10	-	12
 USĐA SEĐA												
SE9A									1			
UEĐA UBĐA									,			•
T3ĐA												
บเอล												
กรอย												
ВР1И	2	7										
UI48												
BP2S												
USAB									· ·			
ВРЗС												
BP3N					-	_	-					-
8698 U898	-											
BCOB				-					ļ			
Н6ЭЛ	ļ									_		
165/												
Ueev												
VOAK												T
NGFU												
NGKN	١											
SPLC	2											

	Р	Plastic /	Misc.
GCUB	GCUB 1 Gallon Cubitainer	EZI	5g Encore
12GN	12GN 1/2 Gallon Cubitainer	VOAK	Kit for Volatile Solid
SP5T	SP5T 120mL Coliform Na Thiosulfate		Wipe/Swab
BP1N	BP1N 1L plastic HNO3	ZPLC	Ziploc Bag
BP1U	BP1U 1L plastic unpreserved		
BP3S	BP3S 250mL plastic H2SO4	Σ×	Water

40mL clear VOA vial Na Thiosu

40mL clear VOA vial

VG9U

OmL clear VOA vial HCI

VG9H JGFU

VG9T

00mL amber glass Na Thiosulfate

L amber glass H2SO4 L amber glass HCI

4G1S \G1H

Gallon Jug

00mL amber glass unprserved

4G5U

NG

AGST SIN

Gallon Jug with HNO3

oz amber wide jar

40mL amber VOA vial H2SO4

DG9S

Glass

۲۷	18/2422	
SL SL	Vvater	
OF.	Non-aqueous liquid	
WP	Wipe	

250mL plastic unpreserved

250ml plastic NAOH

BP2S BP3C

250mL plastic HNO3

BP3N BP3U

500mL clear glass unpreserved 500mL amber glass unpreserve

8oz wide jar unpreserved

WGKU

250mL amber glass unpreserved

250mL amber glass H2SO4 L clear glass unpreserved

AG2U

toz wide jar unpreserved

NGFU

BG2U

L amber glass Na Thiosulfate

BG1U **1638**

\G1T

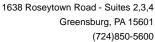
500mL plastic unpreserved 500mL plastic H2SO4

FNV-FRM-GRIJR-0072 00 29Dec2020

Pittsburgh Lab Sample Condit	ion L	Jpon	Rec	eipt			and a second
Pace Analytical Client Name:		X	<u>(</u>	ł	Project #	# 304	20943
Courier: Fed Ex UPS USPS Client						Label A	
Custody Seal on Cooler/Box Present:	□ n	•			no		
Thermometer Used	Туре			Blue None	. C		·c
Cooler Temperature Observed Temp		· C	Corre	ction Factor:	°C Final	Temp:	
Temp should be above freezing to 6°C				pH paper Lot#	Date and	Initials of person examir	ning
	<u> </u>	No	N/A	lopica	content	5-14-21	
Comments:	Yes	INO	IVA	1			
Chain of Custody Present:				1,			
Chain of Custody Filled Out:				2.			
Chain of Custody Relinquished:		<u> </u>		3.			
Sampler Name & Signature on COC:	-			4.			
Sample Labels match COC:		<u> </u>		5.			
-Includes date/time/ID Matrix:	<u>41</u>	T	Τ		<u></u>		
Samples Arrived within Hold Time:	 -	├ —		6.			
Short Hold Time Analysis (<72hr remaining):		_	ļ	7.			
Rush Turn Around Time Requested:	<u> </u>	 -		8.			
Sufficient Volume:				9.			
Correct Containers Used:	_	 	-	10.			
-Pace Containers Used:	<u> </u>	<u> </u>	<u> </u>				
Containers Intact:		-	<u> </u>	11.			
Orthophosphate field filtered	_		<u> </u>	12.			
Hex Cr Aqueous sample field filtered		-	_	13.			
Organic Samples checked for dechlorination:		ļ	_	14.			
Filtered volume received for Dissolved tests	 _		<u> -</u>	15.			
All containers have been checked for preservation.			<u></u>	16.			
exceptions: VOA, coliform, TOC, O&G, Phenolics Non-aqueous matrix	s, Rado	ιп,					
All containers meet method preservation				Initial when completed	Date/time o preservation		
requirements.	I			Lot # of added preservative			
Headspace in VOA Vials (>6mm):				17.			
Trip Blank Present:				18.			
Trin Blank Custody Seals Present			<u> </u>	Initial whon 40		Survey Meter	
Rad Samples Screened < 0.5 mrem/hr		-		Initial when completed:	Date: 5	14-21 sn: 1563	
Client Notification/ Resolution:							
Person Contacted:			_ Date	e/Time:	Co	ntacted B <u>y:</u>	
Comments/ Resolution:							
			····				
					lin granaris		•
A check in this box indicates that ac	ldition	al info	ormati	ion nas peen stored	un ereborg	•	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.





July 06, 2021

Christopher Pelosi Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414

RE: Project: Xcel Sherco Spring RE Pace Project No.: 30425693

Dear Christopher Pelosi:

Enclosed are the analytical results for sample(s) received by the laboratory on June 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

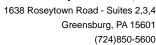
Carin a Ferris

Carin Ferris carin.ferris@pacelabs.com 724-850-5615 Project Manager

Enclosures

cc: Eric Ealy, Xcel Energy
Christine M. Keefe, Xcel Energy
Ciara Ruikkie, Pace Analytical Services - Field Svcs
Division







CERTIFICATIONS

Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590 Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA Colorado Certification #: PA01547 Connecticut Certification #: PH-0694

Delaware Certification EPA Region 4 DW Rad

Florida/TNI Certification #: E87683 Georgia Certification #: C040 Florida: Cert E871149 SEKS WET

Guam Certification Hawaii Certification Idaho Certification Illinois Certification Indiana Certification

Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133

KY WW Permit #: KY0098221 KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020 Maryland Certification #: 308

Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991 Missouri Certification #: 235 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

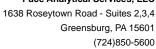
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South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



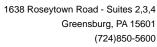


SAMPLE SUMMARY

Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
30425693001	P-137A	Water	06/10/21 09:10	06/12/21 10:45	
30425693002	P-151	Water	06/10/21 10:05	06/12/21 10:45	
30425693003	P-165	Water	06/10/21 10:50	06/12/21 10:45	





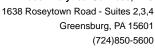
SAMPLE ANALYTE COUNT

Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30425693001	P-137A	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425693002	P-151	EPA 903.1	SLC	4	PASI-PA
		EPA 904.0	JC2	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30425693003	P-165	EPA 903.1	SLC	4	PASI-PA
		EPA 904.0	JC2	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg





Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Pace-MN Field Services Division

Date: July 06, 2021

General Information:

3 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

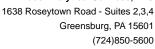
Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:





Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Pace-MN Field Services Division

Date: July 06, 2021

General Information:

3 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

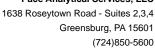
Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:





Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

Method: Total Radium Calculation

Description: Total Radium 228+226

Client: Pace-MN Field Services Division

Date: July 06, 2021

General Information:

3 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

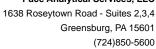


ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

Sample: P-137A PWS:	Lab ID: 30425 Site ID:	5693001 Collected: 06/10/21 09:10 Sample Type:	Received:	06/12/21 10:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.0568 ± 0.334 (0.682) C:NA T:93%	pCi/L	07/06/21 13:19	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.478 ± 0.395 (0.773) C:76% T:89%	pCi/L	07/01/21 14:15	5 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.535 ± 0.729 (1.46)	pCi/L	07/06/21 15:39	7440-14-4	
Sample: P-151	Lab ID: 30425		Received:	06/12/21 10:45	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	-0.0545 ± 0.354 (0.768) C:NA T:95%	pCi/L	07/06/21 13:05	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	-0.144 ± 0.392 (0.959) C:74% T:87%	pCi/L	07/01/21 14:15	5 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.000 ± 0.746 (1.73)	pCi/L	07/06/21 15:39	7440-14-4	
Sample: P-165	Lab ID: 30425	5693003 Collected: 06/10/21 10:50	Received:	-06/12/21-10:45	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters Parameters Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical (Services - Greensburg				
Radium 226	EPA 903.1	0.172 ± 0.262 (0.155) C:NA T:93%	pCi/L	07/06/21 13:05	5 13982 63 3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.230 ± 0.406 (0.888) C:76% T:94%	pCi/L	07/01/21 14:15	5 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.402 ± 0.668 (1.04)	pCi/L	07/06/21 15:3 9	7440-14-4	





QUALITY CONTROL - RADIOCHEMISTRY

Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

QC Batch: 452761 Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30425693001, 30425693002, 30425693003

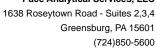
METHOD BLANK: 2185607 Matrix: Water

Associated Lab Samples: 30425693001, 30425693002, 30425693003

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.310 ± 0.279 (0.557) C:77% T:83%
 pCi/L
 07/01/21 11:00

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALITY CONTROL - RADIOCHEMISTRY

Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

QC Batch: 452759 Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30425693001, 30425693002, 30425693003

METHOD BLANK: 2185604 Matrix: Water

Associated Lab Samples: 30425693001, 30425693002, 30425693003

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 -0.200 ± 0.209 (0.565) C:NA T:94%
 pCi/L
 07/06/21 12:37

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

QUALIFIERS

Project: Xcel Sherco Spring RE

Pace Project No.: 30425693

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Date: 07/06/2021 03:42 PM

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

DRINKING WATER Pace Project No. Lab I.D. OTHER gewbjes jurgecr N/A N/A N/A SAMPLE CONDITIONS OTHER MCES Sealed Cooler e-File(ALLQ020rev.3,31Mar05))22Jun2005 N/A N/A N/Å N/A Cnefody O) 0 5 L ≷ REGULATORY AGENCY ဝိ 6 N/A N/A N/A N/A Received on ည GROUND WATER ☐ O° ni qmeT L 딩 TIME 930 C-13-2110005 ركي چ RCRA LOCATION × × iltered (Y/N) ☐ NPDES DATE SITE × × × T UST 6/11/21 Requested Analysis: × 30425693 × + Kn of all Jolinson Other ACCEPTED BY / AFFILIATION иетрасор Va₂S₂O₃ HOBY 1700 SE Elm St, Minneapolis, MN 55408 ЮН FEDEX CONH N N 7 OS²H and Japreserved VIA. Ciara Ruikkie Prois Pelasi Tom Halverson # ОГ СОИТА!ИЕРЗ Pace MN Field Services SAMPLER NAME AND SIGNATURE Carin Ferris COLLECTION 200 TIME 980 0410 1005 1050 T!ME Pace Profile #: PRINT Name of SAMPLER: SIGNATURE of SAMPLER 6/11/2r 7/0/2 DATE DATE COLLECTED Pace Quote Reference: Pace Project Manager: RELINQUISHED BY / AFFILIATION TIME Invoice Information: Novio ţ 1 } Energy Sherco Spring RE Company Name: *ि*ष्ट COMPOSITE START Section C age DATE Address: ļ G=GRAB C=COMP ტ ტ ტ SAMPLE TYPE Riley Jacobson ¥ Ϋ́ Ϋ́ MATRIX CODE Chris Pelosi Required Project Information: Xcel Purchase Order No.: roject Number Project Name: MATRIX
DRINGNO WATER
WATER
WASE WATER
PRODUCT
OUT Copy To: Required Client Information P-137A P-165 P-151 15 Days (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE c/o Pace MN Field One Character per box. SAMPLE ID Xcel Energy Chris Pelosi RADIUM Pace Analytical Fax Required Client Information: Requested Due Date/TAT: Additional Comments: Section D Jone: (612) 597-7254 Section A Company: Email To: Address: 10 2 9 2 8 12 7 က #WHI Page 12 of 13

Pace Analytical Client Name: Durier: Fed Ex UPS USPS Client Durier: Fed Ex UPS USPS Client Durier: Grad Structure Search District Temperature Observed Temp District Temperature Observed Tempera	nt 🗆 ı	Comme	ercial Seals	s intact: yes	Project # LIMS	_3 0 4 2 5 Label
ourier: Fed Ex UPS USPS Clien acking #: 9371 939 358 3 ustody Seal on Cooler/Box Present: yes dermometer Used cooler Temperature Observed Temp mp should be above freezing to 6°C comments:	nt 🗆 ı	Comme	ercial Seals	s intact: yes		Label M
acking #: 9371 939 35% 3 ustody Seal on Cooler/Box Present:	· · · ·	no of Ice:	Seals	s intact: yes	LIMS	
ustody Seal on Cooler/Box Present: yes permometer Used poler Temperature Observed Temp pup should be above freezing to 6°C pomments:	IJ r	of Ice:			LIMS	S Login V
ustody Seal on Cooler/Box Present: yes permometer Used poler Temperature Observed Temp pup should be above freezing to 6°C pomments:	IJ r	of Ice:				
poler Temperature Observed Temp mp should be above freezing to 6°C comments: nain of Custody Present:	Type	_	Wet			
mp should be above freezing to 6°C omments: nain of Custody Present:		. ° C		Blue (None		
omments: nain of Custody Present:			Corre	ection Factor:	· ° C Final Tem	p: °C
nain of Custody Present:						
nain of Custody Present:				pH paper Lot#	Date and initials	s of person examining
	Yes	No	N/A	1003801		
	1		 	1.		
nain of Custody Filled Out:	1			2.		
nain of Custody Relinquished:	\ <u>\</u>			3.		
mpler Name & Signature on COC:	 			4.		
ample Labels match COC:		L	<u> </u>	5.		
-Includes date/time/ID Matrix:	WT	<u> </u>	τ			
imples Arrived within Hold Time:				6.		
nort Hold Time Analysis (<72hr remaining):		W .	<u> </u>	7.		.
ish Turn Around Time Requested:			ļ	8.		
fficient Volume:	1			9.		
orrect Containers Used:	1			10.		
-Pace Containers Used:	1					
ontainers Intact:	V			11.		
thophosphate field filtered			1	12.		
x Cr Aqueous sample field filtered				13.		
ganic Samples checked for dechlorination:			<u> </u>	14.		
tered volume received for Dissolved tests			1	15.		
containers have been checked for preservation.	~		<u> </u>	16. PH 4	2	
ceptions: VOA, coliform, TOC, O&G, Phenolics n-aqueous matrix	s, Radon	1			<i>~</i>	
containers meet method preservation quirements.				Initial when TAG-	Date/time of preservation	
	F			Lot # of added		
and the second of the second o				preservative		
adspace in VOA Vials (>6mm):				17.		
p Blank Present:				J8.		
p Blank Custody Seals Present d Samples Screened < 0.5 mrem/hr				Initial when	1 .//	Survey Meter
a compression and months	<u>'</u>			Initial when completed: JAG-	Date: 6/14/21	sn: 1563

 $\ \square$ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Appendix B

Fall 2021 Assessment Monitoring Event Field Datasheets and Laboratory Reports



	Xcel	V2000070		ct_Svere	Unit 1	Il Fall 2			1-05159
	ing Point ID _	P-73A-		7.2.72	3.75			1	-73A-1
Insid	le Diameter _	2	(inches)	Key # _			X Locked	1	Not Locked
Casir	ng Material:	× PVC		Steel		Stainless			
	De	epth Measu	rement	and Elev	vation	s (from	top of well	casing)	
						Elevatio			_Feet
	Ct=4:==t=					Well Dept			Feet - removed slad
S	tatic water lev	er level measurement		W. P. L. W. A. C. C.			100000000000000000000000000000000000000		Feet Punp Johnson
Ŭ	tatio water lev			el Elevatio			-		Feet
Purge Me	ethod Dedi	cated Bladd					Pump ID		043600
Date Pu		19/21				W	ater Column	1,68	Feet
Time Pu	irged 900	7- 918					sing Volume		
Pump	Rate	0.05		GPM /	_PM	Vol	ume Purged	0.90	Gallons
Da	te Sampled _	10/19/21		F	ield P	aramete	er Measure	ments o	f Sample
Tim	ne Sampled _	920			pH	8.0	_(units)	D.C) 10-i (mg/l)
	oling Equip	pump/ Cilly	_	Spec.	Cond.	560	(μmhos/cm)	Turbidit	y _ 2.0 (NTU)
	Meter ID _	1PS-6 TM-		emp. Obs			_(°C)		n <u>87</u> (mV)
P	Analyzed by	Cae	_ 1	emp. Cori	rected.	10.6	_(°C)	Othe	r_WA
Meter ID 1405-6 1/4-6 Analyzed by C36 Temp. Observed 10.5 (°C) Temp. Corrected 10.6 (°C) Field Measurements Temp. Corrected: Sample for Soluble Metals Filtered in Field: Temperature Correction Factor: +0.1 °C Weather Conditions During Sampling: 52'f summy with Section Factor: 40.0 Sample Description: (Luc 100.0)									
Ob * Dry Ch	pof block pm 34.	* Do not s	ample of	bladder.	can	does not	work. Bladd	er purp w	ctrs, but very slawly.
Time	рН	Specifc Conc	luctance	Temp	(°C)	D.O.	Turbidity	Eh	Volume Purged
906	(units)	μmhos/c 560		(obser		(mg/l)	(NTU) 2.4	(mV)	(cumulative gal)
912	8.0	560		10.5	-	10-1	2.2	87	0.60
906 912 918	8.0	560		10-5		10-1	2.0	£7	0.90
						V _E			
					Om 10/18/2				
		ALL LOUIS CO. C.			_				
	d immediately a	fter collection:	Ė	Yes	Oth	er			
Samples chilled									
m Revised 01/25/2	2021	A. 3	71	A .C	. 1 .	Ý.			
	2021	Chris 1	Pelosi	Pace A	naly to	cal			
m Revised 01/25/2	f Sampler(s): _	Chris I	Pelosi A/C	Pace A	naly ti	al	Date:	i o lia	/21



E	Client Xcel Pr	oject_Snece	Unit III Fall 20	Project No.	21-05159
Presampling Information	Monitoring Point ID P-74 - 1			Labeled	P-74-1
ıforı	Inside Diameter 2 (inche	es) Key#	2106	X Locked	☐ Not Locked
ng Ir	Casing Material: ☑ PVC [Steel	Stainless S	teel	
nplii	Depth Measureme	ent and Elev	vations (from to	op of well casir	ng)
esar		Top of	Casing Elevation		Feet
P			Total Well Depth	38,10	Feet removed halder
anc	Static water level measureme				Feet ar
ion	Static water level measurement at				Feet
ript			n Before Purging		Feet
esc	Purge Method \(\text{\mathcal{A}} \) Date Purged \(\)		Wa	Pump ID ter Column	
Well Description and	Time Purged	_		ing Volume	
Š	Pump Rate	GPM/L		me Purged	Gallons
	Data Sampled	F	ield Parameter	r Measuremen	ts of Sample
	Date Sampled Time Sampled		pH_	(units)	D.O(mg/l)
ij	Sampling Equip.	Snec	Cond.		
T T	Meter ID 14P5-6 1/1-6		erved	(1)	En (mV)
Data	Analyzed by CAC				Other
ling	Field Measurements Temp. Corre			□ No □	NA NA
Sampling	Sample for Soluble Metals Filtered in		⊠ Yes		NA
i Sa	Temperature Correction Fa				
Field	Weather Conditions During Sampling: _5	1°F sum	und se smpl	h	
	Sample Description: NA	Halder pump	not functioning	w/ low water	level
	Observations: * Do not simple				
	* Dry @ topof blubber pump 35.70	measured is	hole 825 cun		
	Time pH Specifc Conductan	A Print of the Park of the Par		30 (00) (17 2 10)	h Volume Purged
42	(units) (μmhos/cm)	(obser	ved) (mg/l)	(NTU) (m	(cumulative gal)
Tes		_			
ion					
Stabilization Test			- A		
abil			Nohrhy		
Ø	Table 7. A. C.				
				1.2	
S	amples chilled immediately after collection:	Yes [Other NA		
Form	Revsed 01/25/2021	200	<u> </u>		
Nam	ne/Affiliation of Sampler(s): Chris Pelosi	Pace Ar	ralifical		
	(1/1/1	K)	1.		
L	ead Technician Signature:	1 th		Date:	/19/21
	V()	3			



uc	Client Xcel	Project Sherco 3	LF Fall RE 20	Project No	. 21-05159
Well Description and Presampling Information	Monitoring Point ID 1-74-2			Labeled	(74-1)
ıforı	Inside Diameter 2	(inches) Key #	2106		☐ Not Locked
ıl Bu	Casing Material: X PVC	Steel	Stainless St	eel	
mpli	Depth Measu	rement and Elev	ations (from to	p of well casi	ng)
esal			Casing Elevation		Feet
d Pr	04-47411		Total Well Depth		Feet * Provided by
n an	Static water level measu Static water level measureme				Feet Feet
ptio		ater Level Elevation			Feet
scri	Purge Method Bladder Pomp			Pump ID B	PC-1
I De	Date Purged\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1105-112le		er Column _ &.	
Wel	Time Purged 1205 1226	GPM) L		ng Volume /	
Jin J	Pump Rate 0.2			me Purged	
	Date Sampled while	-	eld Parameter	Measuremen	nts of Sample
	Time Sampled +230 N	30	pH 7. Ce	Section 2	D.O 8. Le (mg/l)
B	Sampling Equip. fung + Filter		erved 10-1		rbidity 3.2 (NTU)
Data	Meter ID <u>ペPS- 子/ Tへら</u> Analyzed by よい	Eh / (e f (mV) Other M			
Field Sampling	Field Measurements Temp.	Land Land Control of the Control of	ected 10.2		NA NA
amp	Sample for Soluble Metals Filter		X Yes	□ No □	NA NA
S PI	Temperature Correct		_°C		0.00
Fie	Weather Conditions During Sampling		, WOISM	PH .	
	Sample Description: <u>(lear no o</u> Observations: *Top of Pun				
	Observations. x 1000 08 100	qe 72.71			, , , , , , , , , , , , , , , , , , , ,
	pH Specifc Cond	uctance Temp	(°C) D.O.	Turbidity E	Eh Volume Purged
	Time (units) (μmhos/c				nV) (cumulative gal)
Test	1212 \$ 7.5 610	10.1	8.7	not 14	05 14
Stabilization Test	01219875 610	10.	1 8.7		6 28
lizat	1220 7.6 610	10.	1 8. Le	MA IL	e7 4.2
tabi			20		
o,			111121		
	amples chilled immediately after collection:	X Yes	Other		
	Revised 01/25/2021	Y			
Nam	e/Affiliation of Sampler(s):	èlsen			
L	ead Technician Signature: Wy	la ~		Date: /	1/11/21
	10	/-			7117-1
	(500)000	Jan 111	-00		



동	Client X	icel		Projec	ct Shero	e Unit 1	11 Fall 20	21 Proje	ct No	21-05159
Presampling Information	Monitorir	ng Point ID_	P-75-1					La	abeled_	P-75-1
nfor	Inside	e Diameter _	2	(inches)	Key#	2106		∠ Locke	d	☐ Not Locked
ng h	Casin	g Material:	PVC		iteel		Stainless St	teel		
Ildu		D	epth Measi	ırement	and Ele	vation	s (from to	op of well	casing)
esa					Top of	f Casing	g Elevation	N		Feet removed bloods
J Pr		LASTIN.					Well Depth			Feet pupa megon
Well Description and			er level meas							Feet car
tion	St	atic water le	vel measurem					31.8 N		Feet Feet
crip	Purge Me	thod D.	Les Bladder	200	ei Lievati	on belo	re ruiging			043600
Des	Date Pu		10/19/11	100-ch	_		Wat	ter Column		
le le	4-17-37-37-37	rged 1#55						ng Volume		
3	Pump I	Rate	0.10		(GPM)	LPM	Volu	me Purged	0,0	Gallons
	Date	e Sampled	10/19/20		F	ield P	arameter	Measure	ments	of Sample
		e Sampled				рН	7.9	(units)		0.0 9.3 (mg/l)
	Samp	ling Equip.	purp/4/tr		Spec.			(µmhos/cm)	Turbio	dity 1-8 (NTU)
Data		Meter ID _	11PS-6 TM	<u>-6</u> ⊤	emp. Ob	served	15.6	(°C)		Eh 87 (mV)
g D	А	nalyzed by_	csc	_ T	emp. Cor	rected	15.7	(°C)	Ot	her NA
plin	F	ield Measure	ements Temp.	Corrected	d:	X	Yes	☐ No		IA
Field Measurements Temp. Corrected: Yes No NA Sample for Soluble Metals Filtered in Field: Yes No NA Temperature Correction Factor: +0.1 °C Weather Conditions During Sampling: 68°F suggested Sample							IA			
eld	Monthey		rature Correc			—°C	. 0:	- 1		
iI.			iring Sampling مہ سعاے		1 Sunni	1 mo	3 6 3	mph		
			* Do not		bladdo	oumo de	ces not wo	ck.		
			E bladder pu							
		I pH I	Specifc Con			o (°C)	D.O.	Turbidity	Eh	Volume Purged
	Time	(units)	(µmhos		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	erved)	(mg/l)	(NTU)	(mV)	THE PROPERTY OF A PARTY OF THE
lest	1458	7.9	600		15.0	6	9.4	5.8	88	0-30
по	1501	7.9	600		15.4	>	9.4	2,0	87	0.60
Stabilization Test	1504	7.9	600		15,	6	9.3	1.8	87	6,90
apill										
S						(N)~				
						10/19/17				
S	amples chilled	immediately :	after collection:	·[-	Yes	Oth	er			
Form	Revised 01/25/2	021								
Nam	ne/Affiliation of	Sampler(s):	Chris	Pelosi	Pace A	nalyti	cal			
			111	111.)	-				
L	ead Technicia	n Signature:	(2)	At 1	Un			Date	10/191	121
				011.						



5	Client Xcel	Projec	t Sharke U.	nit III Fall 2	21 Project	No. 21	-05159
Well Description and Presampling Information	Monitoring Point ID P- 97				Lab	eled	P-97
nfor	Inside Diameter 2	(inches)	Key #	2106			Not Locked
ng .	Casing Material: X PVC	☐ St	teel	Stainless S	teel		
	Depth Measu	rement a	and Eleva	tions (from t	op of well c	asing)	
200			Top of Ca	asing Elevation	NA		Feet removed blackly
				otal Well Depth	-		Feet pury to menus
all a	Static water level measu						Feet cur
	Static water level measurem			g (Final Depth) Before Purging			Feet Feet
2	Purge Method WA	rater Leve	i Elevation i	belore Purging	Pump ID	NA	reet
8	Date Purged /		_	Wa	ter Column	1	Feet
	Time Purged				ing Volume		Gallons
	Pump Rate		_GPM / LPI	M Volu	me Purged _		Gallons
1	Date Sampled Lo / (9/2)		Fiel	d Paramete	r Measurem	nents of	Sample
	Time Sampled 1510			рН	(units)	D.O	(mg/l)
V	Sampling Equip.		Spec. Co	ond.	(µmhos/cm)	Turbidity	(NTU)
Data	Meter ID MPS 6 TM	6 To	emp. Obser		(°C) while	Eh	(mV)
	Analyzed by Car	_ Te	emp. Correc	ted	(°C)	Other	
	Field Measurements Temp.	Corrected	:	⊠ Yes	☐ No	□ NA	
rieid Sampling	Sample for Soluble Metals Filter				☐ No	☐ NA	
DIE	Temperature Correct			°C			
Ē	Weather Conditions During Sampling				t t 1	· No.	
	Sample Description: Blader pure Observations: * Do not s					, 10W.	
	Dry @ top of bladder pur				work.		
					L + arm I		I verse posses
	Time pH Specifc Cond (units) (μmhos/		Temp (°C (observed		Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
ī							
9110						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Stabilization lest			6	elev/2			
Sta				7(1/2			
Sa	amples chilled immediately after collection:	.8	Yes	Other			
ויחזכ	Pevised 01/25/2021	7.	2 1				
am	e/Affiliation of Sampler(s): Chris	élosi	Pace Ana	lytical			
	Tanksisian Simul	Me	1		Dete	10/19/2	1
L	ead Technician Signature:	MA			Date: _	1.11.1	
		9 1					



no	Client Xu	ط		Project	Sherco 3 Ll	Fall RE	2021 Proje	ect No. 21	-05159
Information	Monitorin	g Point ID_	1-97-1				L	abeled	(97)
nfor	Inside	Diameter _	2	(inches)	Key # _ 2	06	∠ Locke	ed 🗌	Not Locked
l Bu	Casing	g Material:	☑ PVC	☐ Ste	el	Stainless	Steel		100
Presampling		De	epth Measur	ement a	nd Elevati	ons (from	top of well	casing)	
resa					A 40.40 A 40.40 A 40.40 A	7 - 7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	on		Feet
d P		Static water	er level measur	oment hef			th 47	-35	Feet & Provided Feet by D. L.
ın ar	Sta		el measureme						Feet
iptio						efore Purgir			Feet
Well Description and	Purge Met	hod Anddo	ur Pump	101 (5)			Pump ID		
II De	Date Pur	ged	luly and	July (`		ater Column		
We		ged 4<i>0</i>40 . Rate	-1101 (00		GPM LPM		sing Volume lume Purged		Gallons Gallons
	, amp								
		Sampled _	11/1/2/20			12	er Measure		
		Sampled	Pump + Filter	05)		d. 650	(units) (μmhos/cm)		6.5 (mg/l)
ta	Sampi		MPS-7/TMS	Ter	np. Observ		(°C)		3.4 (NTU) 160 (mV)
g Data	Ar	nalyzed by	Res			G.01 bs			mt
Sampling	Fie	eld Measure	ments Temp. C	corrected:		Yes	□ No	□ NA	
Sam	Sampl		Metals Filtere			X Yes	☐ No	☐ NA	
Field (Monther Co		ature Correction			C	0 1		
II.	Sample De	escription:	ring Sampling:	31. , 0	vercust	, we	3414		*
			* Top of		Punp @	44.80			
					-1				
	Time	pH (units)	Specifc Condu	C310000000 C2	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
Stabilization Test	0947	76	lelec	-	9.9	le. 4	MA	159	1.05
I uc	0954	7.6	650		9, 9	6.5	MA	160	2.10
zati	1001	7.6	650	>	9.9	6.5	MA	160	3.15
abili							TIT	11-1-1	
ß						Mittel	14		
Sa	imples chilled i	mmediately a	fter collection:	×	Yes	Other			
	Revised: 01/25/20		Tiley Jaco	bser					
)				-7	
Le	ead Techniciar	Signature:	liley	11			Date	:_11/11/	21
	(<u>)</u>	WOCK Clack	Not changed,	et, time	was IH	off.			



To a second seco	Client Xce	-1		_ rroject	313010	ONE R	tall 6	Not Froje	CUNO.		
	Monitoring	Point ID_	P-98	3				La	abeled	P. 98	_
	Inside [Diameter _	2	(inches)	Steel Stainless Steel Int and Elevations (from top of well casing) Top of Casing Elevation						
	Casing	Material:	N PVC	☐ Ste	eel		Stainless :	Steel			
Ī		De	epth Measu	rement a	nd Elev	ations	(from	top of well	casing)		
										_Feet	
				A 44 S 42 A 54 S							
ì	Stat								0	Not Locked P 98	
	Otat	ic water iev				1/2/11/11		-		-	
	Purge Meth	od Dedica	to Bladder P							043600	
	Date Purg		114/21								
	Time Purg		5-643								
	Pump Ra	ate	0.10	(.GPM)L	РМ	Vol	ume Purged		Galloi	ns
	Date	Sampled _	ioliales		Fi	eld Pa	aramete	er Measure	ments c	of Sample	
4	Time	Sampled _	845	_		pH_		_ (units)	D.		mg/l)
d			pump/silter	_		_		Labeled P98 Locked Not Locked Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Steel Stee			
		And Market Street	11PS-6 TM-			_		-		ing) Feet Feet Feet Feet Feet Feet So S 2 Gallons Gallons This of Sample D.O 8.7 (mg/l) Irbidity 2.9 (NTU Eh 78 (mV) Other WA NA NA NA NA NA NA NA NA NA	mV)
		alyzed by _			400	_					_
_			ments Temp.								
	Sample		Metals Filter				res	□ 140	☐ INA	V.	
		Temper	rature Correct	ion Factor:	+0.1	°C					
	Weather Cor					_	ash				
9		nditions Du		: 50°F SI		_	mph				
	Sample Des	nditions Du	ring Sampling	: 50°F si	inny .	0 0		ork (3			
	Sample Des Obse	nditions Du scription: ervations:	ring Sampling cler no o * Do not so	50°F si dor uple of la	oladler pur	mp do	is not w	ork	y/21		
	Sample Des Obse	nditions Du scription: ervations:	ring Sampling cler no o * Do not so	Sof si Jor wple of heap 31-04'	pladler pur neusura	~p do	0 not w 121 820 D.O.	Turbidity	Eh		
	Sample Des	nditions Du scription: _ ervations: _ PH pH	cler no o * Do not so * heads pur Specific Cond	SD°F Si Dor mple of la mp 31-04° ductance cm)	newson Temp (observ	mJ O	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	(cumulativ	re gal)
	Sample Des Obse	pH (units)	Specific Conc	Dor wple of heap 31-04' ductance cm)	Temp (obsert	(°C) (ed)	D.O. (mg/l) 8.7	Turbidity (NTU)	Eh (mV)	(cumulativ	ve gal)
	Sample Des Obse H Dr. Time 831	pH (units)	ring Sampling cler no c * Do not so Filedly pur Specific Conc (µmhos/	Dor wple of heap 31-04' ductance cm)	Temp (observed)	(°C) (°C)	D.O. (mg/l) 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	Not Locked P 98	ve gal)
	Sample Des Obse + Dr Time 831 837	pH (units)	Specific Conce (umhos/	Dor wple of heap 31-04' ductance cm)	Temp (observed)	(°C) (°C)	D.O. (mg/l) 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	0-60 1-20	ve gal)
	Sample Des Obse + Dr Time 831 837	pH (units)	Specific Conce (umhos/	Dor wple of heap 31-04' ductance cm)	Temp (observed)	(°C) (°C) (°C)	D.O. (mg/l) 8.7 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	0-60 1-20	ve gal)
	Sample Des Obse + Dr Time 831 837	pH (units)	Specific Conce (umhos/	Dor wple of heap 31-04' ductance cm)	Temp (observed)	(°C) (°C) (°C)	D.O. (mg/l) 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	0-60 1-20	ve gal)
	Sample Des Obse H Bro Time 831 837 843	pH (units) 7.8 7.5	Specific Conc (µmhos/	SD°F Si Dor mple of he mple of he ductance cm)	Temp (observed) 12.6	(°C) (°C) (°C)	D.O. (mg/l) 8.7 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	0-60 1-20	ve gal)
San	Sample Des Obse + Dr Time 831 837	pH (units) 7.8 7.8	Specific Conc (µmhos/	SD°F Si Dor mple of he mple of he ductance cm)	Temp (observed)	(°C) (°C) (°C)	D.O. (mg/l) 8.7 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	0-60 1-20	ve gal)
San P	Sample Des Obse Who Time 831 837 843	pH (units) 7.8 7.5	Specific Conce (µmhos/	SD°F sider where of heap 31-04' ductance cm)	Temp (observed) 12.6	(°C) ved)	D.O. (mg/l) 8.7 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	0-60 1-20	ve gal)
San P	Sample Des Obse H Dro Time 831 837 843	pH (units) 7.8 7.5	Specific Conc (µmhos/	SD°F sider where of heap 31-04' ductance cm)	Temp (observed) 12.6	(°C) ved)	D.O. (mg/l) 8.7 8.7 8.7	Turbidity (NTU) 3.0 2.9	Eh (mV) 8 i 8 0	0-60 1-20	ve gal)



Client _	Xcel		Project	Sherco Unit	11 Fall 20	21 Proje	ct No. 2	1-05159
Monitori Insid	ng Point ID_	P-117		(474026))	La	abeled	P-117
Insid	e Diameter	2	(inches)	Key# 2100	0	X Locke	d [Not Locked
Casir	ng Material:	₩ PVC	☐ Ste	el 🗌	Stainless St	eel		
		epth Measu	rement a	nd Elevation	s (from to	op of well	casing)	
				Top of Casing				_Feet
					Well Depth		0,97	Feet meson linet
				ore purging (S				_Feet
9	tatic water le			of sampling (F Elevation Befo				_Feet Feet
Purge Me Date Pu Time Pu	ethod Dedic	ated Bladder		Lievation Beie	ic r diging		PINE	
Date Pu	urged		,		Wat	er Column		
Time Pu	irged 14	15-1445			One Casi	ng Volume	6,9	Gallons
Pump	Rate	0.10		GPM/LPM	Volu	me Purged	3	Gallons
Dat	te Sampled _	10 light		Field F	arameter	Measure	ments o	f Sample
-0	e Sampled			рН	7.5	(units)	D.0	O & & (mg/l)
Samp	oling Equip	pump/filter		Spec. Cond.	660	(µmhos/cm)	Turbidit	ty 3.5 (NTU)
	Meter ID_	MPS-6 TM	6 Ter	mp. Observed	12.0	(°C)	E	h 95 (mV)
A	Analyzed by_	CAC	_ Ter	mp. Corrected	12.1	(°C)	Othe	er NA
Weather 0	Tempe Conditions Du	chur n	ion Factor:		Yes S@ 5~	□ No	□ NA	
Time	pH (units)	Specifc Cone		Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1425	7.6	660	Citi)	12.0	8.7	10	96	1.0
1435	7.5	660		12.0	8.6	5.0	95	2.0
1445	7.5	660		12.0	8.6	3.5	95	3.0
		441						
1425 1435 1445								
				10/11/1				
A CONTRACTOR OF THE PARTY OF TH		after collection:	K	Yes Oth	er			
m Revised 61/25/2		1.	71) A	1			
me/Affiliation o	f Sampler(s):	Chris	lelosi 1	Pace Analyti	lal			
Lead Technicia	an Signature	(4)	Aly	1.		Date	10/19/2	1
_oau recillici	an orginature.		V(A			Date.		1



Well Description and Presampling Information	Client Xce			_ 110,00	t_Sherce i	WIL III F	all we	- rrojec	1110.	., 00			
	Monitoring	Point ID_	P-120					Lal	peled	P-120)		
	Inside D	Diameter _	2	(inches)	Key#	2106		☑ Locked		Not L	ocked		
2	Casing I	Material:	₩ PVC	☐ St	eel	Stair	less Ste	eel					
		D	epth Meası	irement a	and Eleva	ations (fi	om to	p of well	casing)				
						asing Ele	_			_Feet	V 1. 100		
		04-4:4				otal Well	-	48.		_Feet	815 CM		
			er level meas vel measurem				_			Feet Feet			
	Otati	c water le			l Elevation	200	1000			Feet			
			ated Bladde	Pump				Pump ID_		0436	00		
			0418/21		_			er Column _			Feet		
			- 115	0745				g Volume_			Gallons		
· ·	Pump Ra	te	0.15		(GPM) LP	'M	Volum	ne Purged _	4.05	>	Gallons		
٦	Date S	Sampled	10/18/21		Fie	ld Para	meter	Measure	ments o	f Sam	ple		
J.	Time S	Sampled_	1200 08	5		рН_8	4 (units)	D.O	0 8.	(mg/l)		
	Samplin	g Equip	pump/filter	_	Spec. C	ond. 6	40 (μmhos/cm)	Turbidit	ty 1.9	(NTU)		
Data		A. 11.5	11PS-6 TM		emp. Obse			(°C)		h_51			
5		lyzed by_			emp. Corre			°C)		er NA			
id u			ments Temp.										
rieid Sampling	Sample		e Metals Filter rature Correc			°C Yes		∐ No	☐ NA				
le lo	Weather Con					-	5.11	, la					
			cher no										
			NA		*	DUPLICA	ITE						
		_											
	Time	pH (units)	Specifc Con (μmhos.		Temp (°	-34.).O. ng/l)	Turbidity (NTU)	Eh (mV)	1000	ume Purged ımulative gal)		
200		рН	TO SEE SEE SEE SEE SEE SEE SEE SEE SEE SE		THE RESERVE OF THE PARTY OF THE	ed) (n	27.7	CONT. CO. CO. CO. CO. CO. CO. CO. CO. CO. CO		(cu			
oli lest	Time 0"1134 0754 0"148 0803	pH (units)	(μmhos.		(observe	ed) (n	ng/l)	(NTU)	(mV)	(ct	imulative gal)		
zation rest	0/1340754	pH (units)	(µmhos		(observe	ed) (n	ng/l)	(NTU) 2.5	(mV) 5 6	(cu	imulative gal)		
abilization rest	@1134 0754 @1148 0803	pH (units) 8 4 8.4	(μmhos. 640		(observe	ed) (n	ng/l) - \	(NTU) 2.5 2.0	(mV) 56 55	(cu	35 .70		
Stabilization rest	@1134 0754 @1148 0803	pH (units) 8 4 8.4	(μmhos. 640		(observe	ed) (n 8	ng/l) - \	(NTU) 2.5 2.0	(mV) 56 55	(cu	35 .70		
Stabilization lest	@1134 0754 @1148 0803	pH (units) 8 4 8.4	(μmhos. 640		(observe	ed) (n	ng/l) - \	(NTU) 2.5 2.0	(mV) 56 55	(cu	35 .70		
	© 1134 0754 © 1148 0803 © 157 0812	pH (units) 8 4 8.4 8.4	(μmhos. 640 640		(observe	ed) (n	ng/l) - \	(NTU) 2.5 2.0	(mV) 56 55	(cu	35 .70		
Sa	@1134 0754 @1148 0803	pH (units) 8 4 8.4 8.4	(μmhos. 640 640		(observe	ed) (n 8	ng/l) - \	(NTU) 2.5 2.0	(mV) 56 55	(cu	35 .70		
Sa	© 1134 0754 © 1148 0803 © 157 0812 emples chilled im	pH (units) 8 4 8.4 8.4	(μmhos. 6 40 6 40 6 40	/cm)	(observe 11.2 11.2 11.2	Box copoles	ng/l) - \	(NTU) 2.5 2.0	(mV) 56 55	(cu	35 .70		
Sa	© 1134 0754 © 1134 0754 © 1134 0803 © 1157 0812	pH (units) 8 4 8.4 8.4	(μmhos. 640 640	/cm)	(observe	Box copoles	ng/l) - \	(NTU) 2.5 2.0	(mV) 56 55	(cu	35 .70		



Well Description and Presampling Information	Client X	icel		_ Proje	ct_Sher	e Unit 1	III Fall 20	Projec	t No 2	1-05159
rma		ng Point ID_	P-125			-			beled	P-125
lnfo	Inside	Diameter _	2	(inches)	Key#	2106		Locked	i [Not Locked
ing	Casin	g Material:	X PVC		Steel		Stainless S	teel		
mp.		D	epth Meas	urement	and Ele	evation	s (from to	op of well	casing)	
resa					Торо		g Elevation	-		Feet
D D		0	A karoka A Ja	S. Seven a see			Well Depth			Feet 840 GP
ı an	Q+		er level meas vel measuren							Feet 5.5
otio	- 01	alic water le					re Purging			Feet
crip	Purge Me	thod Dec	nunted Blad					Pump ID		04 3600
Des	Date Pu		19/21		_		Wat	ter Column	5.69	Feet
Vell	Time Pu	rged	755 - 1015		-6			ing Volume		Gallons
	Pump I	Rate	0.10		_(GPM)/	LPM	Volu	me Purged	3	Gallons
	Date	e Sampled	lokahi			Field F	aramete	Measure	ments o	of Sample
	Time	e Sampled _	1020			рН	7.7	(units)	D.	O 10 Z (mg/l)
	Samp	ling Equip	purp/filler	_	Spec	Cond.	540	(μmhos/cm)	Turbidi	ty <u>5.0</u> (NTU)
Data		- 1 - O. W	11PS-6 TH		Temp. Ob			(°C)		h <u>95</u> (mV)
	Α	nalyzed by_	CIC	_	Temp. Co	rrected	11.6	(°C)	Oth	er
Field Sampling	Weather C	Tempe onditions Du	e Metals Filte rature Correc rring Sampling د مد ساء	tion Factors: _ 5 2 ″ /	or: +0.1	°C	Yes	□ No	□ NA	1
		servations:								
	T	рН	Specifc Con	ductance	Tem	p (°C)	D.O.	Turbidity	Eh	Volume Purged
40	Time	(units)	(μmhos	/cm)	(obs	erved)	(mg/l)	(NTU)	(mV)	(cumulative gal)
Tes	955	7.7	540		11.	-	10.3	8.0	97	1.0
ion	1005	7.7	540		16		10.2	7.0	95	2.0
ilizat	1015	7.7	540		11.	5	10.2	5.0	95	3.0
Stabilization Test							@ an			
Sa	amples chilled	immediately a	after collection:	51	Yes	Oth	ner			
Form	Revised 01/25/2	021								
Nam	e/Affiliation of	Sampler(s): _	Chris	Pelosi	Pare 1	Inalyti	lail			
			(4)	11/1	1					L.
L	ead Technicia	n Signature: _	(1)	TA	u			Date:	10(1	1/21



E O	Client X	cel		Project	Sherce U	nit III Fall	2021 Proje	ct No. 2	1-05159
Well Description and Presampling Information	Monitorin	ng Point ID_	P-131	4			La	beled î	2-134
nfori	Inside	Diameter_	2	(inches)	Key #	2106		d 🗌	Not Locked
ng n	Casin	g Material:	✓ PVC	☐ Ste	eel	☐ Stainles	s Steel		
ıbı		D	epth Measi	urement a	and Eleva	tions (fron	n top of well	casing)	
Peal						asing Elevat	ion N		Feet way of idials
		Static wat	er level meas	urement be			th) 31.20		Feet 850 Car
	St						th) 31.20		Feet
					Elevation	Before Purgi			Feet
			conted Bladder	Pump	-0			PINE O	
	A-1 - 1 1 1 1- 1- 1- 1- 1- 1- 1-	rged			V 1		Water Column		
	Pump F	rged III	6.10		GPM/LP		asing Volume olume Purged		Gallons
	r ump i	tate	0.10		OF W	IVI V	olume i diged	2,3	Gallotis
	Date	e Sampled _	10/19/21		Fie	ld Parame	ter Measure		
1		e Sampled _		_		pH_7.7	(units)		
	Samp		pump /Silter			ond. 700		Turbidity	
Jak			MPS-6 TH	- T		ved 11.1		Eh	
9		nalyzed by_	ements Temp.			ted 11.2 Yes	(°C)	Other	NL
Field Sampling Data	Weather C Sample D	Tempe onditions Du escription: _	e Metals Filte erature Correct uring Sampling clus us NA	tion Factor: g: <u>56° F</u>	sinny an			□ NA	
1	Time	pH (units)	Specifc Con		Temp (°0	The second secon	A Part of Calaboration (Calaboration Calaboration Calabor	Eh (mV)	Volume Purged (cumulative gal)
ī	1115	7. 7	700		11.1	8.6	7.7	94	1- 1
	1125	7.7	700		11.1	8.4	7.0	93	2.2
Stabilization rest	1/35	7.7	700		11.1	8.4	5.0	91	3.3
apil									
ñ						lister			
S	amples chilled	immediately	after collection:	8	Yes	Other	ran et		
יחום	Revised 01/25/20	21	4	_					
am	e/Affiliation of	Sampler(s):	Chris	Télosi	Pace Ana	lifteel			
			(4)	ANC	1		12.5		
L	ead Technicia	n Signature: .		The state of the s	u-		Date:	10/19/	4



E	Client X	cel		Project	Specie	Unit 11	1 Fall 2	021 Pro	oject No	. 21	- 0513	59
Well Description and Presampling Information	Monitorin	ng Point ID_	P-137A						Labeled	9 P	-137A	
ıforı	Inside	Diameter	2	(inches)	Key#	2106		N Loc	cked		Not Locke	ed
ig i	Casing	g Material:	X PVC	☐ Ste	el		Stainless S	Steel				
de l		D	epth Measi	ırement a	nd Elev	ation	s (from	top of w	ell casi	ng)		
esal					Top of C	Casing	Elevation	11	NA		Feet	
Ĭ								1				o con
alle			er level meas								Feet	
	Sta	atic water le	vel measurem	lent at time Vater Level							Feet Feet	
9	Purge Met	thad Dedice	Hw Bladler			Deloi	eruigin		NA ID PIA		136 00	
Š B D		rged 10		Joseph			Wa	ater Colur			Fee	
5		rged 130						sing Volur			Ga	llons
	Pump F	Rate	0.20		GPM/LI	PM	Vol	ume Purg	ed	4.2	Ga	llons
7	Date	e Sampled	10/10/21		Fie	eld Pa	aramete	r Measi	ıremer	ts of	Sample	
		e Sampled		_			7.8	(units)		100	8.5	(mg/l)
		_	sump/filter	_	Spec. C		770	- , compa	m) Tu	rbidity		(NTU)
Data	7		14PS-6 TM	-6 Te	mp. Obse	erved	11.5	(°C)		Eh	90	(mV)
5 5	A	nalyzed by_	car	Te	mp. Corre	ected	11.6	(°C)		Other	MA	
Field Sampling	Weather C	Tempe onditions Du escription: _	e Metals Filter trature Correct tring Sampling dev no	tion Factor: J: <u>61° F</u> Www.	+ 0 . 1 sunny	mJ	se 5			NA		
	Time	рН	Specifc Con		Temp		D.O.	Turbidi		Eh		e Purged
St St	1307	(units)	(μmhos 760		(observ	ea)	(mg/l)	(NTU) 8.9	94	nV)	(cumui	ative gal)
7 Ie		7.8	7.70		11.5		8.5	1.5	90	-	2.8	
attor	1314	7.8	170		11.5		8.5	1.5	90	5	4.2	
31112	1321	*0			100			1			-104	_
Stabilization lest												
			\(\frac{1}{2}\)		C	referen						,
			6 (II. blanc		l							
	Revised 01/25/20		after collection:	K	Yes	Othe	er					
			Chris	Pel	Pace An	14.	1					
am	e/Affiliation of	oampier(s):	(Mris	1 1 1/)	negric	W (
L	ead Technicia	n Signature:	(2	4/1	h			Da	ate:	1/9/4		
		1000		1/1/1						,		



•	Client Xcel	Project	Snerce Unit 11	1 Fall 20	21 Projec	t No	- 03134
wen beschiption and rifesamphing information	Monitoring Point ID_	P-138A	(768520)		La	beled P-	138A
	Inside Diameter _	2 (inches)	Key# 2100	0	Locked	i 🗆	Not Locked
	Casing Material:	☑ PVC ☐ Ste	eel 🔲 :	Stainless St	eel		
	D	epth Measurement a	and Elevation	s (from to	p of well	casing)	
			Top of Casing			4	Feet
	0	The file comments are the			36.	95	Feet masura lalisia
		er level measurement be vel measurement at time			29.9	SE NV	Feet
	Otatic water ic	Static Water Level			N/	Colalk 1.	Feet
	Purge Method Dei	Icated Blader Pump			Pump ID		000270
	Date Purged	10/19/21			er Column		
		- 1229 Ou 10/19/1					
d,	Pump Rate	6, 10	_ӨРМУ ГРМ	Volur	me Purged	N/J	Gallons
N	Date Sampled _		Field Pa	arameter	Measure	ments of	Sample
Y	Time Sampled _	1230 Polinte	-		(units)		
ð	Sampling Equip						
				One Casing Volume /, 23 Gallons PMY LPM Volume Purged V/) Gallons Field Parameter Measurements of Sample pH (units) D.O (mg/l)			
,	Analyzed by_				(0) 11111		
Sundanna		ments Temp. Corrected: • Metals Filtered in Field:					
ă		rature Correction Factor:		103			
	Weather Conditions Du	ring Sampling: 61°F	surry and	S@ 5,	nph		
	Sample Description:						
	Observations: _			1			
	Harder	pump strekin well to	uld not collect	simple.			
1	Time pH (units)	Specifc Conductance (μmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
Statistical 1931	1203						1.3
	-12160,						2.6
	1229 20/4/2						3.9
3			Qi.				
			10/10	ч			
	amples chilled immediately a	after collection:	Yes Othe	er			
5		X					
	Revised 01/25/2021						
am		Chris Pelosi	Pace Analytic	al			
am	e/Affiliation of Sampler(s):	Chris Pelosi	Pace Analytic	al		10/19/21	
		Chris Pelosi	Pace Analytic	al			



E _O	Client Xcel	Project Sheric Unit	III Fall 2021 Pro	oject No. 21	1-05159
Presampling Information	Monitoring Point ID P-140	(822161)	Labeled P	2-140
nfor	Inside Diameter Z	(inches) Key# 210	6 X Loc	cked	Not Locked
ig.	Casing Material: X PVC	Steel	Stainless Steel		
ub u	Depth Meas	urement and Elevation	s (from top of w	ell casing)	
sar		Top of Casin	g Elevation	NA	Feet
Pr			Well Depth		Feet
anc		surement before purging (S			
ion	Static water level measurer				
ript		Water Level Elevation Befo			_Feet
Well Description and	Date Purged			nn \	
	Time Purged		One Casing Volur		
3	Time Purged	GPM / LPM		jed 🗸	
	Deta Consulad and Asia	Field I	Parameter Measu	urements of	Sample
	Date Sampled 10/18/21 Time Sampled 1145		200000000000000000000000000000000000000		AUGUST CONTRACTOR OF THE PARTY
	Sampling Equip. SWL-5		(units)	m) Turhidity	(mg/l)
<u>a</u>	Meter ID MPS 6 TM		(°C) (A	1) Cor Fh	(mV)
Data	Analyzed by CAC		(°C)		
Field Sampling	Field Measurements Temp		Yes No		
amp	Sample for Soluble Metals Filter	red in Field:			11
SP	Temperature Correct	ction Factor: °C			
Fie	Weather Conditions During Samplin	a:			
	Sample Description:		OCIA 10/2/21		-
	Observations:				
	Time pH Specifc Cor		D.O. Turbidi (mg/l) (NTU)	A COLUMN TO THE PARTY OF THE PA	Volume Purged (cumulative gal)
st	(unito) (parinto	(observed)	(rigil) (itto)	(/	(odinalative gal)
n Te					
atio					
iliz		0			
Stabilization Test		14/26/2			
**					
	amples chilled immediately after collection	Yes Ott	ner		
	Revised 61/25/2021	2. 2			
Vam	e/Affiliation of Sampler(s):	Pelosi Paux Analy H	cont		
	and Tanhaisina Circuture	SALL	D	ate: 10/18/2	
L	ead Technician Signature:	1/1/1	Da	ale. 10/1 6/2	1



uo	Client X	cel		Project	Sherce Unit 1	11 Fall 2	021 Projec	ct No. 21	- 0515	59
Presampling Information	Monitorin	g Point ID_	P-141		(822160)	La	beledf	141	
ıforı	Inside	Diameter	2	(inches)	Key # 2106		X Locked	d 🗌	Not Locke	ed
ng Ir	Casing	g Material:	₩ PVC	☐ Stee	el 🗌	Stainless S	Steel			
ılldı		D	epth Measur	ement a	nd Elevation	s (from	top of well	casing)		
san					Top of Casing	g Elevation	1	A	Feet	
							39.		Feet 845	wisher Low
and			er level measur						Feet	
tion	Sta	atic water lev	vel measureme						Feet Feet	
Well Description and	Purge Met	thod Dedu	cuted Bladder P		Elevation Befo	ne Purging		PINCO		
Des		ged		OMP		Wa	ater Column		Fee	et
le/		_	30 - 1100				sing Volume		Gal	lons
5	Pump F	Rate	0.10	(GPMY LPM	Vol	ume Purged	3.3	Gal	lons
	Date	e Sampled	16/13/21		Field P	aramete	r Measure	ments of	Sample	
		e Sampled			рН	7,6	(units)	D.O	9.6	(mg/l)
	Sampl	ing Equip	pump/filter		Spec. Cond.	740	(μmhos/cm)	Turbidity	1.7	(NTU)
Data		Meter ID _	MPS-6 TM-6	Ter	mp. Observed	11,0	_(°C)	Eh	93	_(mV)
ng D	Analyzed by Care Temp. Corrected 11.1 (°C) Other NA									
Field Sampling	Sample D	le for Soluble Tempe onditions Du escription:	ements Temp. Coments Temp. Contact Filtered rature Corrections of the Contact Filter F	d in Field: on Factor: 5-8 F	+0.1 °C	Yes Yes C Smph	□ No □ No	□ NA □ NA		
	Obs	servations: _	Nt		_					
	Time	pH (units)	Specifc Condu (µmhos/cr	Carlo	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e Purged ative gal)
lest	1040	7.6	740		11.0	9.7	7,0	100	1.	i
uo	1050	7,6	740		11.0	9.6	2.0	98	2.	2
Stabilization Test	1100	7.6	740		11.0	9.6	1.7	93	3.3	
abil										
S					0)				
		1			10/19/4					
S	amples chilled	immediately a	after collection:		Yes Oth	er				
	Revised 01/25/20					-				
Nam	e/Affiliation of	Sampler(s):	Chris Te	closi i	Pace Analyti	cal				
		- 17 -	111.	11.)					
L	ead Technicia	n Signature: _	(24)	4/1	4		Date:	10/19	111	





03 December 2021

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco Unit 3 Landfill CCR

Enclosed are the results of analyses for samples received by the laboratory on 10/20/2021 07:10-11/12/2021 10:10. If you have any questions concerning this report, please feel free to contact me.

CC:

I certify that this analysis report was prepared under my direction or supervision under a system designed to assure that qualified personnel analyzed the submitted samples. All protocols for analysis were followed as required by Minnesota Rules and the Applicable Management Plan.

Sincerely,

Steve Davis

Project Manager



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-73A-1		MGJ0266-01	Water	10/19/2021 9:20	10/20/2021 7:10
P-75-1		MGJ0266-03	Water	10/19/2021 15:05	10/20/2021 7:10
P-98		MGJ0266-05	Water	10/19/2021 8:45	10/20/2021 7:10
P-117		MGJ0266-07	Water	10/19/2021 14:50	10/20/2021 7:10
P-120		MGJ0266-08	Water	10/19/2021 8:15	10/20/2021 7:10
P-125		MGJ0266-09	Water	10/19/2021 10:20	10/20/2021 7:10
P-134		MGJ0266-10	Water	10/19/2021 11:40	10/20/2021 7:10
P-137A		MGJ0266-11	Water	10/19/2021 13:25	10/20/2021 7:10
P-141		MGJ0266-14	Water	10/19/2021 11:05	10/20/2021 7:10
Duplicate		MGJ0266-20	Water	10/19/2021 8:15	10/20/2021 7:10
Rinse		MGJ0266-21	Water	10/19/2021 14:10	10/20/2021 7:10
P-74-2		MGK0141-01	Water	11/11/2021 11:30	11/12/2021 10:10
P-97-1		MGK0141-03	Water	11/11/2021 10:05	11/12/2021 10:10



P-73A-1
MGJ0266-01 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	15.6	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 11:52	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 11:52	EPA 300.0	CRL
Sulfate	24.9	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 11:52	EPA 300.0	CRL
Wet Chemistry										
рН	7.67		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 9:22	SM 4500-H+ B	CRL
Total Dissolved Solids	288	25.0	mg/L		1	BGJ0493	10/20/21 11:32	10/20/21 11:32	SM 2540C	HSD
Total Suspended Solids	6.50	6.25	mg/L		1	BGJ0492	10/20/21 9:04	10/20/21 9:04	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.04	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:50	EPA 200.8	CRL
Barium	61.5	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:50	EPA 200.8	CRL
Cobalt	0.873	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:50	EPA 200.8	CRL
Chromium	2.39	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:50	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:50	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:50	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0765	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:03	EPA 200.7	HRD
Calcium	69.9	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:00	EPA 200.7	HRD



P-75-1 MGJ0266-03 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	31.1	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 12:33	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 12:33	EPA 300.0	CRL
Sulfate	26.6	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 12:33	EPA 300.0	CRL
Wet Chemistry										
pH	7.62		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 9:31	SM 4500-H+ B	CRL
Total Dissolved Solids	328	25.0	mg/L		1	BGJ0493	10/20/21 11:32	10/20/21 11:32	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0492	10/20/21 9:04	10/20/21 9:04	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.925	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:53	EPA 200.8	CRL
Barium	86.4	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:53	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:53	EPA 200.8	CRL
Chromium	1.09	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:53	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:53	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 8:53	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:08	EPA 200.7	HRD
Calcium	73.6	1.50	mg/L			BGJ0594	10/25/21 7:17	10/26/21 18:06	EPA 200.7	HRD



P-98
MGJ0266-05 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	30.5	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 13:14	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 13:14	EPA 300.0	CRL
Sulfate	18.2	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 13:14	EPA 300.0	CRL
Wet Chemistry										
рН	7.59		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 9:39	SM 4500-H+ B	CRL
Total Dissolved Solids	318	25.0	mg/L		1	BGJ0493	10/20/21 11:32	10/20/21 11:32	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0492	10/20/21 9:04	10/20/21 9:04	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.737	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:05	EPA 200.8	CRL
Barium	82.0	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:05	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:05	EPA 200.8	CRL
Chromium	1.25	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:05	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:05	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:05	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:13	EPA 200.7	HRD
Calcium	68.2	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:11	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

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Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

P-117 MGJ0266-07 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	43.6	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 13:55	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 13:55	EPA 300.0	CRL
Sulfate	24.3	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 13:55	EPA 300.0	CRL
Wet Chemistry										
рН	7.64		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 9:48	SM 4500-H+ B	CRL
Total Dissolved Solids	380	25.0	mg/L		1	BGJ0493	10/20/21 11:32	10/20/21 11:32	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0492	10/20/21 9:04	10/20/21 9:04	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.777	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:09	EPA 200.8	CRL
Barium	82.9	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:09	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:09	EPA 200.8	CRL
Chromium	0.893	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:09	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:09	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:09	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L	•	1	BGJ0594	10/25/21 7:17	10/26/21 18:18	EPA 200.7	HRD
Calcium	80.3	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:17	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

P-120 MGJ0266-08 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	29.7	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 14:16	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 14:16	EPA 300.0	CRL
Sulfate	41.0	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 14:16	EPA 300.0	CRL
Wet Chemistry										
pH	7.62		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 9:52	SM 4500-H+ B	CRL
Total Dissolved Solids	364	25.0	mg/L		1	BGJ0493	10/20/21 11:32	10/20/21 11:32	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0492	10/20/21 9:04	10/20/21 9:04	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.825	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:13	EPA 200.8	CRL
Barium	82.4	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:13	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:13	EPA 200.8	CRL
Chromium	0.943	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:13	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:13	EPA 200.8	CRL
Selenium	1.33	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:13	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.123	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:24	EPA 200.7	HRD
Calcium	77.9	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:22	EPA 200.7	HRD



P-125
MGJ0266-09 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	29.5	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 14:37	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 14:37	EPA 300.0	CRL
Sulfate	13.2	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 14:37	EPA 300.0	CRL
Wet Chemistry										
рН	7.73		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 9:56	SM 4500-H+ B	CRL
Total Dissolved Solids	296	25.0	mg/L		1	BGJ0493	10/20/21 11:32	10/20/21 11:32	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0492	10/20/21 9:04	10/20/21 9:04	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.837	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:17	EPA 200.8	CRL
Barium	61.9	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:17	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:17	EPA 200.8	CRL
Chromium	1.04	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:17	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:17	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:17	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:29	EPA 200.7	HRD
Calcium	60.5	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:27	EPA 200.7	HRD



P-134
MGJ0266-10 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	37.6	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 16:41	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 16:41	EPA 300.0	CRL
Sulfate	27.6	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 16:41	EPA 300.0	CRL
Wet Chemistry										
рН	7.66		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 10:00	SM 4500-H+ B	CRL
Total Dissolved Solids	358	25.0	mg/L		1	BGJ0536	10/21/21 9:00	10/21/21 9:00	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0535	10/21/21 7:13	10/21/21 7:13	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.07	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:21	EPA 200.8	CRL
Barium	88.1	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:21	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:21	EPA 200.8	CRL
Chromium	0.966	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:21	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:21	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:21	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:34	EPA 200.7	HRD
Calcium	81.5	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:33	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

P-137A MGJ0266-11 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	36.3	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 17:01	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 17:01	EPA 300.0	CRL
Sulfate	102	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 17:01	EPA 300.0	CRL
Wet Chemistry										
рН	7.61		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 10:14	SM 4500-H+ B	CRL
Total Dissolved Solids	460	25.0	mg/L		1	BGJ0536	10/21/21 9:00	10/21/21 9:00	SM 2540C	HSD
Total Suspended Solids	10.8	5.00	mg/L		1	BGJ0535	10/21/21 7:13	10/21/21 7:13	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.07	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:25	EPA 200.8	CRL
Barium	122	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:25	EPA 200.8	CRL
Cobalt	0.670	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:25	EPA 200.8	CRL
Chromium	1.96	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:25	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:25	EPA 200.8	CRL
Selenium	0.688	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:25	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.165	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:39	EPA 200.7	HRD
Calcium	99.1	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:38	EPA 200.7	HRD



P-141
MGJ0266-14 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	57.0	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 18:03	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 18:03	EPA 300.0	CRL
Sulfate	49.1	1.00	mg/L		1	BGJ0495	10/20/21 8:15	10/20/21 18:03	EPA 300.0	CRL
Wet Chemistry										
рН	7.73		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 10:27	SM 4500-H+ B	CRL
Total Dissolved Solids	406	25.0	mg/L		1	BGJ0536	10/21/21 9:00	10/21/21 9:00	SM 2540C	HSD
Total Suspended Solids	5.40	5.00	mg/L		1	BGJ0535	10/21/21 7:13	10/21/21 7:13	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.892	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:29	EPA 200.8	CRL
Barium	93.3	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:29	EPA 200.8	CRL
Cobalt	0.636	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:29	EPA 200.8	CRL
Chromium	1.88	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:29	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:29	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:29	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.121	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:44	EPA 200.7	HRD
Calcium	87.7	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:43	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

Duplicate MGJ0266-20 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	29.6	1.00	mg/L		1	BGJ0507	10/20/21 10:23	10/21/21 10:15	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0507	10/20/21 10:23	10/21/21 10:15	EPA 300.0	CRL
Sulfate	41.2	1.00	mg/L		1	BGJ0507	10/20/21 10:23	10/21/21 10:15	EPA 300.0	CRL
Wet Chemistry										
рН	7.69		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 11:01	SM 4500-H+ B	CRL
Total Dissolved Solids	354	25.0	mg/L		1	BGJ0592	10/25/21 8:56	10/25/21 8:56	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0591	10/25/21 6:40	10/25/21 6:40	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.772	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:33	EPA 200.8	CRL
Barium	83.0	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:33	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:33	EPA 200.8	CRL
Chromium	1.29	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:33	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:33	EPA 200.8	CRL
Selenium	1.38	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:33	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.123	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 19:00	EPA 200.7	HRD
Calcium	76.3	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 18:59	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

Rinse MGJ0266-21 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BGJ0507	10/20/21 10:23	10/21/21 10:36	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGJ0507	10/20/21 10:23	10/21/21 10:36	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BGJ0507	10/20/21 10:23	10/21/21 10:36	EPA 300.0	CRL
Wet Chemistry										
рН	6.18		pH Units	M_TTT	1	BGJ0494	10/20/21 8:12	10/20/21 11:05	SM 4500-H+ B	CRL
Total Dissolved Solids	< 25.0	25.0	mg/L	M_K-06	1	BGJ0592	10/25/21 8:56	10/25/21 8:56	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGJ0591	10/25/21 6:40	10/25/21 6:40	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:37	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:37	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:37	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:37	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:37	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGJ0595	10/25/21 7:22	10/26/21 9:37	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 19:07	EPA 200.7	HRD
Calcium	< 1.50	1.50	mg/L		1	BGJ0594	10/25/21 7:17	10/26/21 19:05	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

P-74-2
MGK0141-01 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	27.6	1.00	mg/L		1	BGK0332	11/12/21 9:07	11/12/21 13:31	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0332	11/12/21 9:07	11/12/21 13:31	EPA 300.0	CRL
Sulfate	14.9	1.00	mg/L		1	BGK0332	11/12/21 9:07	11/12/21 13:31	EPA 300.0	CRL
Wet Chemistry										
pH	7.69		pH Units	M_TTT	1	BGK0333	11/12/21 10:30	11/12/21 10:43	SM 4500-H+ B	CRL
Total Dissolved Solids	324	25.0	mg/L		1	BGK0342	11/15/21 9:19	11/15/21 9:19	SM 2540C	HSD
Total Suspended Solids	7.40	5.00	mg/L		1	BGK0341	11/15/21 6:49	11/15/21 6:49	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.638	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:41	EPA 200.8	CRL
Barium	98.8	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:41	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:41	EPA 200.8	CRL
Chromium	1.58	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:41	EPA 200.8	CRL
Molybdenum	0.534	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:41	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:41	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGK0346	11/15/21 8:28	11/18/21 13:25	EPA 200.7	HRD
Calcium	76.3	1.50	mg/L		1	BGK0346	11/15/21 8:28	11/18/21 13:24	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Project Manager: Eric Ealy

P-97-1
MGK0141-03 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	35.7	1.00	mg/L		1	BGK0332	11/12/21 9:07	11/12/21 14:13	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0332	11/12/21 9:07	11/12/21 14:13	EPA 300.0	CRL
Sulfate	35.0	1.00	mg/L		1	BGK0332	11/12/21 9:07	11/12/21 14:13	EPA 300.0	CRL
Wet Chemistry										
pH	7.72		pH Units	M_TTT	1	BGK0333	11/12/21 10:30	11/12/21 10:51	SM 4500-H+ B	CRL
Total Dissolved Solids	366	25.0	mg/L		1	BGK0342	11/15/21 9:19	11/15/21 9:19	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0341	11/15/21 6:49	11/15/21 6:49	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.707	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:45	EPA 200.8	CRL
Barium	94.0	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:45	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:45	EPA 200.8	CRL
Chromium	2.17	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:45	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:45	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGK0347	11/15/21 8:32	11/17/21 8:45	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGK0346	11/15/21 8:28	11/18/21 13:30	EPA 200.7	HRD
Calcium	80.6	1.50	mg/L		1	BGK0346	11/15/21 8:28	11/18/21 13:29	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

	.	Reporting		Spike	Source	0/ DEC	%REC	222	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGJ0495 - Wet Prep										
Blank (BGJ0495-BLK1)				Prepared	& Analyze	d: 10/20/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGJ0495-BLK2)				Prepared	& Analyze	d: 10/20/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGJ0495-BS1)				Prepared	& Analyze	d: 10/20/2	021			
Chloride	24.634	1.00	mg/L	25.000	·	98.5	90-110			
Fluoride	2.3950	0.750	mg/L	2.5000		95.8	90-110			
Sulfate	24.752	1.00	mg/L	25.000		99.0	90-110			
LCS (BGJ0495-BS2)				Prepared	& Analyze	d: 10/20/2	021			
Chloride	24.578	1.00	mg/L	25.000		98.3	90-110			
Fluoride	2.3810	0.750	mg/L	2.5000		95.2	90-110			
Sulfate	24.616	1.00	mg/L	25.000		98.5	90-110			
LCS (BGJ0495-BS3)				Prepared	& Analyze	d: 10/20/2	021			
Chloride	24.569	1.00	mg/L	25.000		98.3	90-110			
Fluoride	2.3780	0.750	mg/L	2.5000		95.1	90-110			
Sulfate	24.564	1.00	mg/L	25.000		98.3	90-110			
Duplicate (BGJ0495-DUP1)	So	urce: MGJ026	6-01	Prepared	& Analyze	d: 10/20/2	021			
Chloride	15.638	1.00	mg/L		15.627			0.0704	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	24.944	1.00	mg/L		24.939			0.0201	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGJ0495 - Wet Prep										
Duplicate (BGJ0495-DUP2)	Sou	rce: MGJ026	6-02	Prepared	& Analyze	d: 10/20/2	021			
Chloride	17.475	1.00	mg/L		17.471			0.0229	20	
Fluoride	<0.750	0.750	mg/L		< 0.750				20	
Sulfate	12.031	1.00	mg/L		12.044			0.108	20	
Matrix Spike (BGJ0495-MS1)	Sou	rce: MGJ026	6-01	Prepared	& Analyze	d: 10/20/2	021			
Chloride	46.220	1.25	mg/L	31.250	15.627	97.9	90-110			
Fluoride	2.9813	0.938	mg/L	3.1250	<0.938	95.4	90-110			
Sulfate	55.916	1.25	mg/L	31.250	24.939	99.1	90-110			
Matrix Spike (BGJ0495-MS2)				Prepared	& Analyze	d: 10/20/2	021			
Chloride	48.986	1.25	mg/L	31.250	17.471	101	90-110			
Fluoride	3.1175	0.938	mg/L	3.1250	<0.938	99.8	90-110			
Sulfate	43.850	1.25	mg/L	31.250	12.044	102	90-110			
Matrix Spike Dup (BGJ0495-MSD1)	Sou	rce: MGJ026	6-01	Prepared	& Analyze	d: 10/20/2	021			
Chloride	46.425	1.25	mg/L	31.250	15.627	98.6	90-110	0.443	20	
Fluoride	3.0213	0.938	mg/L	3.1250	< 0.938	96.7	90-110	1.33	20	
Sulfate	56.083	1.25	mg/L	31.250	24.939	99.7	90-110	0.297	20	
Matrix Spike Dup (BGJ0495-MSD2)	Sou	rce: MGJ026	6-02	Prepared	& Analyze	d: 10/20/2	021			
Chloride	48.315	1.25	mg/L	31.250	17.471	98.7	90-110	1.38	20	
Fluoride	3.0388	0.938	mg/L	3.1250	<0.938	97.2	90-110	2.56	20	
Sulfate	43.128	1.25	mg/L	31.250	12.044	99.5	90-110	1.66	20	
Batch BGJ0507 - Wet Prep										
Blank (BGJ0507-BLK1)				Prepared:	10/20/202	21 Analyze	ed: 10/21/2	2021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGJ0507 - Wet Prep										
LCS (BGJ0507-BS1)				Prepared:	10/20/202	21 Analyze	ed: 10/21/2	021		
Chloride	24.585	1.00	mg/L	25.000		98.3	90-110			
Fluoride	2.3820	0.750	mg/L	2.5000		95.3	90-110			
Sulfate	24.652	1.00	mg/L	25.000		98.6	90-110			
LCS (BGJ0507-BS2)				Prepared:	10/20/202	21 Analyze	ed: 10/21/2	021		
Chloride	24.612	1.00	mg/L	25.000		98.4	90-110			
Fluoride	2.3810	0.750	mg/L	2.5000		95.2	90-110			
Sulfate	24.610	1.00	mg/L	25.000		98.4	90-110			
Duplicate (BGJ0507-DUP1)	Sou	Prepared:	10/20/202	21 Analyze	ed: 10/21/2	021				
Chloride	29.580	1.00	mg/L		29.620			0.135	20	
Fluoride	<0.750	0.750	mg/L		< 0.750				20	
Sulfate	41.166	1.00	mg/L		41.217			0.124	20	
Matrix Spike (BGJ0507-MS1)	Sour	rce: MGJ026	6-20	Prepared:	10/20/202	21 Analyze	ed: 10/21/2	021		
Chloride	61.089	1.25	mg/L	31.250	29.620	101	90-110			
Fluoride	3.1138	0.938	mg/L	3.1250	<0.938	99.6	90-110			
Sulfate	72.936	1.25	mg/L	31.250	41.217	102	90-110			
Matrix Spike Dup (BGJ0507-MSD1)	Sou	rce: MGJ026	6-20	Prepared:	10/20/202	21 Analyze	ed: 10/21/2	021		
Chloride	60.926	1.25	mg/L	31.250	29.620	100	90-110	0.266	20	
Fluoride	3.0925	0.938	mg/L	3.1250	<0.938	99.0	90-110	0.685	20	
Sulfate	72.778	1.25	mg/L	31.250	41.217	101	90-110	0.218	20	
Batch BGK0332 - Wet Prep										
Blank (BGK0332-BLK1)				Prepared	& Analyze	d: 11/12/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	< 0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0332 - Wet Prep										
LCS (BGK0332-BS1)				Prepared	& Analyze	d: 11/12/2	021			
Chloride	25.590	1.00	mg/L	25.000		102	90-110			
Fluoride	2.5040	0.750	mg/L	2.5000		100	90-110			
Sulfate	25.435	1.00	mg/L	25.000		102	90-110			
LCS (BGK0332-BS2)				Prepared	& Analyze	d: 11/12/2	021			
Chloride	25.629	1.00	mg/L	25.000		103	90-110			
Fluoride	2.5130	0.750	mg/L	2.5000		101	90-110			
Sulfate	25.361	1.00	mg/L	25.000		101	90-110			
Duplicate (BGK0332-DUP1)	Soui	Prepared	& Analyze							
Chloride	14.215	1.00	mg/L		14.223			0.0563	20	
Fluoride	<0.750	0.750	mg/L		< 0.750				20	
Sulfate	14.848	1.00	mg/L		14.856			0.0539	20	
Matrix Spike (BGK0332-MS1)	Soui	ce: MGK01	15-01	Prepared	& Analyze	d: 11/12/2	021			
Chloride	46.778	1.25	mg/L	31.250	14.223	104	90-110			
Fluoride	3.2550	0.938	mg/L	3.1250	<0.938	104	90-110			
Sulfate	47.479	1.25	mg/L	31.250	14.856	104	90-110			
Matrix Spike Dup (BGK0332-MSD1)	Sour	Source: MGK0115-01			& Analyze	d: 11/12/2	021			
				04.050	14.223	106	90-110	1.23	20	
Chloride	47.356	1.25	mg/L	31.250	14.223	100	90-110	1.23	20	
Chloride Fluoride	47.356 3.3350	1.25 0.938	mg/L mg/L	31.250 3.1250	<0.938	107	90-110	2.43	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

Analyte	Danist.	Reporting	l luite	Spike	Source	0/ DEC	%REC	DDD	RPD	Nlade -
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGJ0492 - Wet Prep										
Blank (BGJ0492-BLK1)				Prepared	& Analyze	d: 10/20/2	2021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGJ0492-BS1)				Prepared	& Analyze	d: 10/20/2	2021			
Total Suspended Solids	94.000	5.00	mg/L	101.00		93.1	70-130			
Duplicate (BGJ0492-DUP1)	So	urce: MGJ02	66-02	Prepared	& Analyze	d: 10/20/2	2021			
Total Suspended Solids	<12.5	12.5	mg/L		0.20000				20	M_K-06
Batch BGJ0493 - Wet Prep										
Blank (BGJ0493-BLK1)				Prepared	& Analyze	d: 10/20/2	2021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGJ0493-BS1)				Prepared	& Analyze	d: 10/20/2	2021			
Total Dissolved Solids	96.000	25.0	mg/L	100.80		95.2	70-130			
Duplicate (BGJ0493-DUP1)	So	urce: MGJ02	66-02	Prepared	& Analyze	d: 10/20/2	2021			
Total Dissolved Solids	236.00	25.0	mg/L		238.00			0.844	20	
Batch BGJ0494 - Wet Prep										
LCS (BGJ0494-BS1)				Prepared	& Analyze	d: 10/20/2	2021			
pH	7.1000		pH Units	7.0000		101	90-110			
LCS (BGJ0494-BS2)				Prepared	& Analyze	d: 10/20/2	2021			
pH	7.1100		pH Units	7.0000		102	90-110			



Environmental Services-Water Minneapolis
250 Marquette Plaza
Minneapolis MN, 55401
Project Manager: Eric Ealy
Project Manager: Eric Ealy

		D		011.	0		0/ DEC		DDD	
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
,										
Batch BGJ0494 - Wet Prep										
LCS (BGJ0494-BS3)				Prepared	& Analyze	d: 10/20/2	2021			
pH	7.1000		pH Units	7.0000		101	90-110			
Duplicate (BGJ0494-DUP1)	Sou	rce: MGJ026	66-01	Prepared	& Analyze	d: 10/20/2	2021			
pH	7.6600		pH Units		7.6700			0.130	20	
Duplicate (BGJ0494-DUP2)	Sou	rce: MGJ026	66-11	Prepared	& Analyze	d: 10/20/2	2021			
pH	7.6100		pH Units		7.6100			0.00	20	
Duplicate (BGJ0494-DUP3)	Sou	rce: MGJ026	66-20	Prepared	& Analyze	d: 10/20/2	2021			
рН	7.6900		pH Units		7.6900			0.00	20	
Datab DO 10505 Wat Durin										
Batch BGJ0535 - Wet Prep										
Blank (BGJ0535-BLK1)				Prepared	& Analyze	d: 10/21/2	2021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGJ0535-BS1)				Prepared	& Analyze	d: 10/21/2	2021			
Total Suspended Solids	88.000	5.00	mg/L	101.00		87.1	70-130			
Duplicate (BGJ0535-DUP1)	Sou	rce: MGJ025	51-02	Prepared	& Analyze	d: 10/21/2	2021			
Total Suspended Solids	3.7647	5.88	mg/L		4.0000			6.06	20	M_K-06
Duplicate (BGJ0535-DUP2)	Sou	rce: MGJ026	66-10	Prepared	& Analyze	d: 10/21/2	2021			
Total Suspended Solids	4.5000	12.5	mg/L		3.8000			16.9	20	M_K-06
Batch BGJ0536 - Wet Prep										
						1 40/04/6	2004			
Blank (BGJ0536-BLK1)				Prepared	& Analyze	d: 10/21/2	2021			
Total Dissolved Solids	<25.0	25.0	mg/L							



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGJ0536 - Wet Prep										
LCS (BGJ0536-BS1)				Prepared	& Analyze	d: 10/21/2	.021			
Total Dissolved Solids	88.000	25.0	mg/L	100.80		87.3	70-130			
Duplicate (BGJ0536-DUP1)	Sou	ırce: MGJ026	6-10	Prepared	& Analyze	d: 10/21/2	021			
Total Dissolved Solids	364.00	25.0	mg/L		358.00			1.66	20	
Batch BGJ0591 - Wet Prep										
Blank (BGJ0591-BLK1)				Prepared	& Analyze	d: 10/25/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGJ0591-BS1)				Prepared	& Analyze	d: 10/25/2	021			
Total Suspended Solids	94.000	5.00	mg/L	101.00		93.1	70-130			
Duplicate (BGJ0591-DUP1)	Sou	ırce: MGJ026	6-20	Prepared	& Analyze	d: 10/25/2	021			
Total Suspended Solids	<12.5	12.5	mg/L		<12.5				20	M_K-06
Batch BGJ0592 - Wet Prep										
Blank (BGJ0592-BLK1)				Prepared	& Analyze	d: 10/25/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGJ0592-BS1)				Prepared	& Analyze	d: 10/25/2	021			
Total Dissolved Solids	100.00	25.0	mg/L	100.80		99.2	70-130			
Duplicate (BGJ0592-DUP1)	Sou	ırce: MGJ026	6-20	Prepared	& Analyze	d: 10/25/2	021			
Total Dissolved Solids	364.00	25.0	mg/L		354.00			2.79	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0333 - Wet Prep										
LCS (BGK0333-BS1)				Prepared	& Analyze	d: 11/12/2	021			
pH	7.0900		pH Units	7.0000		101	90-110			
LCS (BGK0333-BS2)				Prepared	& Analyze	d: 11/12/2	021			
pH	7.0900		pH Units	7.0000		101	90-110			
Duplicate (BGK0333-DUP1)	Sou	ırce: MGK01	41-01	Prepared	& Analyze	d: 11/12/2	021			
рН	7.6400		pH Units		7.6900			0.652	20	
Batch BGK0341 - Wet Prep										
Blank (BGK0341-BLK1)				Prepared	& Analyze	d: 11/15/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0341-BS1)				Prepared	& Analyze	d: 11/15/2	021			
Total Suspended Solids	92.000	5.00	mg/L	102.60		89.7	70-130			
Duplicate (BGK0341-DUP1)	Sou	ırce: MGK01	31-01	Prepared	& Analyze	d: 11/15/2	021			
Total Suspended Solids	<12.5	12.5	mg/L		0.60000				20	M_K-06
Batch BGK0342 - Wet Prep										
Blank (BGK0342-BLK1)				Prepared	& Analyze	d: 11/15/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0342-BS1)				Prepared	& Analyze	d: 11/1 <u>5</u> /2	021			
Total Dissolved Solids	102.00	25.0	mg/L	102.20		99.8	70-130			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch	BGK	0342 -	Wet	Prep
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Duplicate (BGK0342-DUP1)	Source:	MGK013	1-01	Prepared & Analyzed: 11/15/2021		
Total Dissolved Solids	234.00	25.0	mg/L	242.00	3.36	20



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGJ0595 - EPA 200.2, EPA 3005										
Blank (BGJ0595-BLK1)				Prepared:	10/25/202	21 Analyze	ed: 10/26/2	021		
Molybdenum	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
LCS (BGJ0595-BS1)				Prepared:	10/25/202	21 Analyze	ed: 10/26/2	021		
Molybdenum	98.701	0.500	ug/L	100.00		98.7	85-115			
Chromium	104.31	0.500	ug/L	100.00		104	85-115			
Cobalt	105.02	0.500	ug/L	100.00		105	85-115			
Barium	102.89	0.500	ug/L	100.00		103	85-115			
Selenium	100.21	0.500	ug/L	100.00		100	85-115			
Arsenic	101.52	0.500	ug/L	100.00		102	85-115			
Duplicate (BGJ0595-DUP1)	So	urce: MGJ026	6-01	Prepared:	10/25/202	21 Analyze	ed: 10/26/2	021		
Cobalt	0.79427	0.500	ug/L		0.87253			9.39	20	
Barium	61.655	0.500	ug/L		61.462			0.314	20	
Arsenic	0.96083	0.500	ug/L		1.0360			7.53	20	
Molybdenum	0.51615	0.500	ug/L		0.48624			5.97	20	
Selenium	<0.500	0.500	ug/L		<0.500				20	
Chromium	1.7782	0.500	ug/L		2.3934			29.5	20	M_D
Duplicate (BGJ0595-DUP2)	So	urce: MGJ026	6-03	Prepared:	10/25/202	21 Analyze	ed: 10/26/2	021		
Barium	86.496	0.500	ug/L		86.430			0.0766	20	
Molybdenum	0.16186	0.500	ug/L		0.16399			1.31	20	
Selenium	<0.500	0.500	ug/L		<0.500				20	
Cobalt	0.31443	0.500	ug/L		0.31278			0.526	20	
Arsenic	0.79719	0.500	ug/L		0.92452			14.8	20	
Chromium	0.87205	0.500	ug/L		1.0887			22.1	20	M D



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGJ0595 - EPA 200.2, EPA 3005	i									
Matrix Spike (BGJ0595-MS1)	Sou	rce: MGJ026	6-01	Prepared:	: 10/25/202	21 Analyze	d: 10/26/2	021		
Barium	167.78	0.500	ug/L	100.00	61.462	106	75-125			
Molybdenum	106.95	0.500	ug/L	100.00	0.48624	106	75-125			
Selenium	109.58	0.500	ug/L	100.00	<0.500	110	75-125			
Cobalt	102.79	0.500	ug/L	100.00	0.87253	102	75-125			
Chromium	105.68	0.500	ug/L	100.00	2.3934	103	75-125			
Arsenic	111.50	0.500	ug/L	100.00	1.0360	110	75-125			
Matrix Spike (BGJ0595-MS2)	Sou	rce: MGJ026	6-03	Prepared:	: 10/25/202	21 Analyze	ed: 10/26/2	021		
Molybdenum	102.16	0.500	ug/L	100.00	0.16399	102	75-125			
Chromium	99.612	0.500	ug/L	100.00	1.0887	98.5	75-125			
Barium	193.68	0.500	ug/L	100.00	86.430	107	75-125			
Arsenic	106.56	0.500	ug/L	100.00	0.92452	106	75-125			
Cobalt	98.796	0.500	ug/L	100.00	0.31278	98.5	75-125			
Selenium	110.54	0.500	ug/L	100.00	<0.500	111	75-125			
Matrix Spike Dup (BGJ0595-MSD1)	Sou	rce: MGJ026	6-01	Prepared:	: 10/25/202	21 Analyze	ed: 10/26/2	021		
Molybdenum	109.69	0.500	ug/L	100.00	0.48624	109	75-125	2.53	20	
Chromium	103.96	0.500	ug/L	100.00	2.3934	102	75-125	1.64	20	
Selenium	106.61	0.500	ug/L	100.00	<0.500	107	75-125	2.75	20	
Barium	163.69	0.500	ug/L	100.00	61.462	102	75-125	2.47	20	
Arsenic	105.73	0.500	ug/L	100.00	1.0360	105	75-125	5.32	20	
Cobalt	100.52	0.500	ug/L	100.00	0.87253	99.6	75-125	2.24	20	
Matrix Spike Dup (BGJ0595-MSD2)	Sou	rce: MGJ026	6-03	Prepared:	: 10/25/202	21 Analyze	ed: 10/26/2	021		
Selenium	103.04	0.500	ug/L	100.00	<0.500	103	75-125	7.02	20	
Cobalt	96.151	0.500	ug/L	100.00	0.31278	95.8	75-125	2.71	20	
Arsenic	103.41	0.500	ug/L	100.00	0.92452	102	75-125	3.01	20	
Chromium	102.44	0.500	ug/L	100.00	1.0887	101	75-125	2.80	20	
Molybdenum	103.06	0.500	ug/L	100.00	0.16399	103	75-125	0.884	20	
Barium	188.20	0.500	ug/L	100.00	86.430	102	75-125	2.87	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0110 - EPA 200.2, EPA 3005										
Blank (BGK0110-BLK1)				Prepared:	11/04/202	1 Analyze	ed: 11/05/20	021		
Selenium	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
LCS (BGK0110-BS1)				Prepared:	11/04/202	1 Analyze	ed: 11/05/20	021		
Cobalt	100.37	0.500	ug/L	100.00		100	85-115	<u> </u>		<u> </u>
Chromium	102.83	0.500	ug/L	100.00		103	85-115			
Arsenic	96.855	0.500	ug/L	100.00		96.9	85-115			
Barium	92.829	0.500	ug/L	100.00		92.8	85-115			
Molybdenum	93.653	0.500	ug/L	100.00		93.7	85-115			
Selenium	102.16	0.500	ug/L	100.00		102	85-115			
Duplicate (BGK0110-DUP1)	So	urce: MGJ039	1-03	Prepared:	11/04/202	1 Analyze	ed: 11/05/20	021		
Molybdenum	0.43475	0.500	ug/L		0.42519			2.22	20	
Arsenic	2.8581	0.500	ug/L		2.8202			1.33	20	
Selenium	<0.500	0.500	ug/L		<0.500				20	
Cobalt	0.25975	0.500	ug/L		0.29035			11.1	20	
Barium	615.76	0.500	ug/L		643.43			4.40	20	
Chromium	<0.500	0.500	ug/L		0.74712				20	
Matrix Spike (BGK0110-MS1)	So	urce: MGJ039	1-03	Prepared:	11/04/202	1 Analyze	ed: 11/05/20	021		
Barium	720.78	0.500	ug/L	100.00	643.43	77.3	75-125			
Cobalt	103.81	0.500	ug/L	100.00	0.29035	104	75-125			
Arsenic	106.47	0.500	ug/L	100.00	2.8202	104	75-125			
Selenium	105.60	0.500	ug/L	100.00	<0.500	106	75-125			
Molybdenum	103.02	0.500	ug/L	100.00	0.42519	103	75-125			
Chromium	109.17	0.500	ug/L	100.00	0.74712	108	75-125			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0110 - EPA 200.2, EPA 3005	5		· ·							
Matrix Spike Dup (BGK0110-MSD1)	Sou	rce: MGJ039	1-03	Prepared:	11/04/202	1 Analyze	d: 11/05/20	021		
Arsenic	104.23	0.500	ug/L	100.00	2.8202	101	75-125	2.13	20	
Barium	738.22	0.500	ug/L	100.00	643.43	94.8	75-125	2.39	20	
Selenium	105.35	0.500	ug/L	100.00	<0.500	105	75-125	0.236	20	
Chromium	103.49	0.500	ug/L	100.00	0.74712	103	75-125	5.34	20	
Cobalt	100.02	0.500	ug/L	100.00	0.29035	99.7	75-125	3.72	20	
Molybdenum	101.07	0.500	ug/L	100.00	0.42519	101	75-125	1.92	20	
Batch BGK0347 - EPA 200.2, EPA 3005	5									
Blank (BGK0347-BLK1)				Prepared:	11/15/202	1 Analyze	d: 11/17/20	021		
Arsenic	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
LCS (BGK0347-BS1)				Prepared:	11/15/202	1 Analyze	d: 11/17/20	021		
Molybdenum	98.765	0.500	ug/L	100.00		98.8	85-115			
Selenium	100.44	0.500	ug/L	100.00		100	85-115			
Cobalt	101.86	0.500	ug/L	100.00		102	85-115			
Barium	101.42	0.500	ug/L	100.00		101	85-115			
Chromium	101.59	0.500	ug/L	100.00		102	85-115			
Arsenic	101.72	0.500	ug/L	100.00		102	85-115			
Duplicate (BGK0347-DUP1)	Sou	rce: MGK014	41-01	Prepared:	11/15/202	1 Analyze	d: 11/17/20	021		
Arsenic	0.67908	0.500	ug/L		0.63794			6.25	20	
Cobalt	0.28360	0.500	ug/L		0.24321			15.3	20	
Chromium	1.4964	0.500	ug/L		1.5826			5.60	20	
Molybdenum	0.63737	0.500	ug/L		0.53384			17.7	20	
Selenium	<0.500	0.500	ug/L		<0.500				20	
Barium	101.15	0.500	ug/L		98.844			2.30	20	



RPD

%REC

Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

Total Metals by ICPMS - Quality Control

Spike

Source

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0347 - EPA 200.2, EPA 3005										
Matrix Spike (BGK0347-MS1)	Sour	ce: MGK014	11-01	Prepared:	: 11/15/202	1 Analyze	ed: 11/17/2	021		
Molybdenum	102.11	0.500	ug/L	100.00	0.53384	102	75-125			
Arsenic	107.75	0.500	ug/L	100.00	0.63794	107	75-125			
Chromium	102.34	0.500	ug/L	100.00	1.5826	101	75-125			
Selenium	104.91	0.500	ug/L	100.00	<0.500	105	75-125			
Barium	201.97	0.500	ug/L	100.00	98.844	103	75-125			
Cobalt	98.518	0.500	ug/L	100.00	0.24321	98.3	75-125			
Matrix Spike Dup (BGK0347-MSD1)	Sour	ce: MGK014	11-01	Prepared:	: 11/15/202	1 Analyze	d: 11/17/2	021		
Cobalt	99.271	0.500	ug/L	100.00	0.24321	99.0	75-125	0.762	20	
Selenium	104.70	0.500	ug/L	100.00	<0.500	105	75-125	0.199	20	
Chromium	105.10	0.500	ug/L	100.00	1.5826	104	75-125	2.66	20	
Barium	199.66	0.500	ug/L	100.00	98.844	101	75-125	1.15	20	
Molybdenum	102.50	0.500	ug/L	100.00	0.53384	102	75-125	0.379	20	
Arsenic	103.37	0.500	ug/L	100.00	0.63794	103	75-125	4.15	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGJ0594 - EPA 200.2, EPA 300)5									
Blank (BGJ0594-BLK1)				Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BGJ0594-BS1)				Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Calcium	97.518	1.50	mg/L	100.00		97.5	85-115			
Boron	0.99079	0.0500	mg/L	1.0000		99.1	85-115			
Duplicate (BGJ0594-DUP1)	Sou	rce: MGJ026	2-01	Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Calcium	51.777	1.50	mg/L		54.555			5.22	20	
Boron	0.055827	0.0500	mg/L		0.058378			4.47	20	
Duplicate (BGJ0594-DUP2)	Sou	rce: MGJ026	4-01	Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Calcium	79.034	1.50	mg/L		78.467			0.720	20	
Boron	0.13567	0.0500	mg/L		0.13600			0.243	20	
Matrix Spike (BGJ0594-MS1)	Sou	rce: MGJ026	2-01	Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Boron	1.0491	0.0500	mg/L	1.0000	0.058378	99.1	70-130			
Calcium	153.86	1.50	mg/L	100.00	54.555	99.3	70-130			
Matrix Spike (BGJ0594-MS2)	Sou	rce: MGJ026	4-01	Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Calcium	177.56	1.50	mg/L	100.00	78.467	99.1	70-130			
Boron	1.0907	0.0500	mg/L	1.0000	0.13600	95.5	70-130			
Matrix Spike Dup (BGJ0594-MSD1)	Sou	rce: MGJ026	2-01	Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Calcium	147.37	1.50	mg/L	100.00	54.555	92.8	70-130	4.31	20	
Boron	1.0328	0.0500	mg/L	1.0000	0.058378	97.4	70-130	1.57	20	
Matrix Spike Dup (BGJ0594-MSD2)	Sou	rce: MGJ026	4-01	Prepared:	10/25/202	1 Analyze	ed: 10/26/2	021		
Boron	1.1404	0.0500	mg/L	1.0000	0.13600	100	70-130	4.46	20	
Calcium	180.55	1.50	mg/L	100.00	78.467	102	70-130	1.67	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco Unit 3 Landfill CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 07:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0109 - EPA 200.2, EPA 3005										
Blank (BGK0109-BLK1)				Prepared:	11/04/202	21 Analyze	ed: 11/05/2	021		
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BGK0109-BS1)				Prepared:	11/04/202	21 Analyze	ed: 11/05/2	021		
Boron	0.97593	0.0500	mg/L	1.0000		97.6	85-115			
Calcium	96.584	1.50	mg/L	100.00		96.6	85-115			
Duplicate (BGK0109-DUP1)	So	urce: MGJ039	1-01	Prepared:	11/04/202	21 Analyze	ed: 11/05/2	021		
Boron	0.20381	0.0500	mg/L		0.20957			2.79	20	
Calcium	98.672	1.50	mg/L		99.984			1.32	20	
Matrix Spike (BGK0109-MS1)	So	urce: MGJ039	1-01	Prepared:	11/04/202	21 Analyze	ed: 11/05/2	021		
Boron	1.1954	0.0500	mg/L	1.0000	0.20957	98.6	70-130			
Calcium	203.37	1.50	mg/L	100.00	99.984	103	70-130			
Matrix Spike Dup (BGK0109-MSD1)	So	urce: MGJ039	1-01	Prepared:	11/04/202	21 Analyze	ed: 11/05/2	021		
Boron	1.1885	0.0500	mg/L	1.0000	0.20957	97.9	70-130	0.577	20	
Calcium	201.62	1.50	mg/L	100.00	99.984	102	70-130	0.866	20	
Batch BGK0346 - EPA 200.2, EPA 3005										
Blank (BGK0346-BLK1)				Prepared:	11/15/202	21 Analyze	ed: 11/18/2	021		
Calcium	<1.50	1.50	mg/L							
Boron	<0.0500	0.0500	mg/L							
LCS (BGK0346-BS1)				Prepared:	11/15/202	21 Analyze	ed: 11/18/2	021		
Boron	0.95729	0.0500	mg/L	1.0000		95.7	85-115			
Calcium	97.373	1.50	mg/L	100.00		97.4	85-115			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco Unit 3 Landfill CCR

Reported:

12/03/2021 07:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0346 - EPA 200.2, EPA 3005										
Duplicate (BGK0346-DUP1)	Sou	rce: MGK013	31-01	Prepared	: 11/15/202	1 Analyze	ed: 11/18/2	021		
Boron	0.031567	0.0500	mg/L		0.032528			3.00	20	
Calcium	47.976	1.50	mg/L		47.178			1.68	20	
Duplicate (BGK0346-DUP2)	Sou	rce: MGK013	31-02	Prepared	: 11/15/202	1 Analyze	ed: 11/18/2	021		
Boron	0.041441	0.0500	mg/L		0.043168			4.08	20	
Calcium	64.414	1.50	mg/L		66.889			3.77	20	
Matrix Spike (BGK0346-MS1)	Sou	rce: MGK013	31-01	Prepared	: 11/15/202	1 Analyze	ed: 11/18/2	021		
Calcium	146.54	1.50	mg/L	100.00	47.178	99.4	70-130			
Boron	1.0160	0.0500	mg/L	1.0000	0.032528	98.3	70-130			
Matrix Spike (BGK0346-MS2)	Sou	rce: MGK013	31-02	Prepared	: 11/15/202	1 Analyze	ed: 11/18/2	021		
Calcium	164.87	1.50	mg/L	100.00	66.889	98.0	70-130			
Boron	1.0405	0.0500	mg/L	1.0000	0.043168	99.7	70-130			
Matrix Spike Dup (BGK0346-MSD1)	Sou	rce: MGK013	31-01	Prepared	: 11/15/202	1 Analyze	ed: 11/18/2	021		
Boron	1.0109	0.0500	mg/L	1.0000	0.032528	97.8	70-130	0.498	20	
Calcium	148.40	1.50	mg/L	100.00	47.178	101	70-130	1.26	20	
Matrix Spike Dup (BGK0346-MSD2)	Sou	rce: MGK013	31-02	Prepared	: 11/15/202	1 Analyze	ed: 11/18/2	021		
Calcium	163.03	1.50	mg/L	100.00	66.889	96.1	70-130	1.13	20	
Boron	1.0273	0.0500	mg/L	1.0000	0.043168	98.4	70-130	1.28	20	



Environmental Services-Water Minneapolis	Project Name/Location: Sherco Unit 3 Landfill CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/03/2021 07:24

Qualifiers and Definitions

M TTT	Sample received at the lab outside of required hold time.	

M_K-06 The reporting limit has been increased, the reported result is acceptable. The maximum routine sample volume was used,

but the amount of residue measured was below reference method limits.

M_D The RPD for the sample duplicate was outside of QC acceptance limits possibly due to non-homogeneous matrix.

Z Non Accredited Analyte

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

Face Analytical

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A SHIPS: MDOOPGOZ

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical

GROUND WATER DRINKING WATER Samples Intact Y/N N/A OTHER of 3 OTHER MCES SAMPLE CONDITIONS Sealed Cooler N/A N/A N/A N/A Custody Z Page: 2 REGULATORY AGENCY N 901 MONY N/A N/A Received on OH L SCL O° ni qmaT MN TIME 07.0 N L RCRA L LOCATION 10/20/21 DATE NPDES iltered (Y/N) SITE TSU T × × × × Requested Analysis: DATE Signed (MM/DD/YY) × × × ACCEPTED BY / AFFILIATION Nethanol /xc-/ EOSSSEV ICI - 2 EONH ر د د 1 *OSZ ubleserved Steve Davis (1) 士 T 3 3 # OF CONTAINERS J 3 0 J 3 3 Chris Pelosi Chris Pelosi SAMPLER NAME AND SIGNATURE SAMPLE TEMP AT COLLECTION 1 1230 × TIME 710 0815 1325 1355 1245 10/18hi 1335 10/18/21 MOD 5171 1310 TIME 5011 140 1255 COMPOSITE END/GRAB Pace Prome #. white) SNATURE of SAMPLER: 12/02/01 10/18/21 12/81/01 12/61/01 RELINQUISHED BY / AFFILIATION DATE 12/6/10/ 12/6/10/ 12/6/10) 12/6/01 0/18/21 DATE COLLECTED ace Quote Reference: Pace Project Manager: Xcel Energy Sherco Unit 3 LF Fall TIME Invoice Information: 1 1 1 1 1 1 Company Name: COMPOSITE START Section C DATE Jak 1 1 1 1 1 SAMPLE TYPE GRAB C=COMP O O O O O O O O O O O WT G CONTOC TM MT WT TM TW TW TW TW Riley Jacobson M W TW Project Number 21 - 05159 MATRIX CODE Chris Pelosi Required Project Information: Jurchase Order No. Project Name: Section B MATRIX
DRINGNG WATER
WATER
WASTE WATER
PRODUCT
SOLUSOLID Report To: Copy To: * , P-138A, bladder pump stuckin well, could not collect sample. Section D Required Client Information DUPLICATE P-144B P-137B P-138B P-143A P-143B P-144A P-137A P-138A P-141 P-134 P-142 Environmental Services 2 Weeks (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE Tap Most One Character per box. SAMPLE ID Chris Pelosi Xcel Energy MP-7 Fax Required Client Information: quested Due Date/TAT: Additional Comments: hone: (612) 537-7254 ITEM #

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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A	Section A Required Client Information:	Section B Required Project Information:		Section C	Section C Invoice Information	_								Page:	: 3 of	3
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hone	Phone: (612) 597-7254 Fax:	Project Number 21-051	159	Pace P	Pace Project Manager:	iger:	Chris F	Pelosi			으 	LOCATION	L H L	scl	WI V	OTHER
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