# 2021 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

**BOTTOM ASH POND** 

Sherburne County (Sherco) Generating Plant Becker, Minnesota

Prepared for:

Northern States Power Company, a Minnesota Corporation

January 31, 2022



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# 2021 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Bottom Ash Pond 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.

LICENSED ROFESSIONA

Signature of Preparer:

David Katzner, P.G. #57700 Carlson McCain, Inc.

Date: January 31, 2022

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#### 1. EXECUTIVE SUMMARY

The Bottom Ash Pond at the Sherburne County Generating Plant is subject to the groundwater monitoring and correction action requirements under U.S. Code of Federal Regulations, Title 40, Parts §257.90 to §257.98. The Bottom Ash Pond operated under the assessment monitoring program in §257.95 at both the start of this annual reporting period on January 1, 2021 and at the end of the annual reporting period on December 31, 2021. Since the Bottom Ash Pond 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 the Bottom Ash Pond (BAP) at the Sherburne County Generating Plant (Sherco) located in Becker, Minnesota. The BAP is owned and operated by Northern States Power Company, a Minnesota Corporation (NSPM).

The BAP is an inactive coal combustion residuals (CCR) impoundment 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 Bottom Ash Pond CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2021b). 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, 2021b) 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 2 (Site Description) briefly describes the site location and hydrogeologic setting, Section 3 (Monitoring Results) discusses the reporting requirements of the CCR Sampling and Analysis Plan and §257.90(e), and Section 4 (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 BAP is located in the City of Becker, Sherburne County, Minnesota. The BAP is approximately 18 acres in size and is part of a larger generating plant site. The BAP construction was last modified in 1982. The BAP location is shown on Figure 1 and an aerial photograph and site layout map for BAP are shown on Figure 2.

Construction of Bottom Ash Pond 2 (BAP2) was completed in 2020 and began operation as a new CCR surface impoundment (as defined in §257.53) with receipt of first CCR on October 5, 2020. On October 31, 2020, the BAP ceased receiving CCR and is now considered an inactive CCR surface impoundment as defined in §257.53. The BAP will undergo closure and post-closure care in accordance with the requirements of §257.100 through §257.104. The BAP will be closed by leaving the majority of CCR in-place and BAP closure activities will be completed by October 31, 2025 in accordance with §257.102 (f)(1)(ii) (Carlson McCain, 2021d). Following closure of BAP, maintaining the groundwater monitoring system and monitoring the groundwater will continue during the 30-year post-closure care period in accordance with the requirements of §257.90 through §257.98.

#### 3.1 Site Hydrogeology

The site hydrogeology is discussed in more detail in the Bottom Ash Pond 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 Facility 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 southwest beneath the Facility 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, and no perched groundwater conditions have been identified above the till. Groundwater travel velocities are estimated at 153 feet/year.

The conceptual model for the hypothetical (or potential) release of a constituent of concern (COC) from the BAP focuses on groundwater as the transport mechanism. The water table beneath the BAP typically occurs below the Superior till. Exfiltration from the BAP area is anticipated to move vertically downward from the base until it reaches the water table and/or till contact. If the exfiltration first contacts the till, it may flow through the till in the downgradient direction, but may also flow locally along the till contact to a zone of higher permeability within the till or a discontinuity of the till until it reaches the water table. Upon reaching the water table, a COC would likely travel mainly horizontally to the southwest and toward 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 BAP and all upgradient and downgradient monitoring well locations included in the BAP CCR groundwater monitoring system are shown and labeled on Figure 2. A summary of the monitoring wells included in the BAP CCR Groundwater Monitoring System is included in Table 1.

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

No monitoring wells that are part of the groundwater monitoring system for the BAP 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 BAP 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 BAP groundwater monitoring system were sampled during the spring monitoring event conducted on May 4-5 and June 10, 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-01A-1, P-17, P-22, P-23, P-155, P-156, P-157 and P-158 on June 10, 2021 were analyzed for radium only as described in Section 5.2 of this report.
- Samples were collected from seven of the nine wells in the BAP groundwater monitoring system during the fall monitoring event conducted on November 1-2, 2021. Wells P-01A-1 and P-152A could not be sampled due to low water levels, as described in Section 5.2 of this report. 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.

#### 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 BAP include P-17, P-23, P-152A, P-157 and P-158 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 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) and the groundwater protection standard for each Appendix IV constituent are summarized on the following page.

	Parameter	Background Range	Groundwater Protection Standard		
	Boron, total (mg/L)	<0.050 to 1.37	NA		
III	Calcium, total (mg/L)	48.6 to 145	NA		
Appendix III Parameters	Chloride, total (mg/L)	<1.0 to 27.5	NA		
	Fluoride, total (mg/L)	<0.750	NA		
ppe ara	рН (lab) (рН)	7.57 to 8.01	NA		
Ap Pa	Sulfate, total (mg/L)	6.12 to 269	NA		
	Total Dissolved Solids (mg/L)	168 to 688	NA		
	Antimony, total (mg/L)	< 0.0005	0.006		
	Arsenic, total (mg/L)	<0.0005 to 0.0007	0.01		
	Barium, total (mg/L)	<0.05 to 0.116	2		
	Beryllium, total (mg/L)	<0.0005	0.004		
	Cadmium, total (mg/L)	<0.0001 to <0.0005	0.05		
<b> </b>	Chromium, total (mg/L)	0.0005 to 0.004	0.1		
Appendix IV Parameters	Cobalt, total (mg/L)	< 0.0005	0.006		
ndi:	Fluoride, total (mg/L)	< 0.750	4		
)er San	Lead, total (mg/L)	<0.0005	0.015		
^Paı	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 to 0.0023	0.1		
	Radium, 226 and 228 combined (pCi/L)	<0.92 to 3.1	5		
	Selenium, total (mg/L)	<0.0005 to 0.0033	0.05		
	Thallium, total (mg/L)	<0.0005	0.002		

<sup>&</sup>lt;sup>1</sup> 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.

#### Statistical Analysis

Statistical analysis was performed on the YR2021 monitoring data using the procedures described in BAP's Statistical Analysis Plan (Carlson McCain, 2021c), 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 BAP 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 BAP 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 BAP 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 BAP, along with other nearby monitoring wells and water level piezometers not included in the BAP CCR monitoring system. For both of the events, the flow direction was generally to the southwest. 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 towards the Mississippi River.

Groundwater elevations at BAP monitoring system wells were low during YR2021 compared to recent years and were calculated to be approximately 0.55 feet above historic lows during the fall monitoring event. The low groundwater levels at BAP 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 BAP.

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

The BAP 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 assessment monitoring program (§257.95) during YR2018, the BAP 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 BAP, Section 5.2 discusses 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, 2021) was completed, placed in the facility's operating record on January 28, 2021, and posted on the BAP's publicly available website by February 27, 2021.
- Revisions to the BAP's Groundwater Sampling and Analysis Plan (Carlson McCain, 2021b) and Statistical Analysis Plan (Carlson McCain, 2021c) were completed and dated May 6, 2021. The Statistical Analysis Plan was placed in the facility's operating record on May 20, 2021 and posted on BAP's publicly available website by June 19, 2021.
- Monitoring wells were sampled during the spring event conducted on May 4-5, 2021 and analyzed for all Appendix III and Appendix IV constituents as required by §257.95(d)(1), except for radium.
- Monitoring wells P-01A-1, P-17, P-22, P-23, P-155, P-156, P-157 and P-158 were resampled on June 10, 2021 and analyzed for radium only as part of the spring monitoring event.
- Seven of the nine monitoring wells were sampled during the fall event conducted on November 1-2, 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). Wells P-01A-1 and P-152A were not sampled due to low water levels.
- Laboratory reports and field datasheets for the spring and fall sampling events were placed in the operating record on July 7, 2021 and January 10, 2022, respectively.
- Statistical evaluation of the spring and fall monitoring event data was performed on July 7, 2021 and January 10, 2022, respectively, for compliance with §257.95(e) through (g).

#### 5.2 Problems

#### 5.2.1 Problems Encountered

#### Spring Event Radium Analysis

The field samplers did not fill sample containers for radium analysis from wells P-01A-1, P-17, P-22, P-23, P-155, P-156, P-157 and P-158 during the initial sampling for spring monitoring event on May 4-5, 2021. Consequently, radium results for the indicated wells were missing from the laboratory report that was supposed to contain the results. This data issue was identified during subsequent data validation.

#### Low Groundwater Level Issues

Low groundwater levels prevented samples from being collected from well P-01A-1 and P-152A during the fall monitoring event. Attempts were made to collect samples from the wells using the dedicated bladder pumps installed in the wells and a non-dedicated submersible pump and associated tubing. The water levels in each of the wells were below the top of the bladder pumps which prevented the bladder pumps from functioning. Submersible pumps also generally need at least a one-foot water column in wells for the pumps to work, but only 0.63- and 0.89-foot water columns were present in wells P-01A-1 and P-152A, respectively, at the time of sampling.

#### Other Problems

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

#### 5.2.2 Resolution of Problems

#### Spring Event Radium Analysis

When it was identified that radium results were missing from wells P-01A-1, P-17, P-22, P-23, P-155, P-156, P-157 and P-158, plans were made with the field sampler to resample each of the wells that were missed, fill the appropriate containers for radium analysis, and submit the containers to the laboratory for analysis. Wells P-01A-1, P-17, P-22, P-23, P-155, P-156, P-157 and P-158 were successfully resampled on June 10, 2021 and radium results were subsequently received from the laboratory and incorporated into the spring event data set.

#### Low Groundwater Level Issues

Low groundwater levels prevented samples from being collected from wells P-01A-1 and P-152A during the fall monitoring event, which represents a data gap from the fall monitoring event.

Well P-152A at BAP is an upgradient background well. BAP has five upgradient wells in the monitoring system and the minimum number of background wells BAP is required to have is one.

Interwell statistical analysis is performed on the monitoring locations at BAP. Considering BAP has five upgradient wells to pool for interwell statistical analysis, missing data from one background well for possibly several monitoring events won't significantly affect data interpretation at BAP. Well P-152A will once again be sampled as soon groundwater levels sufficiently recover to be able to sample the well.

Well P-01A-1 at BAP is a downgradient compliance well. Statistical analysis of data from P-01A-1 through the spring of 2021 monitoring event indicates that selenium is the only constituent to consistently exhibit concentrations above background water quality. Trend analysis indicates only one upward trend (barium) and no downward trends for detectable Appendix III and Appendix IV constituents in the data from well P-01A-1. However, monitoring results from well P-156, located about 400 feet east of well P-01A-1A, exhibited increased concentrations for several constituents during the fall monitoring event including boron, calcium, selenium, sulfate and total dissolved solids. Not being able monitor well P-01A-1 leaves a gap in the middle of the downgradient side of the BAP and given the recent constituent increases observed at well P-156, the P-01A-1 location should be monitored during the spring of 2022 monitoring event to maintain compliance with §257.91(e)(2). It is unknown whether groundwater levels will recover sufficiently to allow sampling during the spring 2022 monitoring event, so NSPM has decided to be proactive and plans to replace well P-01A-1 with a deeper well at the same location prior to the spring 2022 monitoring event.

#### 5.3 Key Activities for 2022

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

- 1. Replacement of monitoring well P-01A-1 with a deeper well at the same location prior to the spring 2022 monitoring event.
- 2. Completion of a Monitoring Well Replacement Report describing the replacement of monitoring well P-01A-1 and placement of the report in the operating record for compliance with §257.91(e)(1).
- 3. Routine, semi-annual assessment monitoring events at monitoring system wells are planned in the spring between March 15 and May 15, 2021 and in the fall between September 15 and November 15, 2021.
- 4. Statistical analysis of monitoring results will be conducted to demonstrate compliance with §257.95(e) through (g).

#### 6.0 REFERENCES

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

**Carlson McCain, 2018a.** SSI Determination – Bottom Ash Pond, Prepared for NSPM Environmental Services, Carlson McCain, Inc., January 15, 2018.

Carlson McCain, 2018b. 2017 CCR Annual Groundwater and Corrective Action Monitoring Report, Bottom Ash Pond, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, January 29, 2018.

**Carlson McCain, 2018c.** Alternate Source Demonstration Update – Bottom Ash Pond, Prepared for NSPM Environmental Services, Carlson McCain, Inc., April 13, 2018.

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

Carlson McCain, 2021b. CCR Groundwater Sampling and Analysis Plan – Revision #2, Bottom Ash Pond, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, May 6, 2021.

**Carlson McCain, 2021c.** Statistical Analysis Plan – Revision #1, Bottom Ash Pond, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, May 6, 2021.

**Carlson McCain, 2021d.** Closure Plan (Revision No. 1). Bottom Ash Pond, Sherburne County Generating Plant. April 27, 2021.

**Tables** 

Table 1
CCR Groundwater Monitoring System
Bottom Ash Pond

	Minnesota		Loca	ition	Elevation	Screen	Elevation	Elevation		
	Unique	Date	Site Coord	linates (ft)	Top of	Length	Top of	Bottom of		Hydrologic
Well ID	Well ID	Installed	Easting Northing		Riser Pipe	(ft)	Screen	Screen	<b>Monitoring Status</b>	Location
P-01A-1	NA	1/4/78	2028267.7	865408.3	1002.8	2	924	922	Routine Semi-annual	Down-Gradient
P-17	NA	8/26/81	2030284.1	866284.1	964.34	20	923	903	Routine Semi-annual	Up-Gradient
P-22	NA	8/27/81	2027386.3	865147.1	964.33	20	922	902	Routine Semi-annual	Down-Gradient
P-23	NA	8/28/81	2028068.1	866241.6	967.26	30	926	896	Routine Semi-annual	Up-Gradient
P-152A	806318	10/10/14	2031471.6	866696.4	965.87	10	934	924	Routine Semi-annual	Up-Gradient
P-155	812964	9/22/15	2027791	865410	1002.72	10	927	917	Routine Semi-annual	Down-Gradient
P-156	812965	9/22/15	2028707	865410	1002.39	10	927	917	Routine Semi-annual	Down-Gradient
P-157	812966	9/22/15	2028485	866287	968.17	10	929	919	Routine Semi-annual	Up-Gradient
P-158	812967	9/23/15	2029122	866410	966.55	10	927	917	Routine Semi-annual	Up-Gradient

\*Notes:

Elevation is feet above mean sea level

Table 2
Summary of Data Collected
Bottom Ash Pond

	Upgradient Wells												
		Sample Dates											
Well ID	Number of Samples	Spring 2021 <sup>1</sup>	Fall 2021 <sup>2</sup>										
P-17	2	5/4/2021 and 6/10/2021	11/2/2021										
P-23	2	5/5/2021 and 6/10/2021	11/2/2021										
P-152A	1	5/4/2021	NS <sup>3</sup>										
P-157	2	5/5/2021 and 6/10/2021	11/2/2021										
P-158	2	5/4/2021 and 6/10/2021	11/2/2021										

		Downgradient Wells								
	Sample Dates									
Well ID	Number of Samples	Spring 2021 <sup>1</sup>	Fall 2021 <sup>2</sup>							
P-01A-1	1	5/5/2021 and 6/10/2021	NS <sup>3</sup>							
P-22	2	5/5/2021 and 6/10/2021	11/1/2021							
P-155	2	5/5/2021 and 6/10/2021	11/2/2021							
P-156	2	5/5/2021 and 6/10/2021	11/2/2021							

Assessment monitoring event sampled and analyzed for appendix III and appendix IV of §257 constituents as required by §257.95(b). Samples were obtained from most wells for radium analysis on 6/10/2021.

<sup>&</sup>lt;sup>2</sup> 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).

<sup>&</sup>lt;sup>3</sup> No Sample. Low groundwater levels prevented a sample from being collected from the well during the specified monitoring event.

Table 3
Count of Parameters Analyzed by Well
Bottom Ash Pond

	Appendix III Parameters												
Parameter	Well ID and Number of Samples												
rarameter	P-01A-1	P-17	P-22	P-23	P-152A	P-155	P-156	P-157	P-158				
Boron, total (mg/L)	1	2	2	2	1	2	2	2	2				
Calcium, total (mg/L)	1	2	2	2	1	2	2	2	2				
Chloride, total (mg/L)	1	2	2	2	1	2	2	2	2				
Fluoride, total (mg/L)	1	2	2	2	1	2	2	2	2				
pH (lab) (pH)	1	2	2	2	1	2	2	2	2				
Sulfate, total (mg/L)	1	2	2	2	1	2	2	2	2				
Total Dissolved Solids (mg/L)	1	2	2	2	1	2	2	2	2				

		$\mathbf{A}_{]}$	ppendix I	V Paramet	ers				
Parameter				Well ID ar	d Number	of Samples	,		
r arameter	P-01A-1	P-17	P-22	P-23	P-152A	P-155	P-156	P-157	P-158
Antimony, total (mg/L)	1	1	1	1	1	1	1	1	1
Arsenic, total (mg/L)	1	2	2	2	1	2	2	2	2
Barium, total (mg/L)	1	2	2	2	1	2	2	2	2
Beryllium, total (mg/L)	1	1	1	1	1	1	1	1	1
Cadmium,total (mg/L)	1	1	1	1	1	1	1	1	1
Chromium, total (mg/L)	1	2	2	2	1	2	2	2	2
Cobalt, total (mg/L)	1	1	1	1	1	1	1	1	1
Fluoride, total (mg/L)	1	1	1	1	1	1	1	1	1
Lead, total (mg/L)	1	1	1	1	1	1	1	1	1
Lithium Total (mg/L)	1	2	2	2	1	2	2	2	2
Mercury, total (mg/L)	1	1	1	1	1	1	1	1	1
Molybdenum, total (mg/L)	1	1	1	1	1	1	1	1	1
Selenium, total (mg/L)	1	2	2	2	1	2	2	2	2
Thallium, total (mg/L)	1	1	1	1	1	1	1	1	1
Radium, 226 and 228 combined (pCi/L)	1	1	1	1	1	1	1	1	1

Table 4
Spring 2021 Groundwater Summary Data
Bottom Ash Pond

	Appendix III Parameters													
			Well ID and Sample Date											
Parameter	Units	<b>GWPS</b>	P-01A-1	P-17	P-22	P-23	P-152A	P-155	P-156	P-157	P-158			
			5/5/2021	5/4/2021	5/5/2021	5/5/2021	5/4/2021	5/5/2021	5/5/2021	5/5/2021	5/4/2021			
Boron, total	mg/L	NA	0.747	< 0.0500	0.666	0.273	< 0.0500	1.09	0.172	0.226	0.561			
Calcium, total	mg/L	NA	97.2	65.4	85.3	87.9	57.2	75.1	63.2	77.5	88.4			
Chloride, total	mg/L	NA	14.6	11.4	14.9	36.2	3.45	17	3.94	4.68	7.67			
Fluoride, total	mg/L	NA	< 0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500			
pH, lab	pН	NA	7.74	7.85	7.9	7.89	7.92	7.95	8.02	7.89	7.8			
Sulfate, total	mg/L	NA	159	18.3	121	89.6	16.1	136	38.6	60.8	107			
Total Dissolved Solids	mg/L	NA	488	280	434	424	236	446	282	256	402			

				App	endix IV P	arameters					
						Well II	and Samp	le Date			
Parameter	Units	<b>GWPS</b>	P-01A-1	P-17	P-22	P-23	P-152A	P-155	P-156	P-157	P-158
			5/5/2021	5/4/2021	5/5/2021	5/5/2021	5/4/2021	5/5/2021	5/5/2021	5/5/2021	5/4/2021
Antimony, total	mg/L	0.006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Arsenic, total	mg/L	0.01	0.0005	0.0006	< 0.0005	0.0006	0.0005	0.0005	0.0005	< 0.0005	0.0006
Barium, total	mg/L	2	0.0481	0.0413	0.0556	0.0664	0.0462	0.0568	0.0551	0.0502	0.0586
Beryllium, total	mg/L	0.004	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0001	< 0.0001	< 0.0005
Cadmium,total	mg/L	0.005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium, total	mg/L	0.1	0.0016	0.001	0.001	0.001	0.0011	0.0011	0.001	0.0016	0.0012
Cobalt, total	mg/L	0.006	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	<0.0005	< 0.0005	<0.0005	< 0.0005
Fluoride, total	mg/L	4	< 0.7500	< 0.7500	<0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500	< 0.7500
Lead, total	mg/L	0.015	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0005	< 0.0005
Lithium, total	mg/L	0.04	< 0.0150	< 0.0150	< 0.0150	< 0.0150	< 0.0150	0.0276	< 0.0150	< 0.0150	< 0.0150
Mercury, total	mg/L	0.002	< 0.0002	<0.0002	<0.0002	< 0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, total	mg/L	0.1	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Selenium, total	mg/L	0.05	0.0103	0.0009	0.0109	0.0015	0.0009	0.0029	0.0064	0.0021	0.0031
Thallium, total	mg/L	0.002	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	<0.0005	< 0.0005	<0.0005	<0.0005
Radium, 226 and 228 combined	pCi/L	5	<1.21	<1.5 <sup>1</sup>	<1.7 <sup>1</sup>	<1.0 <sup>1</sup>	<0.84	<1.41	<1.9 <sup>1</sup>	<1.61	<1.81

<sup>&</sup>lt;sup>1</sup> Sample was obtained for radium analysis on June 10, 2021.

				]	Field Parar	neters						
	Units		Well ID and Sample Date									
Parameter		<b>GWPS</b>	P-01A-1	P-17	P-22	P-23	P-152A	P-155	P-156	P-157	P-158	
			5/5/2021	5/4/2021	5/5/2021	5/5/2021	5/4/2021	5/5/2021	5/5/2021	5/5/2021	5/4/2021	
ORP	mV	NA	186	173	205	187	154	195	181	184	153	
Oxygen, dissolved	mg/L	NA	10	9.3	7.4	8	9.3	6.6	9.9	9.4	9.8	
pH, field	pН	NA	7.8	8	7.5	7.9	7.9	7.5	8	8.1	7.8	
Specific Cond, field	μmhos/cm	NA	710	480	720	800	370	720	460	610	860	
Static Water Level	ft	NA	78.19	38.44	40.08	42.3	39.21	78.33	77.56	42.99	40.97	
Temperature	degrees C	NA	9.7	8.5	10.1	10.9	9.6	10.9	9.5	9.8	9.6	
Turbidity, field	NTU	NA	1.2	1	0.62	1	1	2.2	2.6	4	0.9	
Water Level Elevation	ft	NA	924.61	925.9	924.25	924.96	926.66	924.39	924.83	925.18	925.58	

GWPS = Groundwater Protection Standard

NA = Not Applicable

Downgradient Well

# Table 5 Fall 2021 Groundwater Summary Data Bottom Ash Pond

				Appe	ndix III Pa	rameters						
			Well ID and Sample Date									
Parameter	Units	<b>GWPS</b>	P-01A-1 <sup>1</sup>	P-17	P-22	P-23	P-152A <sup>1</sup>	P-155	P-156	P-157	P-158	
			11/1/2021	11/2/2021	11/1/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021	
Boron, total	mg/L	NA		< 0.0500	0.759	0.247		1.06	0.224	0.125	0.853	
Calcium, total	mg/L	NA		64	86.1	77.2		74	87.8	71.2	103	
Chloride, total	mg/L	NA		15.1	14.8	30.9		17	4.91	17	9.04	
Fluoride, total	mg/L	NA		< 0.7500	< 0.7500	< 0.7500		< 0.7500	< 0.7500	< 0.7500	< 0.7500	
pH, Lab	pН	NA		7.78	7.7	7.69		7.77	7.8	7.71	7.71	
Sulfate, total	mg/L	NA		18.9	148	57.2		144	103	52.3	120	
Total Dissolved Solids	mg/L	NA		290	450	384		470	408	338	488	

				Appen	dix IV Pa	rameters					
						Well II	and Samp	ole Date			
Parameter	Units	GWPS	P-01A-1 <sup>1</sup>	P-17	P-22	P-23	P-152A <sup>1</sup>	P-155	P-156	P-157	P-158
			11/1/2021	11/2/2021	11/1/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021
Antimony, total	mg/L	0.006									
Arsenic, total	mg/L	0.01		0.0006	< 0.0005	0.0006		< 0.0005	0.0005	0.0006	0.0006
Barium, total	mg/L	2		0.0373	0.0578	0.0593		0.0563	0.0701	0.0496	0.0804
Beryllium, total	mg/L	0.004									
Cadmium,total	mg/L	0.005									
Chromium, total	mg/L	0.1		0.0016	0.0012	0.0014		0.0015	0.0024	0.0008	0.0011
Cobalt, total	mg/L	0.006									
Fluoride, total	mg/L	4		< 0.7500	< 0.7500	< 0.7500		< 0.7500	< 0.7500	< 0.7500	< 0.7500
Lead, total	mg/L	0.015									
Lithium, total	mg/L	0.04		< 0.0150	< 0.0150	< 0.0150		0.0269	< 0.0150	< 0.0150	< 0.0150
Mercury, total	mg/L	0.002									
Molybdenum, total	mg/L	0.1									
Selenium, total	mg/L	0.05		0.0006	0.0065	0.0007		0.0038	0.0215	0.0011	0.0027
Thallium, total	mg/L	0.002									
Radium, 226 and 228 combined	pCi/L	5									

				Fie	eld Param	eters					
						Well II	and Samp	ole Date			
Parameter	Units	GWPS	P-01A-1 <sup>1</sup>	P-17	P-22	P-23	P-152A <sup>1</sup>	P-155	P-156	P-157	P-158
			11/1/2021	11/2/2021	11/1/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021	11/2/2021
ORP	mV	NA		183	177	197		191	188	200	201
Oxygen, dissolved	mg/L	NA		6.4	8.5	7.6		6	7.8	6.5	8.2
pH, field	pН	NA		7.8	7.5	7.6		7.5	7.6	7.4	7.4
Specific Cond, field	μmhos/cm	NA		500	730	680		750	640	200	780
Static Water Level	ft	NA	80.35	40.64	42.4	44.21	41.46	80.54	79.66	44.85	42.94
Temperature	degrees C	NA		9.8	10	11.8		8.2	9.1	12.7	10.2
Turbidity, field	NTU	NA		1.1	2	1.5		3.1	2.8	2.2	1.4
Water Level Elevation	ft	NA	922.45	923.7	921.93	923.05	924.41	922.18	922.73	923.32	923.61

GWPS = Groundwater Protection Standard

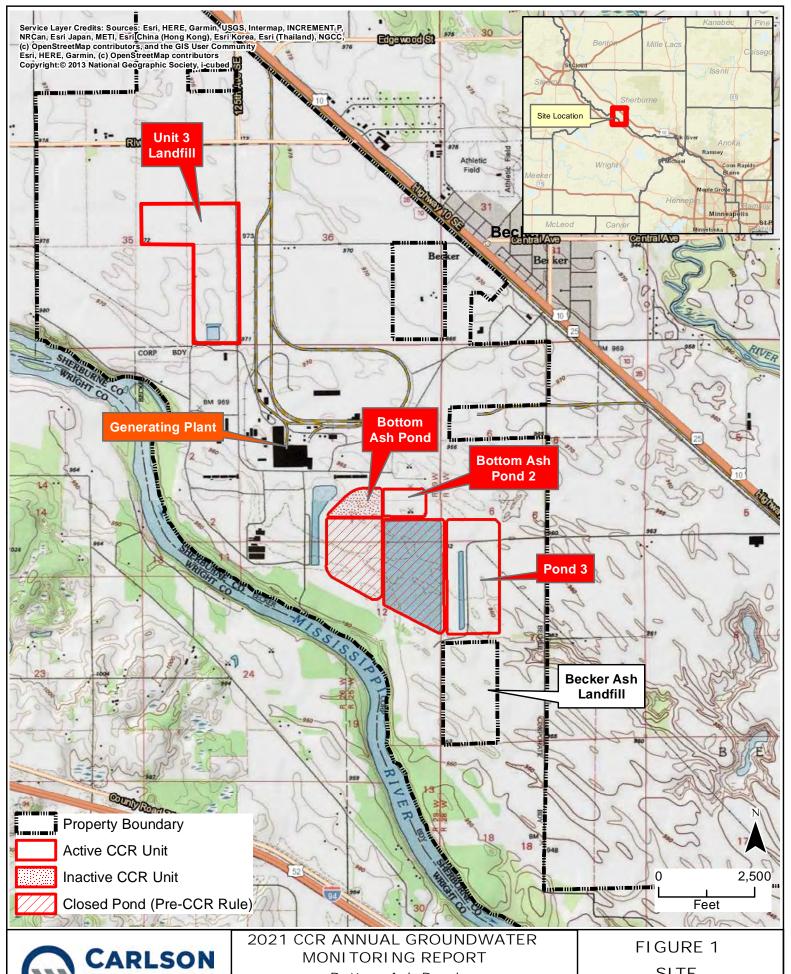
NA = Not Applicable

Two dashed lines = Not Analyzed

Downgradient Well

<sup>&</sup>lt;sup>1</sup> Low groundwater levels prevented a sample from being collected from the well on the specified date.

Figures
Figures

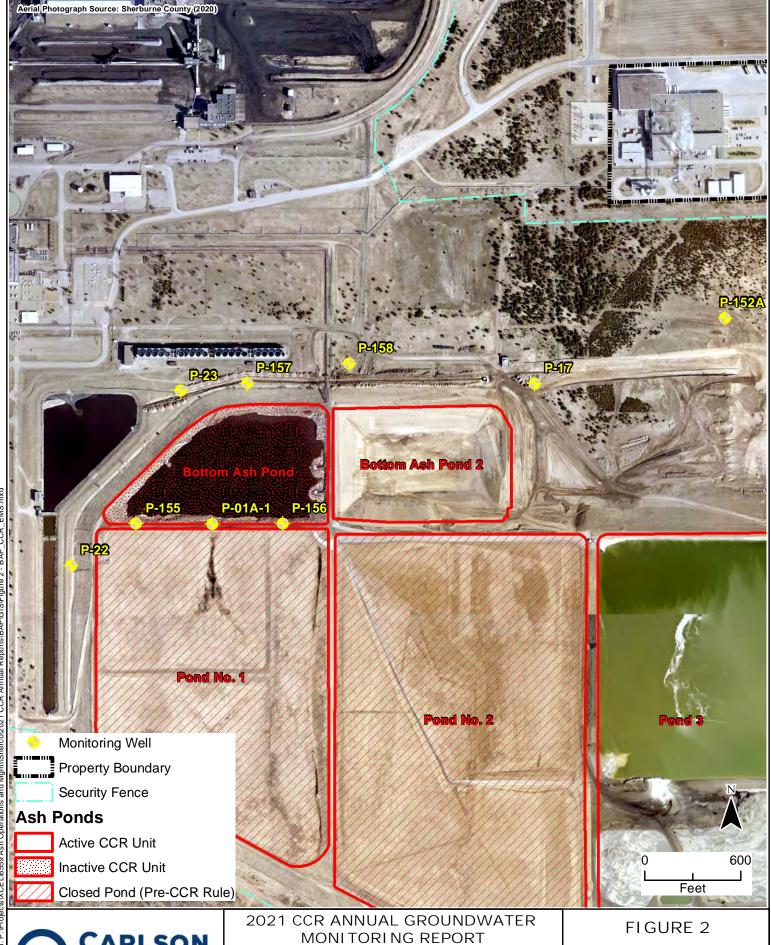




Bottom Ash Pond

Sherburne County Generating Plant Becker, Minnesota

SITE LOCATION MAP





2021 CCR ANNUAL GROUNDWATER
MONITORING REPORT
Bottom Ash Pond
Sherburne County Generating Plant

Becker, Minnesota

CCR GROUNDWATER
MONITORING SYSTEM





2021 CCR ANNUAL GROUNDWATER

MONITORING REPORT

Bottom Ash Pond

Sherburne County Generating Plant

Becker, Minnesota

FIGURE 3 WATER TABLE ELEVATION CONTOUR MAP (5/3/2021)





2021 CCR ANNUAL GROUNDWATER

MONITORING REPORT

Bottom Ash Pond

Sherburne County Generating Plant

Becker, Minnesota

WATER TABLE
ELEVATION CONTOUR
MAP (11/01/2021)

### Appendix A

Spring 2021 Assessment Monitoring Event Field Datasheets and Laboratory Reports



	Monitoring	Point ID _	P-01A-1			Lab	peled P-	DIA-I
	Inside	Diameter _	Z (inches)	Key# 2-100	4	Locked	× I	Not Locked
,	Casing	Material:	▼ PVC S	teel	Stainless Ste	eel state		
t		D	epth Measurement	and Elevation	s (from to	p of well	casing)	
				Top of Casing	g Elevation _	NA	57.	Feet
					Well Depth _			Feet / mesund 5/3/21
			er level measurement b				-	Feet by Dk
i	Sta	tic water lev	vel measurement at time Static Water Leve					Feet
	Purge Meth	and 7).	Der Punc	el Elevation Delo	re ruiging_	Pump ID	BPC-1	
j	Date Purg		5/5/21	_	Wate	er Column	2.79	Feet
	Time Purg		05 - 1320	-	One Casir	ng Volume	0.45	Gallons
	Pump R		0.10	GPM) LPM	Volun	ne Purged_	0.5	Gallons
7	Date	Sampled	515/21	Field F	arameter	Measure	ments of	Sample
Ž,		Sampled _	1325	рН	7.8	(units)	D.O	(mg/l)
		ng Equip.	2 T A T A T A	Spec. Cond.	710	(μmhos/cm)	Turbidity	/ · 2 (NTU)
		Meter ID	The state of the s	emp. Observed	9.6	(°C)	Eh	186 (mV)
	An	alyzed by	210 T	emp. Corrected	27	(°C)	Other	UM
Samping	Fie	eld Measure e for Solubl	ements Temp. Corrected e Metals Filtered in Field	d: 🛛	Yes Yes	No No	□ NA □ NA	Neg-
	Fie Sample Weather Co	eld Measure e for Solubl Tempe anditions Duescription:	ements Temp. Corrected	d: X d: X r: +0.1 °C overagt a	Yes Yes J NCC	□ No □ No	□ NA □ NA	
	Fie Sample Weather Co Sample De Obs	eld Measure e for Solubl Tempe onditions Du escription: ervations:	ements Temp. Corrected to Metals Filtered in Field the stature Correction Factor aring Sampling: 50°F Clar to	d: X d: X c: +0.1 °C overast ~	Yes Yes NEC	No No	NA NA	For elm ts.
	Fie Sample Weather Co Sample De Obs Time	eld Measure e for Solubl Tempe onditions Du escription: ervations: pH (units)	ements Temp. Corrected e Metals Filtered in Field erature Correction Facto uring Sampling: 50°F  Lux no obar Well does not have (w  Specifc Conductance (µmhos/cm)	d: X d: X r: +0.1 °C overagt w thy ap will Temp (°C) (observed)	Yes Yes  NEC S  LOURS J.	□ NO □ NO  supple	NA NA	Volume Purged (cumulative gal)
	Fie Sample Weather Co Sample De Obs Time	eld Measure e for Solubl Tempe onditions Du escription: ervations:  pH (units) 7.8	ements Temp. Corrected to Metals Filtered in Field the stature Correction Factor aring Sampling: 50°F Clar to	d: X d: X c: +0.1 °C overagt w  thy ap will  Temp (°C) (observed)  9.6	Yes Yes  NE@ 9  Love J / J  D.O. (mg/l)  10-0	No No No No Turbidity (NTU)	NA NA NA NA Eh (mV)	Volume Purged (cumulative gal)
	Fie Sample Weather Co Sample De Obs Time 1310	pH (units)	ements Temp. Corrected to Metals Filtered in Field the stature Correction Factor aring Sampling: 50°F Clear no clear well does not have be Specific Conductance (µmhos/cm)	d:   X   di	Yes Yes Yes  NC@ 9  Lower J	No No No No Turbidity (NTU)	NA NA NA NA Protect	Volume Purged (cumulative gal)  O. 5
	Fie Sample Weather Co Sample De Obs Time	eld Measure e for Solubl Tempe onditions Du escription: ervations:  pH (units) 7.8	Ements Temp. Corrected to Metals Filtered in Field the stature Correction Factor aring Sampling: 50° F  Lux no clar  Well does not have (well does	d: X d: X c: +0.1 °C overagt w  thy ap will  Temp (°C) (observed)  9.6	Yes Yes  NE@ 9  Love J / J  D.O. (mg/l)  10-0	No No No No Turbidity (NTU)	NA N	Volume Purged (cumulative gal)
	Fie Sample Weather Co Sample De Obs Time 1310	pH (units)	Ements Temp. Corrected to Metals Filtered in Field the stature Correction Factor aring Sampling: 50° F  Lux no clar  Well does not have (well does	d:   X   di	Yes Yes Yes  NC@ 9  Lower J	No No No No Turbidity (NTU)	NA NA NA NA Protect	Volume Purged (cumulative gal)  O. 5
	Fie Sample Weather Co Sample De Obs Time 1310	pH (units)	Ements Temp. Corrected to Metals Filtered in Field the stature Correction Factor aring Sampling: 50° F  Lux no clar  Well does not have (well does	d: X d: X d: X r: +0 1 °C overa) + w ding u.p. will  Temp (°C) (observed) 9,6 9,6 9,6	Yes Yes Yes  J NE@ 9  Love J J J  D.O. (mg/l) 10-0 10.0	No No No No Turbidity (NTU)	NA NA NA NA Protect	Volume Purged (cumulative gal)  O. 5  1.0
	Fie Sample Weather Co Sample De Obs Time 1310	pH (units)	Ements Temp. Corrected to Metals Filtered in Field the stature Correction Factor aring Sampling: 50° F  Lux no clar  Well does not have (well does	d:   X   di	Yes Yes Yes  NCC 9  Lover J/    D.O. (mg/l)  10.0  10.0	No No No No Turbidity (NTU)	NA NA NA NA Protect	Volume Purged (cumulative gal)  O. 5  1.0
Stabilization rest	Fie Sample Weather Co Sample De Obs  Time 1310 1315 1320	pH (units) 7.8 7.8	ements Temp. Corrected to Metals Filtered in Field terature Correction Factoring Sampling: 50°F  Clear As ober  Well does not have (a)  Specific Conductance (µmhos/cm)  710  710	the discount of the discount o	Yes Yes Yes  J NE@ 9  Love J J J  D.O. (mg/l) 10-0 10.0	No No No No Turbidity (NTU)	NA NA NA NA Protect	Volume Purged (cumulative gal)  O. 5  1.0
Stabilization rest	Fie Sample Weather Co Sample De Obs  Time 1310 1315 1320	pH (units) 7.8 7.8	ements Temp. Corrected to Metals Filtered in Field terature Correction Factoring Sampling: 50°F  Clear As ober  Well does not have (a)  Specific Conductance (µmhos/cm)  710  710	d: X d: X d: X r: +0 1 °C overa) + w ding a.p. will Temp (°C) (observed) 9,6 9,6 9,6 9,6 9,6	Yes Yes Yes  J NE@ 9  Lover J J J  D.O. (mg/l)  10.0  10.0  10.0  her	No N	NA NA NA NA Protect	Volume Purged (cumulative gal)  O. 5  1.0
Sabilization lest	Fie Sample Weather Co Sample De Obs  Time 1310 1315 1320  amples chilled Revised 01/25/20	pH (units) 7.8 7.8	ements Temp. Corrected to Metals Filtered in Field terature Correction Factoring Sampling: 50°F  Clear As ober  Well does not have (a)  Specific Conductance (µmhos/cm)  710  710	d: X d: X d: X r: +0 1 °C overa) + w ding a.p. will Temp (°C) (observed) 9,6 9,6 9,6 9,6 9,6	Yes Yes Yes  NEC 9  Lowerd of 1  D.O. (mg/l) 10.0  10.0	No N	NA NA NA NA Protect	Volume Purged (cumulative gal)  O. 5



ion	Client X	el		Proje	ct Sheveo	3/800	ids Resar	ple_Proje	ect No. Z	1-04714
Information	Monitoring	g Point ID_	9-01A	-				L	abeled P	1-A1
ıfor	Inside	Diameter	2	(inches)	Key#	2100	e	Locke	ed 🔀	Not Locked
ıl Bu	Casing	Material:	Ŋ PVC		Steel		Stainless S	steel		
Presampling		D	epth Meas	urement	and Ele	vation	s (from t	op of wel	l casing)	
san					Top of	Casing	g Elevation	_ ~	A	Feet
						Total \	Well Depth	78	.89	Feet * Dept to
and			er level meas							Feet Punco
ion	Sta	tic water le	vel measuren							Feet
Description and	D 14 11				el Elevation	on Befo	re Purging			Feet
osə			der Pung	2	-		10/0		0. Le	
Well D		ged 6	35-1250	\ \	<del></del>			ing Volume		
W		ate			GPM /	LPM		ime Purgeo		
								100000000000000000000000000000000000000		
	45	The second second second	beliely	_		NAME OF TAXABLE PARTY.			ements of	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sampled		_	400		7.1	- (units)		<u>// (mg/l)</u>
æ		ng Equip.		_			346	_(μmhos/cm)		
Data			MISTS TM	_	Temp. Obs			_(°C)		244 (mV)
ing			KAJ/RU		Гетр. Cor			_(°C)	Other	_PA
Sampling			ments Temp				Yes	□ No	□ NA	7
Sa	Sample		e Metals Filte rature Correc				Yes	☐ No	∠ NA	
Field	Weather Co	nditions Du	ring Samplin	q: 07 (	- OM	n4,	SW W	und a	3 moh	
1	Sample De	scription:	clear +	oda les	75	11		11101 012	- V - 1/11	
		ervations:								
		radium	muz							
	Times	рН	Specifc Con	ductance	Temp	(°C)	D.O.	Turbidity	Eh	Volume Purged
-	Time	(units)	(μmhos	/cm)	(obse	rved)	(mg/l)	(NTU)	(mV)	(cumulative gal)
Stabilization Test	1240	7.1	360		15.	Ø	6.3	NA	250	1.0
ion	1245	7-1	360		15.		6.1	NA	246	2.0
izat	1250	7.1	360	-	15.	1	6.1	NA	244	3-0
abil					1.0					
St					KAT W	lope				
								1 = 3		
Q.	amples chilled in	nmediately	after collection:	V-Jac	X Yes	VI OU	er DYY(~	miled		
1	Revised: 01/25/202		iner conscion.		ALAS (	XIOIII	er praja	Nº CO		
Nam	e/Affiliation of S	ampler(e):	vendall	July	(no t	Dile	a tarn	ham		
					201/	Mic	1	000.1		
L	ead Technician	Signature:	law,	5				Date	: 6/10/2	u
			(/				4 - 6			US belietza



	Monitorir	ng Point ID	217						17-04548
wen beschpton and riesampung mondation		Diameter	2	(inches)	Key# 210	,	Locked		Not Locked
							1 10		Not Locked
	Casin	g Material:			eel [	Stainless S			
			epth Measu	irement a	and Elevation			casing)	*
					Top of Casin				Feet
		Otatiaat				Well Depth			Feet
	Q+				fore purging (S of sampling (F				Feet Feet
	Si	alic water le			Elevation Befo				Feet
	Purae Me	thod_Bladd		vater Leve	Licvation ben	ore r diging	Pump ID	BPC-1	·
	Date Pu		5/4/21			Wa	ter Column	20.32	Feet
	Time Pu		258 - 1358		10		ing Volume		Gallons
	Pump I	Rate	0.2		GPM) LPM	Volu	me Purged	. 12	Gallons
	Date	e Sampled	5/4/21		Field F	Paramete	r Measure	ments of	Sample
ł		e Sampled _	1400		рН	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS	(units)		9.3 (mg/l)
Ì		ling Equip.			Spec. Cond.	480	- (μmhos/cm)	Turbidity	1.0 (NTU)
		Meter ID	MPS-7 TI	- ν-ω Τε	emp. Observed	8.4	(°C)	Eh	173 (mV)
	А	nalyzed by	CSP	-	mp. Corrected	8.5	(°C)	Other	NA
2)									
	Fi		ements Temp. e Metals Filter			Yes Yes Int	☐ No	□ NA NA	
	Fi Samp Weather C	le for Solubl Tempe onditions Du	e Metals Filter erature Correcturing Sampling	red in Field: tion Factor: g:	+0.1 °C	J NWE	□ No 15mph		
	Samp Weather C Sample D	le for Solubl Tempe onditions Du escription:	e Metals Filter erature Correcturing Sampling	red in Field: tion Factor: g: <u>54°F</u>	+0.1°C	J NW @	□ No 15mph		
	Samp Weather C Sample D	le for Solubl Tempe onditions Du escription: _ servations: _	e Metals Filter erature Correcturing Sampling	red in Field: tion Factor: g: <u>54°F</u>	+0.1 °C	J NW @	□ No 15mph		•
	Samp Weather C Sample D Obs	le for Solubl Tempe onditions Du escription: _ servations: _	e Metals Filter erature Correct uring Sampling clu N/A	ed in Field: tion Factor: 3: 54°F	Temp (°C)	J NW C	□ No  15~ph  Turbidity	NA NA	Volume Purged
	Fine Samp  Weather Control  Sample Dob  B-S  Time	le for Solubl Tempe onditions Du escription: _ servations: _	e Metals Filter erature Correcturing Sampling clumate	ed in Field: tion Factor: 3: 54°F	+0~1 °C	D.O. (mg/l)	□ No	Eh (mV)	Volume Purged (cumulative gal)
	Fine Samp	le for Solubl Tempe onditions Du escription: _ servations: _	e Metals Filter erature Correcturing Sampling clussians MA Specifc Con- (µmhos/	ed in Field: tion Factor: 3: 54°F  ductance (cm)	Temp (°C) (observed)  8. 4	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	(cumulative gal)
	Weather Consumption Sample Double Brown Time	le for Solubl Tempe onditions Du escription: _ servations: _ pH (units) 8.0	e Metals Filter erature Correcturing Sampling Lu Δο N/A  Specifc Con- (μmhos/ 480	ed in Field: tion Factor: g:	Temp (°C) (observed)  8. 4  8. 4	D.O. (mg/l) 9, 4 9, 3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173	(cumulative gal)
	Fine Samp	le for Solubl Tempe onditions Du escription: _ servations: _ pH (units)	e Metals Filter erature Correcturing Sampling clussians MA Specifc Con- (µmhos/	ed in Field: tion Factor: g:	Temp (°C) (observed)  8. 4	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	(cumulative gal)
	Weather Consumption Sample Double Brown Time	le for Solubl Tempe onditions Du escription: _ servations: _ pH (units) 8.0	e Metals Filter erature Correcturing Sampling Lu Δο N/A  Specifc Con- (μmhos/ 480	ed in Field: tion Factor: g:	Temp (°C) (observed) 8. 4 8. 4	D.O. (mg/l) 9.4 9.3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173	(cumulative gal)
	Weather Consumption Sample Double Brown Time	le for Solubl Tempe onditions Du escription: _ servations: _ pH (units) 8.0	e Metals Filter erature Correcturing Sampling Lu Δο N/A  Specifc Con- (μmhos/ 480	ed in Field: tion Factor: g:	Temp (°C) (observed)  8. 4  8. 4	D.O. (mg/l) 9, 4 9, 3 9, 3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173	(cumulative gal)
	Weather Consumption Sample Double Brown Time	le for Solubl Tempe onditions Du escription: _ servations: _ pH (units) 8.0	e Metals Filter erature Correcturing Sampling Lu Δο N/A  Specifc Con- (μmhos/ 480	ed in Field: tion Factor: g:	Temp (°C) (observed)  8. 4  8. 4	D.O. (mg/l) 9, 4 9, 3 9, 3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173	(cumulative gal)
Security and the second	Fine Samp  Weather Control  Sample Dobby  B-S  Time  1318  1358	pH (units)	e Metals Filter erature Correcturing Sampling Lu Δο N/A  Specifc Con- (μmhos/ 480	ed in Field: tion Factor: SYF  ductance	Temp (°C) (observed)  8. 4  8. 4  8. 4	D.O. (mg/l) 9, 4 9, 3 9, 3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173	(cumulative gal)
Sa	Fine Samp  Weather Control  Sample Dobby  B-S  Time  1318  1358	le for Soluble Temps onditions Duescription: _servations:	e Metals Filter erature Correcturing Sampling China Andrew Andre	ed in Field: tion Factor: SYF  ductance	Temp (°C) (observed)  8. 4  8. 4  8. 4	D.O. (mg/l) 9.4 9.3 9.3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173	(cumulative gal)
Sa	Weather C Sample D Obs B-S Time 13/8 1338 1358	le for Soluble Tempe onditions Duescription: _servations:	e Metals Filter erature Correcturing Sampling China Andrew Andre	ductance	Temp (°C) (observed)  8. 4  8. 4  8. 4  Yes Oth	D.O. (mg/l) 9, 4 9, 3 9, 3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173	(cumulative gal)
Samme	Weather C Sample D Obs B-S Time 13/8 1338 1358	pH (units)  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.	e Metals Filter erature Correcturing Sampling  Lu Lo  Specifc Con (μmhos)  480  480  480	ductance	Temp (°C) (observed)  8. 4  8. 4  8. 4  Yes Oth	D.O. (mg/l) 9.4 9.3 9.3	Turbidity (NTU)  1.2  1.0	Eh (mV) 174 173 17 3	(cumulative gal) 4 8 17



	Client X			roject Shere	ponels re	sampy		A. 1. 19 1 19 15	
Information		ng Point ID						abeled p	
		e Diameter _		(Nes) Key#_	710 Ce		☑ Locke	ed	Not Locked
6	Casir	ng Material:		Steel		less Stee	-		
ď		De	epth Measurem						
riesambinig				Top of	Casing Electron Total Well I		NI		Feet * Dooth to
		Static water	r level measurem	ent before pur					Feet * Depth to
8	S		el measurement a						Feet
				Level Elevation			N		- Feet
pesculpuon and		ethod Bodd						73PC-1	
á =		rged Vacco			On			ie 81	Feet Gallons
well	Pump	rged <u>1040</u> Rate	0.2	GPM/I		e Casing Volume	Purged		Gallons
		e Sampled			ield Parar				
· N		e Sampled <u>L</u> lling Equip.		Snoo	pH <u>6.</u> Cond. <u>2</u> 4		nits) mhos/cm)		9.1 (mg/l)
9	Samp		PS-8 /7M5		served M	-			249 (MV)
J Data	A	nalyzed by			rected 12	4			NA
	F	ield Measurer	nents Temp. Corr	ected:	✓ Yes		No	□ NA	
Sampling		le for Soluble	Metals Filtered in	Field:	☐ Yes		No	✓ NA	-
, piail		Temper	ature Correction F	actor: +0.3	−°C ,	tal in m	اردا د	7	
E <sub>p</sub>	Sample F	Conditions Dur	ing Sampling: 9:	CITY TOWN	my, 3	04 000	ny a	3 mpc	).
1		servations:		7 (00)					
			radium onl	V					
	_	рН	Specifc Conductar	nce Temp	(°C)   D	.О. Т	urbidity	Eh	Volume Purged
	Time	(units)	(μmhos/cm)	(obser	ved) (m	ng/l)	(NTU)	(mV)	(cumulative gal)
ž	1646	6.2	240	12.			NA	250	1. 2
	1652	8.1	240	12.			NA	249	2.4
11791	1458	8.1	240	12	5 9.	1	NA	249	3. Ce
Stabilization				KAO 61	10/21	-			
0				01 07	194				
	malas chille	immediately at	ter collection:	Yes	Other	preser	ied		
Sa	imples chilled								
orm	Revised: 01/25/2	021		100	1		h.		
orm	Revised: 01/25/2	021	kerdan	Johnson	n f. a	hvis	Peros	ĺ	
rm	Revised: 01/25/2	021	kerd an	1	n f C	hvis		i : 6/10/1	i



6	Client Xc	el Energy	r	Project	Surcolo	ids, Spr	ing 2c	2) Proje	ct No. 71	-04548
Well Description and Presampling Information	Monitorin	g Point ID	P-ZZ				2		abeled P	
for		Diameter	2	(inches)	Key#	21010		✓ Locke		Not Locked
ul Gı	Casing	Material:	☑ PVC	☐ Ste	_		inless S			
iii.			epth Measu		-				casing)	
Sam			- F-11. 11.0-0.0-1			Casing El		MITTER TOTAL		Feet
Pre						_		57.		Feet T* David K
pur		Static wat	er level meas	urement be				-		Feet 5/03/21
on a	Sta	itic water le	vel measurem	ent at time	of sampli	ng (Final	Depth)	40.0	98	Feet
ipti				Vater Level	l Elevation	Before F	urging	NA		Feet
SCL			ated Bladder	Ping	-				BPC-1	
l De	Date Pur		5/5/21		-			ter Column		
Wel			05-1441					ing Volume		
	Pump R	tate 0	25		GPM/LI	PM	Volu	me Purged	9.0	Gallons
	Date	Sampled _	515121		Fie	eld Para	amete	r Measure	ements of	Sample
		Sampled				pH 7	-5	(units)	D.O	7.4 (mg/l)
			Pump + GIK	red	Spec. C	ond. 7	20	(μmhos/cm)	Turbidity	
Data			MPS-8 TM		emp. Obse	rved 9	-8	(°C)	Eh	205 (mV)
	Ar	alyzed by			mp. Corre	ected 10	) - (	(°C)		M
Field Sampling	Fie	eld Measure	ments Temp.	Corrected:		X Yes	3	□ No	□ NA	
am			e Metals Filter			X Yes		☐ No	☐ NA	
S PI		Tempe	rature Correc	tion Factor:	10.3	_°C`				
Fie	Weather Co	onditions Du	iring Sampling	1: 49F	Cloudy	, SW	OSM	PH		
	Sample De	escription: _	lear no o	oder						
	Obs	ervations: _	nevel							-,-
	Time	pH (units)	Specifc Con-		Temp (		D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
est	1417	7.5	720		9.8		1.1	NA	197	. 3
Stabilization Test	1429	7.5	720		9.8			NA	201	6
atic	1441	7.5	720		9.8			NA	705	9
biliz										
Sta						PU)				
						5/5/21				
S	amples chilled	mmediately	after collection:		Yes	Other				
Form	Revised: 01/25/202	21	-							
Nam	e/Affiliation of	Sampler(s):	Riky Ja	cobsca		Pace	Ann	lytical		
			10	0				1	5/5/	/
	ead Techniciar	Cianotura	11/1/	/_				D .	-//	CONT. CO.



	el	0.22	Floject	21WC0	3/ponds re			21-04716
	g Point ID Diameter	P-22	(inches)	Key # 2	0/	Lock		Not Locked
4000	Material:	[X] PVC	(inches)		Stainless S		eu L	] Not Locked
Casing					ions (from t		Il casing)	
	De	spui Meas	urement a	Service Property of Stops	sing Elevation			Feet
				The second secon	al Well Depth			Feet * Depth to
	Static water	er level meas	surement bef		(Start Depth)			Feet Pen PC
Sta	atic water lev	el measuren	ment at time	of sampling	(Final Depth)	40.	7 9	Feet
				Elevation B	efore Purging	-		_Feet
	hod Bladd		P		101	Pump II		
Date Pur Time Pur		-1454		0		ter Columi ing Volume		
Pump F		0.2	(	GPM/LPM		me Purge	-	Gallons
1 dilip i								
	Sampled				Paramete	12 K 2 - 100 2 E / 2	NUMBER OF STREET	2 3
	Sampled 1		_		рН <u> 8.3</u>	_(units)		9.3 (mg/l)
Sampl	ing Equip				nd. 3\0	(µmhos/cm)		
^.	- X	1PS-8/7M KAS		mp. Observ		(°C)		r NA (mV)
	nalyzed by		A	mp. Correct		_(°C)		
	eld Measurer				✓ Yes	☐ No	☐ NA	
Sampl		Motale Filto	red in Field		Vac	□ No	NA NA	
Sampl		Metals Filte ature Correct			Yes C	☐ No	⊠ NA	
		ature Correc	ction Factor:	10.3	С		2 NA ≥ NA	2
Weather Co	Temper	ature Correcting Samplin	ction Factor: g: <u>9.7 F</u>	10.3 °	С			2
Weather Co	Temper onditions Dur	rature Correcting Samplin	ction Factor: g: <u>9.7 F</u>	10.3 °	С			2
Weather Co Sample Do	Temper onditions Dur escription: <u>(</u>	ature Correcting Sampling  May 1	ction Factor: g: <u>9.7 F</u>	10.3 °	С			2
Weather Co Sample Do	Temper onditions Durescription: _(servations:	ature Correcting Sampling  LUCY  M  M  Specifc Cor	etion Factor: g: 97 F	Temp (°C	C , SW	WIND Turbidity	2 3 m	Pln Volume Purged
Weather Co Sample Do Obs ———————————————————————————————————	Temper onditions Durescription: (servations:	ature Correcting Samplin  Lucy 1  Manual  Manu	etion Factor: g: 97 F	Temp (°C (observed	D.O. (mg/l)	Turbidity (NTU)	a 3 m	Volume Purged (cumulative gal)
Weather Co Sample Do Obs	Temper onditions Durescription: _(servations:	ature Correcting Sampling  Monty  Specific Correction (µmhos)  3 2.0	etion Factor: g: 97 F	Temp (°C	C , SW	WIND Turbidity	@ 3 pm	Volume Purged (cumulative gal)
Weather Co Sample Do Obs ———————————————————————————————————	Temper onditions Durescription: _(servations:	sture Correcting Samplin  LLCY  M  M  Specific Cor  (µmhos  370	etion Factor: g: 97 F	Temp (°C (observed	D.O. (mg/l)  9.3	Turbidity (NTU)	@ 3 m Eh (mV) 250	Volume Purged (cumulative gal)  1. (a)  3. 2
Weather Co Sample Do Obs Time	Temper onditions Durescription: _(servations:	ature Correcting Sampling  Monty  Specific Correction (µmhos)  3 2.0	etion Factor: g: 97 F Od over S  anductance solution	Temp (°C (observed (1.0)	D.O. (mg/l)  9.3  9.3	Turbidity (NTU) NA	@ 3 m Eh (mV) 250 251	Volume Purged (cumulative gal)
Weather Co Sample Do Obs Time	Temper onditions Durescription: _(servations:	sture Correcting Samplin  LLCY  M  M  Specific Cor  (µmhos  370	etion Factor: g: 97 F Od over S  anductance solution	Temp (°C (observed	D.O. (mg/l)  9.3  9.3	Turbidity (NTU) NA	@ 3 m Eh (mV) 250 251	Volume Purged (cumulative gal)  1. (a)  3. 2
Weather Co Sample Do Obs Time	Temper onditions Durescription: _(servations:	sture Correcting Samplin  LLCY  M  M  Specific Cor  (µmhos  370	etion Factor: g: 97 F Od over S  anductance solution	Temp (°C (observed (1.0) (1.0)	D.O. (mg/l)  9.3  9.3	Turbidity (NTU) NA	@ 3 m Eh (mV) 250 251	Volume Purged (cumulative gal)  1. (a)  3. 2
Weather Co Sample Do Obs X Time 1438 1446 1454	Temper onditions Durescription: (servations:	sture Correcting Sampling Many January	etion Factor: g: 97 F Od over S  Inductance solutions	Temp (°C (observed (1.0 (1.0 (1.0 (4) 6/16)	D.O. (mg/l)  9.3  9.3  9.3	Turbidity (NTU) NA NA	@ 3 m Eh (mV) 250 251	Volume Purged (cumulative gal)  1. (a)  3. 2
Weather Co Sample Do Obs X Time 1438 1446 1454	Temper onditions Durescription: _(servations:	sture Correcting Sampling Many January	etion Factor: g: 97 F Od over S  Inductance solutions	Temp (°C (observed (1.0 (1.0 (1.0 (4) 6/16)	D.O. (mg/l)  9.3  9.3	Turbidity (NTU) NA NA	@ 3 m Eh (mV) 250 251	Volume Purged (cumulative gal)  1. (a)  3. 2
Weather Co Sample Do Obs X Time 1438 1446 1454	remper onditions Durescription: (servations:	sture Correcting Sampling Sampling Sampling Sampling Sampling Specific Correction Specific Correction Sampling Specific Correction Sampling Samplin	etion Factor: g: _ G 7	Temp (°C (observed (1.0 (1.0 (1.0 (4) 6/16)	D.O. (mg/l)  Q.3  Q.3  Q.3  Q.3  Other pHS	Turbidity (NTU) NA NA NA	@ 3 m Eh (mV) 250 251	Volume Purged (cumulative gal)  1. (a)  3. 2
Weather Co Sample Do Obs X Time 1438 1446 1454	Temper onditions Durescription: (servations:	sture Correcting Sampling Many January	etion Factor: g: 97 F Od over S  Inductance solutions  A  John	Temp (°C (observed (1.0 (1.0 (1.0 (4) 6/16)	D.O. (mg/l)  9.3  9.3  9.3	Turbidity (NTU) NA NA NA	@ 3 m Eh (mV) 250 251	Volume Purged (cumulative gal)  1. (a)  3. 2
Weather Co Sample Do Obs X Time 1438 1446 1454	Temper onditions Durescription:(	sture Correcting Samplin  Lucy J  Many Specific Correction (jumhos) 320 310 310	etion Factor: g: 97 F Od ovles  Inductance s/cm)	Temp (°C (observed (1.0)	Other phs	Turbidity (NTU) NA NA NA eved	25 l	Volume Purged (cumulative gal)  1. (a)  3. 2



ซี	Client V	el Shere	0	_ Project	Sherco Per	ids Spring ?	Project	t No. 21	- 24248
	Monitorin	g Point ID_	P-23					4 4 ha 1 h	23
tion coordinate recombining morning	Inside	Diameter_	2	(inches)	Key # _ 2.	104_	Locked	d 🗌	Not Locked
9	Casino	g Material:	× PVC	Ste	eel	Stainless S	Steel		
1		D	epth Measi	urement a	ind Eleva	tions (from	op of well	casing)	
						sing Elevation			_Feet
		Ctatio wat	or lovel mane	uramant ha		tal Well Depth g (Start Depth			Feet (messed 5/3/
	Sta					(Start Depth)			Feet 64 BK
	Ott	atio water io				Before Purging			Feet
	Purge Met	hod Dedica	ted Bladder	_			Pump ID	BPC-1	<u> </u>
		ged					ater Column		
ā			45 - 1200	9			ing Volume	753	Gallons
	Pump F	Rate	0-2	(	GPM) LPI	V Volu	ime Purged	4500	<u> </u>
1	Date	Sampled	515/21		Fiel	d Paramete	r Measure	ments of	f Sample
	Time	e Sampled _	1210			pH_7.9	(units)	D.C	9.0 (mg/l)
	Sampl	ing Equip	Pump tfi	lter	Spec. Co	nd. 800	_(μmhos/cm)	Turbidity	
		Meter ID _	MPS-7 TM	_	emp. Obser		_(°C)		187 (mV)
	Aı	nalyzed by _	CSP	Те	mp. Correc	ted 10.9	_(°C)	Other	
rieid Sampinig	Sample D	le for Soluble Tempe onditions Du escription:	ements Temp e Metals Filte erature Correcturing Sampling	red in Field: stion Factor: g:	overust	Yes °C www k	□ No	□ NA ~	
	-						T Total (disc)	l ev	I. Valuma Durgard
X	Time	pH (units)	Specifc Cor (µmhos		Temp (°0 (observe		Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
5	1152	7.9	800		10.8	8.1	3.3	190	1-4
	1159	7.9	800	311	10.8	8.0	1.0	187	2.8
			800	)	10.8	8.0	1-5	187	4.2
cation is	1206	7.9	000						
ומווולמנוסוו וב		7.9	000						
Stabilization 19		7.9	000						
Stabilization		7.9	000			Mour	515)71		
Stabilization lest	1206				7 Vos.		515/11		
Sa	1206	immediately	after collection		Yes	Other	515/11		
Sa	1206 amples chilled Revised 01/25/20	immediately	after collection		,	Other			
Sa	1206 amples chilled Revised 01/25/20	immediately			,				



uo	Client _	xce (		Project	Sher (0 3 10)	oma misa	Projec	t No	21-04716
Presampling Information	Monitori	ng Point ID_	P-23				Lal	peled_	P23
ıforı	Insid	e Diameter	7	(inches)	Key # 710	(p	☑ Locked		☐ Not Locked
ng Ir	Casir	ng Material:	N PVC	Ste	eel	Stainless St	eel		
illdin		D	epth Measi	urement a	nd Elevation	ns (from to	op of well	casing	)
esal					Top of Casin	g Elevation			Feet
d Pr		40.458.	and the second			Well Depth			- Feet * Depthe to
ıanı	0				fore purging (S of sampling (F				Feet Feet
otio	3	tatic water le			Elevation Befo				Feet
Description and	Purge Me	ethod Blad	der Pump		210 100001 201	33	Pump ID	RPC	
i De		irged 6					er Column		
Well		irged 1510					ng Volume_	_	
	Pump	Rate	6.2		GPM / LPM	Volu	me Purged_	1,2	Gallons
	Dat	e Sampled_	6110/21		Field F	Parameter	Measure	ments	of Sample
	Tim	e Sampled <u>I</u>	530	_	рН		(units)		0.0 9.5 (mg/l)
est	Samp		Pimp	- 5	Spec. Cond.				$\frac{2 \cdot 1}{2 \cdot 3} \text{(NTU)}$
Data			MPS-8/TM	-	mp. Observed mp. Corrected				Eh <u>253</u> (mV) ner NA
ling		nalyzed by_				A100	(°C)		
Sampling			ements Temp. e Metals Filter		1	Yes Yes	☐ No☐ No	□ N	
S p		Tempe	rature Correc	tion Factor:	10.3 °C				
Field					, anny	,5W V	and a	3 N	rph
	2.0		clew + oc	nor less	U				
	Об	servations: _ * ۲60		nly					
				· ·		5.0		-	T. William Britain
	Time	pH (units)	Specifc Con (µmhos		Temp (°C) (observed)	D.O. (mg/l)	Turbidity	Eh (mV)	Volume Purged (cumulative gal)
est	1516				(02001.00)	(1119/1)	(NTU)		
	1310	8.0	310		13.5	9.5	NA	253	1. 2
on T	1522	8.0	240 330						
ization T	350,775	-			13.5	9.5	NA	253	1. 'Z
abilization T	1522	6.0	330	KA	13.5	9.5	NA NA	253 253	1. 7
Stabilization Test	1522	6.0	330	KA	13.5	9.5	NA NA	253 253	1. 7
Stabilization T	1522	6.0	330		13.5 13.5 (3.5	9.5	NA NA	253 253	1. 7
	1528	8.0 8.0	330	KASOLIA	13.5 13.5 (3.5	9.5 9.5 9.5	AU AU AU	253 253	1. 7
Sa	1528 1528 amples chilled	6.0 6.0 limmediately a	330 330 after collection:	KAQ OTAN	13.5 13.5 (3.5 6/3/4	9.5 9.5 9.5	NA NA NA	253 253	1. 7
Sa	1528 1528 amples chilled	6.0 6.0 limmediately a	330 330 after collection:	KAQ OTAN	13.5 13.5 (3.5	9.5 9.5 9.5	NA NA NA	253 253	1. 7
Sa Form Nam	1528 1528 amples chilled Revised: 01/25/2	SOU BOU	330 330 after collection:	VISON	13.5 13.5 (3.5 6/ary	9.5 9.5 9.5	NA NA NA	253 253 753	1. 7



rresampling information	ALC 1	pherco		reite intas	Spring 2	21 10,00	t No.	
	Monitoring Poin	tID 7-152 A				Lat	peled P	152A
	Inside Diame	eter 2	(inches) K	ey# 2101	2	Locked		Not Locked
,	Casing Mate	rial: 🔀 PVC	☐ Steel		Stainless St	eel		
	*	Depth Meas	surement an	d Elevation	s (from to	op of well	casing)	*
				Top of Casing	Elevation	NA		_Feet
		San Arabine	na a le disco			42.18		
	10000	c water level mea					.21	Feet Feet
	Static wa	ter level measure	Water Level E				-1	Feet
Ì	Purae Method i	Dedicated Bladde		icvation belon	c r diging	Pump ID	BPC-1	_, σσι
	Date Purged	3/4/21	10114		Wat	er Column	ALC: MITH	Feet
		1215 - 1245			One Casi	ng Volume _	1.61	Gallons
۱	Pump Rate	W-15"	0.2	PMy LPM	Volum	me Purged _	Ce	Gallons
1	Date Samp	oled 5/4/11		Field P	arameter	Measure	ments of	Sample
	Time Samp			рН	7.9	(units)	D.C	9.3 (mg/l)
	Sampling Eq	uip. Pump	=	Spec. Cond.	370	(µmhos/cm)	Turbidity	(NTU)
	Mete	rID MPS-7 T	<u>м-</u> ų Tem	p. Observed	9.5	(°C)	E	1_/54(mV)
	Analyzed	d by CSP	Tem	p. Corrected	9.6	(°C)	Othe	NA
Fred Sampung	T Weather Conditio		ection Factor: _ ng:54°F	+0.1 °C			M NA	
		tion: Clum	no o der					
	Observation	1177						
			1					• •
		* Radium Collect						
111	Time ph	H Specifc Co	onductance	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
100	l n	H Specifc Co	onductance os/cm)					
JIII I COL	Time ph	H Specifc Co (μmho	onductance os/cm)	(observed)	(mg/l)	(NTU)	(mV)	(cumulative gal)
duon rest	Time ph (uni	H Specifc Co (μmho 37	onductance os/cm)	(observed)	(mg/l) 1. 3 9. 3	(NTU)	(mV) 156	` 2
Dilization lest	Time ph (uni	H Specifc Co (μmho 37	onductance os/cm)	(observed) 9.5 9.5	(mg/l) 1. 3	(NTU) /. 0 /. 0	(mV) 156 155	(cumulative gal)
Stabilization rest	Time ph (uni	H Specifc Co (μmho 37	onductance os/cm)	(observed) 9,5 9,5 9,5	(mg/l) 1. 3 9. 3	(NTU) /. 0 /. 0	(mV) 156 155	(cumulative gal)
Stabilization rest	Time ph (uni	H Specifc Co (μmho 37	onductance os/cm)	(observed) 9.5 9.5	(mg/l) 1. 3 9. 3	(NTU) /. 0 /. 0	(mV) 156 155	(cumulative gal)
	Time ph (uni 1225 7.1235 7.1245 7.0	Fig. 1. Specific Co (μmho (μm	onductance os/cm)	(observed) 9,5 9,5 9,5	(mg/l) 1.3 9.3	(NTU) /. 0 /. 0	(mV) 156 155	(cumulative gal)
s	Time ph (uni	Fig. 1. Specific Co (μmho (μm	onductance os/cm)	(observed) 9,5 9,5 9,5	(mg/l) 1.3 9.3	(NTU) /. 0 /. 0	(mV) 156 155	(cumulative gal)
orn	Time ph (uni 1225 7.9 1235 7.9 1245 7.9	H Specifc Co (μmho 9 3.7 9 3.7 0 3.7 0 Iiiately after collection	onductance os/cm)	(observed) 9.5 9.5 9.5 9.5 Yes Oth	(mg/l) 1. 3 9. 3 9. 3	(NTU) /. 0 /. 0 /. 0	(mV) 156 155	(cumulative gal)
S	Time ph (uni 1225 7.9 1235 7.9 1245 7.9 2.9 2.9 2.9 2.9 2.9 2.9 2.9 2.9 2.9 2	H Specifc Co (μmho 9 3.7 9 3.7 0 3.7 0 Iiiately after collection	onductance os/cm)	(observed) 9.5 9.5 9.5 9.5 Yes Oth	(mg/l) 1.3 9.3	(NTU) /. 0 /. 0 /. 0	(mV) 156 155	(cumulative gal)



in our marion			^		t Shircold	-,-	5.10/6			0.5	94548
		ng Point ID _	P-155						beled_	0.50	
		Diameter_	4	(inches)	Key # _	210le	_	X Locke	d	Пи	ot Locked
'	Casin	g Material:	₹ PVC		teel		tainless S				
		D	epth Meas	urement	and Elev	vations	(from to	op of well	casin	g)	
The state of the s						4 1 1 1 1 1 2 1	Elevation				eet
		01-11-11-1					ell Depth				eet
	Q+		er level meas vel measuren								eet eet
	.00	alic water le		Nater Leve				NA.			eet
	Purge Me	thod Toda	conted Blood			ii bolore	, arging	Pump ID			COL
	Date Pu		5/5/21		3		Wa	ter Column			Feet
	Time Pur	rged 137	25 - 1343				One Casi	ng Volume	1.	16	Gallons
	Pump f	Rate @	300-15	0.2	GPM) L	.PM	Volu	me Purged	3.	Ce	Gallons
1	Date	e Sampled	515/21		Fi	ield Pa	rameter	Measure	ments	s of S	Sample
	Time	e Sampled	1345			рН_	7.5	(units)		D.O (	Le Le (mg/l)
	Samp	ling Equip	Pump		Spec. (	Cond.	720	(μmhos/cm)	Turb	idity _	2. Z (NTU)
		Meter ID _	MPS-8 TM	_5 To	emp. Obs	erved _	0.6	(°C)		Eh_	195 (mV)
	A	nalyzed by _	RUS	_   Te	emp. Corr	ected_	10.9	(°C)	0	ther_	M
	Fi	eld Measure	ements Temp.	Corrected	:	XY	es	☐ No		NA	
		le for Solubl	e Metals Filte	red in Field	:	X	es	☐ No ☐ No		NA NA	
	Samp	le for Solubl Tempe	e Metals Filte erature Correc	red in Field tion Factor	: : <u>*0.3</u>	°C C	es SVA SVA				
	Samp Weather C	le for Soluble Tempe onditions Du	e Metals Filte erature Correcturing Sampling	red in Field tion Factor g: <u>54</u> - <i>f</i>	: : <u>*0.3</u>	°C C	es VAI SIATA				
	Samp Weather C Sample D	le for Solubl Tempe onditions Du escription: <u>Z</u>	e Metals Filter erature Correcturing Sampling	red in Field tion Factor g: <u>54</u> 6	+0.3 Clove	·c e	SAN SAN	□ No	Q	NA	
	Samp Weather C Sample D	le for Solubl Tempe onditions Du escription: <u>Z</u>	e Metals Filte erature Correcturing Sampling	red in Field tion Factor g: <u>54</u> 6	+0.3 Clove	·c e	SAN SAN		Q	NA	ei,
	Samp Weather C Sample D	le for Soluble Tempe onditions Durescription:servations:	e Metals Filtererature Corrections Sampling Sampling Sampling Sampling Steel A TOUPLICATION	red in Field tion Factor g: 54-6 sde	+ RIN	SE BA	GAN HP (oilec	□ No Hed @ 13	50 5	NA -/5-/21	
	Samp Weather C Sample D	le for Solubl Tempe onditions Du escription: <u>Z</u>	e Metals Filter erature Correcturing Sampling	red in Field tion Factor g: 54-6 s de 2 E BAF	+0.3 Clove	SE BA	HP (oilec	□ No	50 s	NA	Volume Purgeo
	Samp Weather C Sample D Obs	le for Soluble Tempe onditions Durescription:	e Metals Filtererature Corrections Sampling Sampling Sampling See A DuPLICATION Specific Con	red in Field tion Factor g: 54-6 s de 2 E BAF	* RIN	°C BA	GAN HP (oilec	□ No  Hed @ 13	50 5	NA -/s-/2:	Volume Purgeo
	Samp Weather C Sample D Obs	le for Soluble Tempe onditions Duscription:	Perature Corrections Sampling Sampling Sampling Sampling Sampling Specific Conference (µmhos	red in Field tion Factor g: 54-6 s de 2 E BAF	* RIN	°C BF	D.O. (mg/l)	□ No  Hed @ 13  Turbidity (NTU)	50 s	NA	Volume Purgeo (cumulative gal)
	Samp Weather C Sample D Obs Time 1331	pH (units)	e Metals Filtererature Corrections Sampling Sampling Sampling See DuPLICATO	red in Field tion Factor g: 54-6 s de 2 E BAF	* RIN	°C °	D.O. (mg/l)	Turbidity (NTU)	50 s Eh (mV	NA	Volume Purgeo (cumulative gal)
	Samp Weather C Sample D Obs Time	pH (units)	Specifc Con (µmhos	red in Field tion Factor g: 54-6 s de 2 E BAF	* RIN	(°C) ved)	D.O. (mg/l)	Turbidity (NTU) NA NA	50 s Eh (mv	NA	Volume Purgeo (cumulative gal)
	Samp Weather C Sample D Obs Time 1331	pH (units)	Specifc Con (µmhos	red in Field tion Factor g: 54-6 s de 2 E BAF	* RIN	°C °	D.O. (mg/l) 6.4	Turbidity (NTU) NA NA	50 s Eh (mv	NA	Volume Purgeo (cumulative gal)
	Samp Weather C Sample D Obs Time 1331	pH (units)	Specifc Con (µmhos	red in Field tion Factor g: 54-6 s de 2 E BAF	* RIN	(°C) ved)	D.O. (mg/l) 6.4	Turbidity (NTU) NA NA	50 s Eh (mv	NA	Volume Purgeo (cumulative gal)
	Samp Weather C Sample D Obs Time 1331 1337 1343	pH (units)	Specific Con (µmhos 720	red in Field stion Factor Fact	* RIN  Temp (obser	(°C) (°C) (°C) (°C) (°C) (°C) (°C) (°C)	D.O. (mg/l) 6.2 6.6	Turbidity (NTU) NA NA	50 s Eh (mv	NA	Volume Purgeo (cumulative gal)
	Samp Weather C Sample D Obs Time 1331 1337 1343	pH (units) 1. 9 1. 9 1. 9 1. 9 1. 9 1. 9 1. 9	Specifc Con (µmhos	red in Field stion Factor Fact	* RIN	(°C) ved)	D.O. (mg/l) 6.2 6.6	Turbidity (NTU) NA NA	50 s Eh (mv	NA	Volume Purged (cumulative gal)
Samuranon	Samp Weather C Sample D Obs Time 1331 1337 1343	pH (units) 1. \$ 7. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1	Specific Con (µmhos 720)	red in Field stion Factor Fact	Temp (obser	(°C) ved)  SE BF  (°C) ved)  Other	D.O. (mg/l) 6.2 6.6	Turbidity (NTU) NA NA	50 s Eh (mv	NA	Volume Purged (cumulative gal)
Sam	Samp Weather C Sample D Obs Time 1331 1337 1343	pH (units) 1. \$ 7. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1. \$ 1	Specific Con (µmhos 720	red in Field stion Factor Fact	Temp (obser	(°C) ved)  SE BF  (°C) ved)  Other	D.O. (mg/l) 6.2 6.6	Turbidity (NTU) NA NA	50 s Eh (mv	NA	Volume Purgeo (cumulative gal)



	Client X			bject (110 00 5)	porus 10	Proje	ct No.	21-04716			
monnanon	Monitori	ng Point ID_	P-155			La	abeled P	55			
	Inside	e Diameter _	2. (inche	es) Key# <u>21</u> (	06		d _	Not Locked			
	Casir	ng Material:	X PVC	Steel	Stainless S	teel					
		D	epth Measureme	ent and Elevation	ons (from t	op of well	casing)				
					ng Elevation			Feet			
		Otatia wat	ar level magazirana		Well Depth			Feeth acpth fi			
	S		er level measureme vel measurement at					Feet PUNPC			
		atio water io		Level Elevation Be			9 3	Feet			
	Purge Me	ethod ded	ichteel bleo	de primo			BPC-1				
		irged 6/10	1			ter Column		Feet			
V		rged <u>1340</u>	1127	GPMX LPM		ing Volume					
ļ	Pump	Rate	U: L	GPINIX LPINI	Volu	me Purged	2.0	Gallons			
Š	Dat	e Sampled _	6/10/14	Field	Paramete	r Measure	ements of	Sample			
		e Sampled _		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H_7.4	(units)		(mg/l)			
	Samp	ling Equip.		Spec. Cond		_(μmhos/cm)					
	۸		MPS-B TM 5	Temp. Observe Temp. Correcte		(°C)		240 (mV)			
No.			MAT / KBJ			_(°C)		_1011			
	Field Measurements Temp. Corrected: Yes No NA  Sample for Soluble Metals Filtered in Field: Yes No NA										
			rature Correction Fa		)		= 71				
1	Weather C	Conditions Du	ring Sampling: 95	F, suny	1 SW W	a parily	5 mph				
1			dear + udor	rel ,		21400		-			
	Об	servations:	distant mali	v 41	plicate 7		12110				
			edium only								
V	Time	pH (units)	Specifc Conductand (µmhos/cm)	ce Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)			
	1345		1 A 14 No. 2		1100	1 4	7 111	10			
	12 13	7.4	320	14.2	8.3	NA	241	1.0			
1	1350	7.4	320	14.3	8.3 8.8	NA	240	7,0			
	-			1.4			1-21				
	1350	7. 4	320	14.3	8.3	MA	240	2,0			
The second second second	1350	7. 4	320	14.3	8.3	MA	240	2,0			
The second second	1350	7. 4	320	14.3	8.3	MA	240	2,0			
a	1350	7. 4	320	14.3 14.3 14.3	8.3 8.3	NA	240	2,0			
m	1350 1355 mples chilled	7. 4 7. 4	320 320	14.3 14.3 14.3 14.4] 6/1	8.3 8.3 921	NA	240	2,0			
a	1350 1355 mples chilled	7. 4 7. 4	320 320	14.3 14.3 14.3 14.4] 6/1	8.3 8.3 921	NA	240	2,0			
ne	1350 1355 mples chilled Revised: 01/25/2	7. Y 7. Y immediately a 021 Sampler(s):	320 320	14.3 14.3 14.3 14.3 14.3 14.3 14.3	9.3 9.3 921 Other PYCSC	NA NA NA NOSON	240	7. 0 3. 0			



uo	Client X	el Shero	. 0	Project	Shereo Pends	Spring	2021 Projec	t No. 21-	04548	3
mat	Monitorin	ng Point ID_	P-156				La	beled 81	2965	
ıfor	Inside	e Diameter	2 (	inches)	Key# 2-10	٠	Locked	1 🗆	Not Locke	d
Well Description and Presampling Information	Casin	g Material:	<b>⋈</b> PVC	Stee	el 🗌	Stainless S	Steel			
		D	epth Measur	ement ar	nd Elevation	s (from	top of well	casing)		
629					Top of Casing				Feet	
							85.5		Feet /ms	a) sister
Ē	12.		er level measur							1 DK
9	St	atic water le	vel measureme						Feet Feet	
4	Durgo Mo	thod 21		ater Level I	Elevation Befo	re Purging		BPC-1	reet	
í	Date Pu		Der Pump 515/21			W	ater Column		Fee	t
	Time Pu		30 - 1251				sing Volume			lons
	Pump		0.2		GPM)LPM		ume Purged		Gal	lons
1	Dat	e Sampled	elcla		Field F	aramete	er Measure	ments of	Sample	
		e Sampled _ e Sampled					(units)		9,9	(mg/l)
W)		oling Equip.			Spec. Cond.		— (μmhos/cm)	Turbidity		(NTU)
5	Odina			Ter			(°C)		181	(mV)
) Data									NIA	- / /
Field Sampling	Sample D	Conditions Du	erature Correction uring Sampling: clu as	50°F		W. Lu.w	EC 5 mx	, h		
		pH	Specifc Condu	ictance	Temp (°C)	D.O.	Turbidity	Eh	Volume	Purged
	Time	(units)	(μmhos/cr	C. St. Your Control of the	(observed)	(mg/l)	(NTU)	(mV)		ative gal)
S	1237	8.0	460		9.4	9.5	3.0	182	1.4	
5	1244	8.0	460		9.4	9.4	3.0	181	2.8	
201	1251	8.0	460		9, 4	9.9	2.6	181	4.2	4
Stabilization resi			The party of the latest and the late			1				
n					(N)~.		No.			
					shizi					
S	amples chilled	immediately	after collection:	IX	Yes Ott	ner				
	Revised: 01/25/2				(					
am	e/Affiliation o	f Sampler(s):	Chris Peles		Pace	Analy	Sical			
			1111		7	- 11		1		
L	ead Technicia	an Signature:	1641	h			Date:	5/5/21		



uo	Client XCC			Project	Sheco 3	I ponels reso	mdl Proje	ct No	21-04714
Presampling Information	Monitoring Poi	nt ID_	1-156						156
ntol	Inside Dian	neter	2	(inches)	Key# 2	06	Locke	ed [	Not Locked
ng	Casing Mate	erial:	D PVC	☐ Ste	eel	Stainless S	Steel		
mp		De	pth Measu	rement a	nd Elevat	ions (from	top of well	casing)	
esa					Top of Ca	sing Elevation			Feet
ב ב			Tanahalan	8		tal Well Depti			Feet & Pepth 6
ā						(Start Depth			Feet - Pos who
	Static w	ater leve				(Final Depth Before Purging		22	Feet Feet
crip	Purge Method	lodica				elole Fulging		BPC-1	_reet
Des	Date Purged			Arod bo	. P	Wa	ater Column		Feet
Well Description and	Time Purged						sing Volume		The state of the s
5	Pump Rate_	0	.2		GPM / LPM	// Vol	ume Purged	3	Gallons
	Date Sam	pled 🖟	110121		Fiel	d Paramete	r Measure	ements of	f Sample
	Time Sam					pH 8.5	(units)	D.C	9.5 (mg/l)
	Sampling Ed	quip. 10	ump rfit-	ter	Spec. Co	nd. 230	(μmhos/cm)	Turbidity	
Data	Mete	er ID <u>M</u>	PS-8; TM-	-b Te	mp. Observ	red 13.3	_(°C)	El	1252 (mV)
	Analyze	ed by	9J - RGJ	_ Te	mp. Correc	red 13.6	(°C)	Othe	r MA
Sampling	Field Me	easuren	nents Temp.	Corrected:		X Yes	☐ No	□ NA	
Sam			Metals Filter			Yes Giel	No No	⋈ NA	
Field			ature Correct			C C	dr o a		
Ĭ	Weather Condition	ons Duri	ng Sampling	101/20	sunny	1 2m Mr.	W2 W 2	MADIN	
	Sample Descrip		Radium C						
	Observati	10115	Merciny C	ny					
	Time p	н	Specifc Cond	luctance	Temp (°C	) D.O.	Turbidity	Eh	Volume Purged
	(un	its)	(µmhos/		(observed	(mg/l)	(NTU)	(mV)	(cumulative gal)
est	1150 8.	4	240		13.4	9.7	NA	253	1
ou	us5 8.5		230		13.3	9.6	NA	252	2
zati	1200 8.	5	230		13.3	9.5	NA	252	3
Stabilization lest					MIL				
ร					1000	16/4			
Sa	imples chilled immed	liately af	er collection:	NAZINOTO	Yos X	Other 1018	red		
	Revised: 01/25/2021							T	
ame	e/Affiliation of Sampl	er(s):	renda	N 79h	W70N	+ RII+	ey 190	spron	
Le	ead Technician Signa	ature:	lada	0~				6/10	
	Did not have	past	donter for	Total Dep	the - Dept	n to pump	for cala	itions -	RGS Works



<u> </u>	Monitoring	Point ID	7-157					beled	8120	
Presampling information		Diameter	2	(inches)	Key# 2-1	04	Locked	_	Not	
<u> </u>	Casing	Material:	▼ PVC	St	eel [	 Stainless S	teel			
		D	epth Measi	rement a	and Elevati	ons (from t	op of well	casing	)	
2000						ing Elevation			Fee	
		11.16	Fig. A. Source			al Well Depth			Fee	1 Musine 5/3/21
	Sto		er level meas vel measurem						Fee	
5	Sia	tic water lev			I Elevation Be				Fee	
2	Purge Meth	nod Bludde		1777			Pump ID	10.0	_	
5	Date Purg	ged	515121			Wa	ter Column	6.0	7	Feet
well bescription and			20 - 1135				ing Volume			Gallons
	Pump R	ate	0.2		GPM)/ LPM	Volu	me Purged		3	_Gallons
	Date	Sampled	515121		Field	Paramete	r Measure	ments	of Sa	mple
M	Time	Sampled _	1140		þ	H 8.1	(units)		0.0 9.	<b>4</b> (mg/l)
d	Sampli	ng Equip	Pump		Spec. Con	d. 610	_(μmhos/cm)	Turbio	lity 4	O (NTU)
Data		Meter ID _	MPS - 7 TM	-w Te	emp. Observe	ed 9.7	_(°C)		Eh_[8	(mV)
2	An	alyzed by	(18	Te	emp. Correcte	ed 9.8	(°C)	Otl	ner/	A
mpling	Fie	eld Measure	ments Temp.	Corrected	: [	X Yes	☐ No		Α	
Field Sampling	Fie Sample Weather Co Sample De	eld Measure e for Soluble Tempe anditions Du		Corrected red in Field tion Factor c: 50°F	+0.1 °C	X Yes ☐ Yes C ~ J NE(	□ No □ No		Α	
Field Sampling	Fie Sample Weather Co Sample De Obse	eld Measure for Soluble Tempe anditions Du escription: ervations:	ements Temp.  e Metals Filter  rature Correct  ring Sampling  clear w	Corrected red in Field tion Factor core so		Yes Yes  NE  D.O.	□ No □ No □ Turbidity	□ N ☑ N	A A	olume Purged
rieid	Fie Sample Weather Co Sample De Obse	eld Measure e for Soluble Tempe onditions Du escription: ervations:  pH (units)	ements Temp.  e Metals Filter  rature Correct  ring Sampling  Lear or  A  Specifc Con  (µmhos	Corrected red in Field tion Factor SorF	Temp (°C) (observed)	Yes Yes  NE  D.O.  (mg/l)	No No	□ N ☑ N	A A	
rieid	Fie Sample Weather Co Sample De Obse	eld Measure e for Soluble Tempe anditions Du escription: ervations:  pH (units)	ements Temp.  e Metals Filter  grature Correct  gring Sampling  Lear M  Specifc Con  (µmhos)	Corrected red in Field tion Factor SorF		Yes Yes  C  NE  (mg/l)  9.7	No No No Turbidity (NTU)	Eh (mV)	A A	olume Purged cumulative gal)
rieid	Fie Sample Weather Co Sample De Obse Time 1125 1130	eld Measure e for Soluble Tempe onditions Du escription: ervations:  pH (units) 8-1	Specifc Con (µmhos	Corrected red in Field tion Factor SorF	Temp (°C) (observed) 9.7 9.7	D.O. (mg/l)	No No No Turbidity (NTU)	Eh (mV)	A A	folume Purged cumulative gal)
rieid	Fie Sample Weather Co Sample De Obse	eld Measure e for Soluble Tempe anditions Du escription: ervations:  pH (units)	ements Temp.  e Metals Filter  grature Correct  gring Sampling  Lear M  Specifc Con  (µmhos)	Corrected red in Field tion Factor SorF	Temp (°C) (observed)	Yes Yes  C  NE  (mg/l)  9.7	Turbidity (NTU)	Eh (mV)	A A	olume Purged cumulative gal)
rieia	Fie Sample Weather Co Sample De Obse Time 1125 1130	eld Measure e for Soluble Tempe onditions Du escription: ervations:  pH (units) 8-1	Specifc Con (µmhos	Corrected red in Field tion Factor SorF	Temp (°C) (observed) 9.7 9.7	D.O. (mg/l)	No No No Turbidity (NTU)	Eh (mV)	A A	folume Purged cumulative gal)
rieid	Fie Sample Weather Co Sample De Obse Time 1125 1130	eld Measure e for Soluble Tempe onditions Du escription: ervations:  pH (units) 8-1	Specifc Con (µmhos	Corrected red in Field tion Factor SorF	Temp (°C) (observed) 9.7 9.7	D.O. (mg/l)  9.4  9.4	Turbidity (NTU)	Eh (mV)	A A	olume Purged cumulative gal)
rieid	Fie Sample Weather Co Sample De Obse Time 1125 1130	eld Measure e for Soluble Tempe onditions Du escription: ervations:  pH (units) 8-1	Specifc Con (µmhos	Corrected red in Field tion Factor SorF	Temp (°C) (observed) 9.7 9.7	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	A A	folume Purged cumulative gal)
Stabilization lest	Fie Sample Weather Co Sample De Obse  Time 1125 1130 1135	pH (units) 8-1 8.1	Specifc Con (µmhos	Corrected red in Field tion Factor G:	Temp (°C) (observed) 9.7 9.7	D.O. (mg/l)  9.4  9.4	Turbidity (NTU)	Eh (mV)	A A	olume Purged cumulative gal)
Stabilization lest	Fie Sample Weather Co Sample De Obse Time 1125 1130 1135	pH (units) 8-1 8.1	Specific Con (µmhos	Corrected red in Field tion Factor G:	Temp (°C) (observed) 9.7 9.7 9.7	D.O. (mg/l) 9.7 9.4 9.4 Other	Turbidity (NTU) 10 6.2 4.0	Eh (mV)	A A	olume Purged cumulative gal)
Stabilization lest	Fie Sample Weather Co Sample De Obse Time 1125 1130 1135	pH (units)  8-1  8-1	Specific Con (µmhos	Corrected red in Field tion Factor G: So°F	Temp (°C) (observed) 9.7 9.7 9.7	D.O. (mg/l) 9.7 9.4 9.4	Turbidity (NTU) 10 6.2 4.0	Eh (mV)	A A	folume Purged cumulative gal)



Client X ( e )	Project	shuco 3/0	and resai	Project	ct No. ZI	-04714
Monitoring Point ID	P-157			La	abeled P	157
Inside Diameter	2 (inches)	Key # 210	Ce	∠ Locke	d 🗌	Not Locked
Casing Material:	▼ PVC   St  ■ St	eel	Stainless St	eel		
De	pth Measurement a	and Elevatio	ns (from to	op of well	casing)	
		Top of Casir	g Elevation			Feet
	and the second		Well Depth		23	Feet * Peptin to
Static water	r level measurement be el measurement at time				17	Feet '
Static water leve	Static Water Leve					Feet
Purge Method Bladd		_			BPC-1	
Date Purged Lot			Wat	er Column	3.29	Feet
Time Purged 15 40				ng Volume		
Pump Rate	0.2	GPM/LPM	Volu	me Purged	3.0	Gallons
Date Sampled	6/10/21	Field I	Parameter	Measure	ments of	Sample
Time Sampled 1	600	рН	7.9	(units)	D.O	9.1 (mg/l)
Sampling Equip. 1		Spec. Cond	280	(μmhos/cm)	Turbidity	34 (NTU)
		emp. Observed		(°C)		251 (mV)
Analyzed by	YAS TE	emp. Corrected	13.4	(°C)	Other	M
	nents Temp. Corrected:	-	Yes	☐ No	□ NA	
Sample for Soluble	Metals Filtered in Field ature Correction Factor:		Yes	☐ No	₩ NA	
Weather Conditions Duri			m m.	vd a 3	mph	
Sample Description:					1	
Observations:						
- X YOU	ima only					
Time pH	Specifc Conductance	Temp (°C)	D.O.	Turbidity	Eh	Volume Purged
(units)	(μmhos/cm)	(observed)	(mg/l)	(NTU)	(mV)	(cumulative gal)
	200	13.0	9.1	RN	251	20
1550 7.9 N+55 <b>5</b> 1555 7.9	280	13.1	9.1	NA	251	3.0
71554-1557	200	10.1	-(-1	1016	031	5.0
	FAT	Glory				
		10/0				
Samples chilled immediately aff	er collection:	Yes X Ot	her presen	red		
to There are a grant of the Paris of the Par	1			10	1	
	10,00 111A 1	Charlos	1 101/	y Chi	130	
m Revised: 01/28/2021 me/Affiliation of Sampler(s):	ferdan s	Mush	+ Chr	is pu	S1	
	by an-			Date:	6/10/2	VI



uo	Client Xi	el Shero	.0	Projec	st Sherco	Pends	Spring 2	Lo 21 Projec	t No 2\	-0454	3
mati	Monitorin	g Point ID	P-158					Lal	beled 8	12967	
for	Inside	Diameter	2	(inches)	Key#	2100		Locked		Not Locke	ed
Presampling Information	Casing	, Material:	PVC	s	teel		Stainless S	Steel			
ildu		D	epth Measi	urement	and Ele	vation	s (from t	op of well	casing)		
san					Top of	Casing	Elevation	NA		Feet	
ď						Total V	Vell Depth	49.	16	Feet	
and		Static wat	er level meas	urement b	efore pur	ging (St	tart Depth)	40.	97	Feet	
6	Sta	atic water le	vel measurem	ent at tim	e of samp	ling (Fi	nal Depth)	40.0	97	Feet	
ıptı	4 = 4.0	2)			el Elevation	on Befo	re Purging		0.01	Feet	
SCI	Purge Met		dder Pump		_		1.0	Pump ID_	BPC-1		<del></del>
ă	Date Pur		5/4/21		_			ter Column		Fe	
Well Description and	Time Pur		50 - 1611		-633			ing Volume			llons
	Pump R	Rate	0.2		(GPM)	LPM	Volu	ıme Purged _	. 4.2	Ga	llons
	Date	Sampled_	514/21		F	ield P	aramete	r Measure	ments of	Sample	9
	Time	Sampled _	1615			pH.	7.8	_(units)	D.O	9.8	_ (mg/l)
	Sampl	ing Equip	Pump		Spec.	Cond.	860	(µmhos/cm)	Turbidity	0.9	_(NTU)
Data		Meter ID _	MPS - 7 TA	1-6 T	emp. Obs	served	9,5	_(°C)	Eh	153	_ (mV)
g D	Ar	nalyzed by _	CSF	_	emp. Cor	rected	7.6	_(°C)	Other	NA	
Field Sampling	Weather Co	Tempe onditions Du	e Metals Filter erature Correct uring Sampling clur no	tion Facto g:_ऽЧ°F	r: +0-1	°C	Yes	□ No smph	⊠ NA		
		ervations:		6001							
	B-5	ervations		192 DUPI	ICATE CO	LECTEN	AT THIS	LIETL	RAPZ R	JIM SE 'COLL	ELTED 1670
	Time	pH (units)	Specifc Con (μmhos		Temp (obse	rved)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)		e Purged ative gal)
est	1557	7.8	86	0	10	7 9.5	9.9	1.0	153	٠ ). د	1
l uc	1604	78	86	0	9	5	29	1.0	152	2.	8
Stabilization Test	1611	78	84	0	9	15	9.8	0.9	153	3-1	5/4/2 4.2
billi					Mi						
Sta					W	AFIC					
					-	silla					
					√7 I	10.					
	Revised: 01/25/20		after collection		X Yes	Oth	er				
			α. Λ.			3	A 1 1	. 1			
Nam	e/Affiliation of	Sampler(s): _	Chris Pele	51	)	force	Analyt	1661			
1	ead Techniciar	Signature	1/	Mo	1			Date:	5/4/2	į.	
_	odd Toolilloldi	. orginaturo.	Co	11							



ion	Client X	el		_ Project	sheres por	ds resu	mpl Proje	ct No. 2	1-04716
Information	Monitoring	Point ID_	P-158				L	abeled P	58
nfor	Inside D	Diameter _	2	(inches)	Key# 210	Ce	∠ Locke	ed _	Not Locked
ng l	Casing I	Material:		☐ Ste	eel _	Stainless S	steel		
Presampling		De	epth Measi	urement a	and Elevatio	ns (from t	op of well	casing)	
esai					Top of Casir	g Elevation			Feet
			- Y i - e )			Well Depth			Feet & Depth to
anı					fore purging (S				_Feet /
tion	Stati	c water lev			of sampling (F Elevation Bef				Feet Feet
crip	Purge Metho	od Bladd	Α.	vater Level	Lievation bei	ore ranging		BPC-	-
Well Description and	Date Purge				-	Wa	ter Column		Feet
/ell	Time Purge	ed (610 -	1625			One Cas	ing Volume		Gallons
5	Pump Ra	te	0.2		GPM / LPM	Volu	ıme Purged	3,0	Gallons
	Date S	Sampled	6/10/21		Field I	Paramete	r Measure	ements of	Sample
	Time S	Sampled	030 Min 103	30	рŀ	7.6	(units)	D.C	Ll.   (mg/l)
	Samplin	g Equip	Rmp		Spec. Cond	290	(µmhos/cm)	Turbidity	1 2. Z (NTU)
Data		_	MPS-8/TA	15 Te	emp. Observed	14.9	_(°C)		1 252 (mV)
	Ana	lyzed by_	KAS	_ Te	emp. Corrected	15.2	_(°C)	Other	NA
Sampling			ments Temp.			Yes	☐ No	☐ NA	
San	Sample		Metals Filter			Yes	☐ No	NA NA	
Field	Weather Con	remper	ature Correc	11011 Factor.	Sunny	CININ	vind a	3 min	
iL.	Sample Des	scription: C	WW 4-00	lovius	1 20,11,08	1 30		200	
		rvations:		10. 10.0					
			dim or	14					
		рН	Specifc Con	ductance	Temp (°C)	D.O.	Turbidity	Eh	Volume Purged
	Time	(units)	(µmhos		(observed)	(mg/l)	(NTU)	(mV)	(cumulative gal)
Test	1615	7.4	290		14.9	11.2	NA	252	1.0
Ext.	HO+1000	7.6	290		14.9	11.1	NA	252	2.0
izat	1625	7.4	290		14.9	lit	NT.	252	3.0
Stabiliza					6AJ 611	1/4			
S					V	79			
41)							1 = 1		
Sa	amples chilled im	mediately a	fter collection:		Yes 🔀 Ot	ner DYS	wid		
Form	Revised: 01/25/2021					-			
Vam	e/Affiliation of Sa	impler(s):	anda	M JO	hason t	Chri	Pulon		
			lando	$\wedge$				10/10/	21
	ead Technician S	_		- 1 /		1 0 1		0/10/	U
a	id hot ha	n post	data for	fotal d	eptu- Utc	a augh	n to pun	up for Co	Meritations





25 May 2021

Eric Ealy

**Environmental Services-Water Minneapolis** 

250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco BAP CCR

Enclosed are the results of analyses for samples received by the laboratory on 05/05/2021 08:00-05/07/2021 06:50. 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 BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-17		MGE0052-03	Water	05/04/2021 14:00	05/05/2021 8:00
P-152A		MGE0052-24	Water	05/04/2021 12:50	05/05/2021 8:00
P-158		MGE0052-27	Water	05/04/2021 16:15	05/05/2021 8:00
P-01A-1		MGE0077-01	Water	05/05/2021 13:25	05/07/2021 6:50
P-22		MGE0077-04	Water	05/05/2021 14:45	05/07/2021 6:50
P-23		MGE0077-05	Water	05/05/2021 12:10	05/07/2021 6:50
P-155		MGE0077-17	Water	05/05/2021 13:45	05/07/2021 6:50
P-156		MGE0077-18	Water	05/05/2021 12:55	05/07/2021 6:50
P-157		MGE0077-19	Water	05/05/2021 11:40	05/07/2021 6:50
Duplicate CCR-BAP		MGE0077-30	Water	05/05/2021 13:45	05/07/2021 6:50
Rinse CCR-BAP		MGE0077-31	Water	05/05/2021 13:50	05/07/2021 6:50



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

P-17
MGE0052-03 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograp	ohy									
Chloride	11.4	1.00	mg/L		1	BGE0084	5/5/21 10:07	5/10/21 19:41	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0084	5/5/21 10:07	5/10/21 19:41	EPA 300.0	CRL
Sulfate	18.3	1.00	mg/L		1	BGE0084	5/5/21 10:07	5/10/21 19:41	EPA 300.0	CRL
Wet Chemistry										
рН	7.85		pH Units	M_TTT	1	BGE0082	5/5/21 10:05	5/5/21 11:42	SM 4500-H+ B	HRD
Total Dissolved Solids	280	25.0	mg/L		1	BGE0086	5/5/21 13:27	5/5/21 13:27	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0085	5/5/21 11:48	5/5/21 11:48	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.639	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Barium	41.3	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Chromium	0.984	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Selenium	0.856	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 8:40	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:28	EPA 200.7	HRD
Calcium	65.4	2.00	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:26	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:26	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

# P-17 MGE0052-03 (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	BGE0230	5/11/21 9:46	5/11/21 14:54	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### P-152A MGE0052-24 (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	3.45	1.00	mg/L		1	BGE0090	5/5/21 11:23	5/11/21 12:54	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0090	5/5/21 11:23	5/11/21 12:54	EPA 300.0	CRL
Sulfate	16.1	1.00	mg/L		1	BGE0090	5/5/21 11:23	5/11/21 12:54	EPA 300.0	CRL
Wet Chemistry										
рН	7.92		pH Units	M_TTT	1	BGE0082	5/5/21 10:05	5/5/21 14:13	SM 4500-H+ B	HRD
Total Dissolved Solids	236	25.0	mg/L		1	BGE0136	5/7/21 8:44	5/7/21 8:44	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0135	5/7/21 6:41	5/7/21 6:41	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.536	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Barium	46.2	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Chromium	1.14	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Selenium	0.867	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:10	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:38	EPA 200.7	HRD
Calcium	57.2	2.00	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:37	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:37	EPA 200.7	HRD



Environmental Services-Water Minneapolis	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/25/2021 09:03

#### P-152A

### MGE0052-24 (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	BGE0230	5/11/21 9:46	5/11/21 15:05	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

# P-158 MGE0052-27 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography	/									
Chloride	7.67	1.00	mg/L		1	BGE0090	5/5/21 11:23	5/11/21 15:38	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0090	5/5/21 11:23	5/11/21 15:38	EPA 300.0	CRL
Sulfate	107	1.00	mg/L		1	BGE0090	5/5/21 11:23	5/11/21 15:38	EPA 300.0	CRL
Wet Chemistry										
рН	7.80		pH Units	M_TTT	1	BGE0082	5/5/21 10:05	5/5/21 14:24	SM 4500-H+ B	HRD
Total Dissolved Solids	402	25.0	mg/L		1	BGE0136	5/7/21 8:44	5/7/21 8:44	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0135	5/7/21 6:41	5/7/21 6:41	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.573	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Barium	58.6	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Chromium	1.22	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Selenium	3.14	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:40	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.561	0.0500	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:53	EPA 200.7	HRD
Calcium	88.4	2.00	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:52	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 21:52	EPA 200.7	HRD



Environmental Services-Water Minneapolis	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/25/2021 09:03

### P-158

### MGE0052-27 (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	BGE0230	5/11/21 9:46	5/11/21 15:10	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

## P-01A-1 MGE0077-01 (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	14.6	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 11:17	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 11:17	EPA 300.0	CRL
Sulfate	159	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 11:17	EPA 300.0	CRL
Wet Chemistry										
рН	7.74		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 13:19	SM 4500-H+ B	CRL
Total Dissolved Solids	488	25.0	mg/L		1	BGE0160	5/9/21 9:11	5/9/21 9:11	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0159	5/9/21 7:13	5/9/21 7:13	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.546	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Barium	48.1	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Chromium	1.63	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Selenium	10.3	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 9:55	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.747	0.0500	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:41	EPA 200.7	HRD
Calcium	97.2	2.00	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:39	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:39	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

# P-01A-1 MGE0077-01 (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	BGE0230	5/11/21 9:46	5/11/21 15:17	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

P-22
MGE0077-04 (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	14.9	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 12:18	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 12:18	EPA 300.0	CRL
Sulfate	121	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 12:18	EPA 300.0	CRL
Wet Chemistry										
рН	7.90		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 13:46	SM 4500-H+ B	CRL
Total Dissolved Solids	434	25.0	mg/L		1	BGE0160	5/9/21 9:11	5/9/21 9:11	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0159	5/9/21 7:13	5/9/21 7:13	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Barium	55.6	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Chromium	1.04	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Selenium	10.9	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:07	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.666	0.0500	mg/L	•	1	BGE0182	5/10/21 7:46	5/14/21 22:46	EPA 200.7	HRD
Calcium	85.3	2.00	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:45	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:45	EPA 200.7	HRD



Environmental Services-Water Minneapolis	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/25/2021 09:03

# P-22 MGE0077-04 (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	BGE0230	5/11/21 9:46	5/11/21 15:22	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

P-23
MGE0077-05 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography	/									
Chloride	36.2	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 12:38	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 12:38	EPA 300.0	CRL
Sulfate	89.6	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 12:38	EPA 300.0	CRL
Wet Chemistry										
pH	7.89		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 13:54	SM 4500-H+ B	CRL
Total Dissolved Solids	424	25.0	mg/L		1	BGE0160	5/9/21 9:11	5/9/21 9:11	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0159	5/9/21 7:13	5/9/21 7:13	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.640	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Barium	66.4	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Chromium	1.04	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Selenium	1.53	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:11	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.273	0.0500	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:51	EPA 200.7	HRD
Calcium	87.9	2.00	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:50	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 22:50	EPA 200.7	HRD



Environmental Services-Water Minneapolis	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/25/2021 09:03

# P-23 MGE0077-05 (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	BGE0230	5/11/21 9:46	5/11/21 15:24	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

# P-155 MGE0077-17 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograp	ohy									
Chloride	17.0	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 18:25	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 18:25	EPA 300.0	CRL
Sulfate	136	1.00	mg/L		1	BGE0219	5/11/21 8:13	5/12/21 18:25	EPA 300.0	CRL
Wet Chemistry										
рН	7.95		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 15:25	SM 4500-H+ B	CRL
Total Dissolved Solids	446	25.0	mg/L		1	BGE0199	5/11/21 8:55	5/11/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0198	5/11/21 6:47	5/11/21 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.525	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Barium	56.8	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Chromium	1.10	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Selenium	2.87	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0183	5/10/21 7:49	5/11/21 10:23	EPA 200.8	CRL
Total Metals by ICP										
Boron	1.09	0.0500	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 23:07	EPA 200.7	HRD
Calcium	75.1	2.00	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 23:06	EPA 200.7	HRD
Lithium	0.0276	0.0150	mg/L		1	BGE0182	5/10/21 7:46	5/14/21 23:06	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-155

### MGE0077-17 (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	BGE0230	5/11/21 9:46	5/11/21 15:29	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

# P-156 MGE0077-18 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatograph	ny									
Chloride	3.94	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 9:18	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 9:18	EPA 300.0	CRL
Sulfate	38.6	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 9:18	EPA 300.0	CRL
Wet Chemistry										
рН	8.02		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 15:32	SM 4500-H+ B	CRL
Total Dissolved Solids	282	25.0	mg/L		1	BGE0199	5/11/21 8:55	5/11/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0198	5/11/21 6:47	5/11/21 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.543	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Barium	55.1	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Chromium	0.980	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Selenium	6.39	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:07	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.172	0.0500	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 11:05	EPA 200.7	HRD
Calcium	63.2	1.50	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 11:03	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 11:03	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-156

### MGE0077-18 (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	BGE0230	5/11/21 9:46	5/11/21 15:30	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

# P-157 MGE0077-19 (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	4.68	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 9:39	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 9:39	EPA 300.0	CRL
Sulfate	60.8	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 9:39	EPA 300.0	CRL
Wet Chemistry										
рН	7.89		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 15:39	SM 4500-H+ B	CRL
Total Dissolved Solids	256	25.0	mg/L		1	BGE0199	5/11/21 8:55	5/11/21 8:55	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGE0198	5/11/21 6:47	5/11/21 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Barium	50.2	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Chromium	1.60	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Selenium	2.09	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:11	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.226	0.0500	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 11:10	EPA 200.7	HRD
Calcium	77.5	1.50	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 11:08	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 11:08	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

O5/25/2021 09:03

## P-157 MGE0077-19 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dil	lution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BGE0230	5/11/21 9:46	5/11/21 15:32	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

05/25/2021 09:03

# Duplicate CCR-BAP MGE0077-30 (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	16.8	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:05	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:05	EPA 300.0	CRL
Sulfate	135	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:05	EPA 300.0	CRL
Wet Chemistry										
pH	8.00		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 17:05	SM 4500-H+ B	CRL
Total Dissolved Solids	448	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	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Barium	58.6	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Chromium	1.09	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Molybdenum	0.695	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Selenium	2.43	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:38	EPA 200.8	CRL
Total Metals by ICP										
Boron	1.14	0.0500	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 12:07	EPA 200.7	HRD
Calcium	74.7	1.50	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 12:05	EPA 200.7	HRD
Lithium	0.0248	0.0150	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 12:05	EPA 200.7	HRD



Environmental Services-Water Minneapolis	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/25/2021 09:03

### **Duplicate CCR-BAP**

### MGE0077-30 (Water) - Chain of Custody Number: Pace

Analyte	Reporting Result Limit Units		Analyte Qualifier Dilution Batch			Prepared Analyzed		Method	Analyst	
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BGE0404	5/17/21 18:06	5/18/21 20:04	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

O5/25/2021 09:03

# Rinse CCR-BAP MGE0077-31 (Water) - Chain of Custody Number: Pace

	_	Reporting	11.2	Analyte	D		_			A l. · · · 4
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatogra	phy									
Chloride	< 1.00	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:26	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:26	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BGE0276	5/12/21 8:05	5/13/21 15:26	EPA 300.0	CRL
Wet Chemistry										
pH	6.34		pH Units	M_TTT	1	BGE0166	5/7/21 11:47	5/7/21 17:11	SM 4500-H+ B	CRL
Total Dissolved Solids	< 25.0	25.0	mg/L	M_K-06	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	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BGE0217	5/11/21 7:36	5/12/21 8:42	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 12:13	EPA 200.7	HRD
Calcium	< 1.50	1.50	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 12:11	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGE0216	5/11/21 7:35	5/16/21 12:11	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

#### **Rinse CCR-BAP**

### MGE0077-31 (Water) - Chain of Custody Number: Pace

Analyte	F Result	Reporting Limit	Units	Analyte Qualifier Dilution	n Batch	Prepared	Analyzed	Method	Analyst
Mercury									
Mercury	< 0.200	0.200	ug/L	1	BGE0404	5/17/21 18:06	5/18/21 20:05	EPA 245.1/7470A	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Anions by Ion Chromatography - Quality Control**

	_	Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0084 - Wet Prep										
Blank (BGE0084-BLK1)				Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGE0084-BLK2)				Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGE0084-BS1)				Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	24.952	1.00	mg/L	25.000		99.8	90-110			
Fluoride	2.6800	0.750	mg/L	2.5000		107	90-110			
Sulfate	24.955	1.00	mg/L	25.000		99.8	90-110			
LCS (BGE0084-BS2)				Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	25.453	1.00	mg/L	25.000		102	90-110			
Fluoride	2.6760	0.750	mg/L	2.5000		107	90-110			
Sulfate	25.969	1.00	mg/L	25.000		104	90-110			
LCS (BGE0084-BS3)				Prepared:	05/05/202	21 Analyze	ed: 05/11/2	021		
Chloride	25.189	1.00	mg/L	25.000		101	90-110			
Fluoride	2.6120	0.750	mg/L	2.5000		104	90-110			
Sulfate	25.567	1.00	mg/L	25.000		102	90-110			
Duplicate (BGE0084-DUP1)	So	urce: MGE002	27-01	Prepared:	05/05/202	21 Analyze	d: 05/10/2	021		
Chloride	12.551	1.00	mg/L		12.753			1.60	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	8.8390	1.00	mg/L		8.8860			0.530	20	



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco BAP CCR

Reported:

05/25/2021 09:03

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Allalyte	resuit	Lillin	Office	Level	resuit	701120	Lillito	THE D	Liiiit	110103
Batch BGE0084 - Wet Prep										
Duplicate (BGE0084-DUP2)	Sou	rce: MGE00	50-01	Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	9.5020	1.00	mg/L		9.6600			1.65	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	6.8450	1.00	mg/L		6.9480			1.49	20	
Matrix Spike (BGE0084-MS1)	Sou	rce: MGE002	27-01	Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	43.331	1.25	mg/L	31.250	12.753	97.9	90-110			
Fluoride	3.3663	0.938	mg/L	3.1250	<0.938	108	90-110			
Sulfate	40.134	1.25	mg/L	31.250	8.8860	100	90-110			
Matrix Spike (BGE0084-MS2)	Sou	rce: MGE00	50-01	Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	41.474	1.25	mg/L	31.250	9.6600	102	90-110			
Fluoride	3.4763	0.938	mg/L	3.1250	<0.938	111	90-110			M_MS
Sulfate	39.318	1.25	mg/L	31.250	6.9480	104	90-110			
Matrix Spike Dup (BGE0084-MSD1)	Sou	rce: MGE002	27-01	Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	43.744	1.25	mg/L	31.250	12.753	99.2	90-110	0.947	20	
Fluoride	3.4138	0.938	mg/L	3.1250	<0.938	109	90-110	1.40	20	
Sulfate	40.643	1.25	mg/L	31.250	8.8860	102	90-110	1.26	20	
Matrix Spike Dup (BGE0084-MSD2)	Sou	rce: MGE00	50-01	Prepared:	05/05/202	21 Analyze	ed: 05/10/2	021		
Chloride	40.963	1.25	mg/L	31.250	9.6600	100	90-110	1.24	20	
Fluoride	3.3913	0.938	mg/L	3.1250	<0.938	109	90-110	2.48	20	
Sulfate	38.885	1.25	mg/L	31.250	6.9480	102	90-110	1.11	20	
Batch BGE0090 - Wet Prep										
Blank (BGE0090-BLK1)				Prepared:	05/05/202	21 Analyze	ed: 05/11/2	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 Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0090 - Wet Prep										
Blank (BGE0090-BLK2)				Prepared:	05/05/202	21 Analyze	ed: 05/11/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGE0090-BS1)				Prepared:	05/05/202	21 Analyze	ed: 05/11/2	021		
Chloride	25.362	1.00	mg/L	25.000		101	90-110			
Fluoride	2.6490	0.750	mg/L	2.5000		106	90-110			
Sulfate	25.576	1.00	mg/L	25.000		102	90-110			
LCS (BGE0090-BS2)				Prepared:	05/05/202	21 Analyze	ed: 05/11/2	021		
Chloride	24.694	1.00	mg/L	25.000		98.8	90-110			
Fluoride	2.6520	0.750	mg/L	2.5000		106	90-110			
Sulfate	25.199	1.00	mg/L	25.000		101	90-110			
LCS (BGE0090-BS3)				Prepared:	05/05/202	21 Analyze	ed: 05/11/2	021		
Chloride	24.439	1.00	mg/L	25.000		97.8	90-110			
Fluoride	2.5690	0.750	mg/L	2.5000		103	90-110			
Sulfate	24.772	1.00	mg/L	25.000		99.1	90-110			
Duplicate (BGE0090-DUP1)	Sour	ce: MGE005	52-19	Prepared:	05/05/202	21 Analyze	ed: 05/11/2	021		
Chloride	16.321	1.00	mg/L		16.472			0.921	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	58.237	1.00	mg/L		59.124			1.51	20	
Duplicate (BGE0090-DUP2)	Sour	ce: MGE00	52-20	Prepared:	05/05/202	21 Analyze	ed: 05/11/2	021		
Chloride	11.942	1.00	mg/L		11.901			0.344	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	24.609	1.00	mg/L		24.734			0.507	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0090 - Wet Prep										
Matrix Spike (BGE0090-MS1)	Sour	rce: MGE00	52-19	Prepared:	05/05/202	21 Analyze	ed: 05/11/2	2021		
Chloride	47.546	1.25	mg/L	31.250	16.472	99.4	90-110			
Fluoride	3.0950	0.938	mg/L	3.1250	<0.938	99.0	90-110			
Sulfate	90.181	1.25	mg/L	31.250	59.124	99.4	90-110			
Matrix Spike (BGE0090-MS2)	Sour	rce: MGE00	52-20	Prepared:	05/05/202	21 Analyze	ed: 05/11/2	2021		
Chloride	42.733	1.25	mg/L	31.250	11.901	98.7	90-110			
Fluoride	3.2038	0.938	mg/L	3.1250	<0.938	103	90-110			
Sulfate	56.209	1.25	mg/L	31.250	24.734	101	90-110			
Matrix Spike Dup (BGE0090-MSD1)	Sour	rce: MGE00	52-19	Prepared:	05/05/202	21 Analyze	ed: 05/11/2	2021		
Chloride	47.755	1.25	mg/L	31.250	16.472	100	90-110	0.438	20	
Fluoride	3.4163	0.938	mg/L	3.1250	<0.938	109	90-110	9.87	20	
Sulfate	90.384	1.25	mg/L	31.250	59.124	100	90-110	0.224	20	
Matrix Spike Dup (BGE0090-MSD2)	Sour	rce: MGE00	52-20	Prepared:	05/05/202	21 Analyze	ed: 05/11/2	2021		
Chloride	42.873	1.25	mg/L	31.250	11.901	99.1	90-110	0.327	20	
Fluoride	3.4025	0.938	mg/L	3.1250	<0.938	109	90-110	6.02	20	
Sulfate	56.255	1.25	mg/L	31.250	24.734	101	90-110	0.0822	20	
Batch BGE0219 - Wet Prep										
Blank (BGE0219-BLK1)				Prepared:	05/11/202	21 Analyze	ed: 05/12/2	2021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGE0219-BLK2)				Prepared:	05/11/202	21 Analyze	ed: 05/12/2	2021		
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							



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco BAP CCR

Reported:

05/25/2021 09:03

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0219 - Wet Prep										
LCS (BGE0219-BS1)				Prepared:	05/11/202	1 Analyze	d: 05/12/2	021		
Chloride	25.694	1.00	mg/L	25.000		103	90-110			
Fluoride	2.6290	0.750	mg/L	2.5000		105	90-110			
Sulfate	25.881	1.00	mg/L	25.000		104	90-110			
LCS (BGE0219-BS2)				Prepared:	05/11/202	1 Analyze	ed: 05/12/2	021		
Chloride	25.749	1.00	mg/L	25.000		103	90-110			
Fluoride	2.6840	0.750	mg/L	2.5000		107	90-110			
Sulfate	26.122	1.00	mg/L	25.000		104	90-110			
LCS (BGE0219-BS3)				Prepared:	05/11/202	1 Analyze	ed: 05/12/2	021		
Chloride	25.577	1.00	mg/L	25.000		102	90-110			
Fluoride	2.6300	0.750	mg/L	2.5000		105	90-110			
Sulfate	25.977	1.00	mg/L	25.000		104	90-110			
Duplicate (BGE0219-DUP1)	Sour	ce: MGE007	77-04	Prepared:	05/11/202	1 Analyze	d: 05/12/2	021		
Chloride	14.815	1.00	mg/L		14.863			0.323	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	120.40	1.00	mg/L		120.94			0.446	20	
Duplicate (BGE0219-DUP2)	Sour	ce: MGE007	77-05	Prepared:	05/11/202	1 Analyze	d: 05/12/2	021		
Chloride	36.292	1.00	mg/L		36.173			0.328	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	89.959	1.00	mg/L		89.638			0.357	20	
Matrix Spike (BGE0219-MS1)	Sour	ce: MGE007	77-04	Prepared:	05/11/202	1 Analyze	d: 05/12/2	021		
Chloride	45.811	1.25	mg/L	31.250	14.863	99.0	90-110			
Fluoride	3.0163	0.938	mg/L	3.1250	<0.938	96.5	90-110			
Sulfate	152.40	1.25	mg/L	31.250	120.94	101	90-110			



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0219 - Wet Prep										
Matrix Spike (BGE0219-MS2)	Soui	rce: MGE007	77-05	Prepared:	05/11/202	21 Analyze	ed: 05/12/2	2021		
Chloride	67.411	1.25	mg/L	31.250	36.173	100	90-110			
Fluoride	3.2563	0.938	mg/L	3.1250	< 0.938	104	90-110			
Sulfate	121.11	1.25	mg/L	31.250	89.638	101	90-110			
Matrix Spike Dup (BGE0219-MSD1)	Soui	rce: MGE007	77-04	Prepared:	05/11/202	1 Analyze	d: 05/12/2	2021		
Chloride	46.596	1.25	mg/L	31.250	14.863	102	90-110	1.70	20	
Fluoride	3.3625	0.938	mg/L	3.1250	<0.938	108	90-110	10.9	20	
Sulfate	152.48	1.25	mg/L	31.250	120.94	101	90-110	0.0558	20	
Matrix Spike Dup (BGE0219-MSD2)	Soui	rce: MGE007	77-05	Prepared:	05/11/202	1 Analyze	d: 05/12/2	2021		
Chloride	67.118	1.25	mg/L	31.250	36.173	99.0	90-110	0.437	20	
Fluoride	3.3075	0.938	mg/L	3.1250	<0.938	106	90-110	1.56	20	
Sulfate	120.24	1.25	mg/L	31.250	89.638	97.9	90-110	0.727	20	
Batch BGE0276 - Wet Prep										
Blank (BGE0276-BLK1)				Prepared:	05/12/202	21 Analyze	ed: 05/13/2	2021		
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	2021		
Chloride	<1.00	1.00	mg/L							
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	2021		
Chloride	25.516	1.00	mg/L	25.000		102	90-110			<u> </u>
Fluoride	2.5640	0.750	mg/L	2.5000		103	90-110			
Sulfate	25.621	1.00	mg/L	25.000		102	90-110			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco BAP CCR

Reported:

05/25/2021 09:03

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0276 - Wet Prep										
LCS (BGE0276-BS2)				Prepared:	05/12/202	1 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	1 Analyze	ed: 05/13/2	021		
Chloride	25.461	1.00	mg/L	25.000		102	90-110			
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)	Soi	urce: MGE007	77-18	Prepared:	05/12/202	1 Analyze	ed: 05/13/2	021		
Chloride	3.9280	1.00	mg/L		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	
Duplicate (BGE0276-DUP2)	Soi	urce: MGE007	77-19	Prepared:	05/12/202	1 Analyze	ed: 05/13/2	021		
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)	Soi	urce: MGE007	77-18	Prepared:	05/12/202	1 Analyze	ed: 05/13/2	021		
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)	Soi	urce: MGE007	77-19	Prepared:	05/12/202	1 Analyze	ed: 05/13/2	021		
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			



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR 250 Marquette Plaza Reported: Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Anions by Ion Chromatography - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0276 - Wet Prep										
Matrix Spike Dup (BGE0276-MSD1)	Sour	ce: MGE007	7-18	Prepared:	05/12/202	21 Analyze	d: 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)	Sour	ce: MGE007	7-19	Prepared:	05/12/202	21 Analyze	d: 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 BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0082 - Wet Prep										
LCS (BGE0082-BS1)				Prepared	& Analyze	d· 05/05/2	2021			
pH	7.0800		pH Units	7.0000	<u></u>	101	90-110			
LCS (BGE0082-BS2)				Prepared	& Analyze	d: 05/05/2	2021			
pH	7.0700		pH Units	7.0000	<u> </u>	101	90-110			
Duplicate (BGE0082-DUP1)	Source	e: MGE00	52-01	Prepared	& Analyze	d: 05/05/2	2021			
pH	7.7300		pH Units		7.7400			0.129	20	
Duplicate (BGE0082-DUP2)	Source	e: MGE00	52-11	Prepared	& Analyze	d: 05/05/2	2021			
pH	7.7000		pH Units	-	7.7200			0.259	20	
Duplicate (BGE0082-DUP3)	Source	e: MGE00	52-21	Prepared	& Analyze	d: 05/05/2	2021			
рН	7.8900		pH Units		7.8900			0.00	20	
Duplicate (BGE0082-DUP4)	Source	e: MGE00	52-31	Prepared	& Analyze	d: 05/05/2	2021			
рН	7.8300		pH Units		7.7800			0.641	20	
Batch BGE0085 - Wet Prep										
Blank (BGE0085-BLK1)				Prepared	& Analyze	d: 05/05/2	.021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0085-BS1)				Prepared	& Analyze	d: 05/05/2	2021			
				104.10		00.5	70-130			
Total Suspended Solids	90.000	5.00	mg/L	104.10		86.5	70-130			
Total Suspended Solids  Duplicate (BGE0085-DUP1)		5.00 ce: MGE00	· ·	Prepared	& Analyze					



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0085 - Wet Prep										
Duplicate (BGE0085-DUP2)	Source	e: MGE00	52-01	Prepared	& Analyze	d: 05/05/2	021			
Total Suspended Solids	31.600	10.0	mg/L		31.400			0.635	20	
Batch BGE0086 - Wet Prep										
Blank (BGE0086-BLK1)				Prepared	& Analyze	d: 05/05/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0086-BS1)				Prepared	& Analyze	d: 05/05/2	021			
Total Dissolved Solids	108.00	25.0	mg/L	100.10		108	70-130			
Duplicate (BGE0086-DUP1)	Source	e: MGE00	50-01	Prepared	& Analyze	d: 05/05/2	021			
Total Dissolved Solids	170.00	25.0	mg/L		172.00			1.17	20	
Duplicate (BGE0086-DUP2)	Source	e: MGE00	52-01	Prepared	& Analyze	d: 05/05/2	021			
Total Dissolved Solids	214.00	25.0	mg/L		214.00			0.00	20	
Batch BGE0101 - Wet Prep										
Blank (BGE0101-BLK1)				Prepared	& Analyze	d: 05/06/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0101-BS1)				Prepared	& Analyze	d: 05/06/2	021			
Total Suspended Solids	94.000	5.00	mg/L	104.10		90.3	70-130			
Duplicate (BGE0101-DUP1)	Source	e: MGE00	52-04	Prepared	& Analyze	d: 05/06/2	021			
Total Suspended Solids	344.00	25.0	mg/L	-	345.00			0.290	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

	Reporting		Spike	Source		%REC		RPD	
Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
			Prepared	& Analyze	d: 05/06/2	2021			
<25.0	25.0	mg/L							
			Prepared	& Analyze	d: 05/06/2	2021			
90.000	25.0	mg/L	100.10		89.9	70-130			
Sour	ce: MGE00	52-04	Prepared	& Analyze	d: 05/06/2	2021			
246.00	25.0	mg/L		252.00			2.41	20	
			Prepared	& Analyze	d: 05/07/2	2021			
<5.00	5.00	mg/L							
			Prepared	& Analyze	d: 05/07/2	2021			
92.000	5.00	mg/L	104.10		88.4	70-130			
Sour	ce: MGE005	52-14	Prepared	& Analyze	d: 05/07/2	2021			
10.400	10.0	mg/L		10.800			3.77	20	
			Prepared	& Analyze	d: 05/07/2	2021			
<25.0	25.0	mg/L							
			Prepared	& Analyze	d: 05/07/2	2021			
96.000	25.0	mg/L	100.10		95.9	70-130			
	<25.0  90.000  Sour  246.00  <5.00  92.000  Sour  10.400	Source: MGE009	Colored Horizontal Colored Hor	Prepared   Prepared	Prepared & Analyze	Prepared & Analyzed: 05/06/2	Result   Limit   Units   Level   Result   %REC   Limits	Prepared & Analyzed: 05/06/2021	Prepared & Analyzed: 05/06/2021



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0136 - Wet Prep										
Duplicate (BGE0136-DUP1)	Sour	ce: MGE00	52-14	Prepared	& Analyze	d: 05/07/2	021			
Total Dissolved Solids	358.00	25.0	mg/L		372.00			3.84	20	
Batch BGE0159 - Wet Prep										
Blank (BGE0159-BLK1)				Prepared	& Analyze	d: 05/09/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0159-BS1)				Prepared	& Analyze	d: 05/09/2	021			
Total Suspended Solids	90.000	5.00	mg/L	104.10		86.5	70-130			
Duplicate (BGE0159-DUP1)	Sour	ce: MGE00	52-29	Prepared	& Analyze	d: 05/09/2	021			
Total Suspended Solids	<9.62	9.62	mg/L		<9.62				20	M_K-06
Duplicate (BGE0159-DUP2)	Sour	ce: MGE00	52-30	Prepared	& Analyze	d: 05/09/2	021			
Total Suspended Solids	9.6000	10.0	mg/L		8.0000			18.2	20	M_K-06
Batch BGE0160 - Wet Prep										
Blank (BGE0160-BLK1)				Prepared	& Analyze	d: 05/09/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0160-BS1)				Prepared	& Analyze	d: 05/09/2	021			
Total Dissolved Solids	86.000	25.0	mg/L	100.10		85.9	70-130			
Duplicate (BGE0160-DUP1)	Sour	ce: MGE00	52-29	Prepared	& Analyze	d: 05/09/2	021			
Total Dissolved Solids	240.00	25.0	mg/L		240.00			0.00	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Allalyte	Result	LIIIII	UTINS	Level	rvesuit	/01NEC	LIIIIIII	וורט	LIIIII	NOTES
Batch BGE0160 - Wet Prep										
Duplicate (BGE0160-DUP2)	Sou	rce: MGE00	52-30	Prepared	& Analyze	d: 05/09/2	021			
Total Dissolved Solids	26456	25.0	mg/L		26410			0.174	20	M_E
Batch BGE0166 - Wet Prep										
LCS (BGE0166-BS1)				Prepared	& Analyze	d: 05/07/2	021			
pH	7.1700		pH Units	7.0000		102	90-110			
LCS (BGE0166-BS2)				Prepared	& Analyze	d: 05/07/2	021			
рН	7.1900		pH Units	7.0000		103	90-110			
Duplicate (BGE0166-DUP1)	Sou	rce: MGE00	77-01	Prepared	& Analyze	d: 05/07/2	021			
pH	7.7800		pH Units		7.7400			0.515	20	
Duplicate (BGE0166-DUP2)	Sou	rce: MGE00	77-11	Prepared	& Analyze	d: 05/07/2	021			
рН	7.8000		pH Units		7.8000			0.00	20	
Duplicate (BGE0166-DUP3)	Sou	rce: MGE00	77-21	Prepared	& Analyze	d: 05/07/2	021			
рН	8.1400		pH Units		8.1200			0.246	20	
Duplicate (BGE0166-DUP4)	Sou	rce: MGE00	77-30	Prepared	& Analyze	d: 05/07/2	021			
рН	7.9900		pH Units		8.0000			0.125	20	
Batch BGE0176 - Wet Prep										
Blank (BGE0176-BLK1)				Prepared	& Analyze	d: 05/10/2	021			
Total Suspended Solids	<5.00	5.00	mg/L	•	<u> </u>					



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

	Reporting		Spike	Source		%REC		RPD	
Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
			Prepared	& Analyze	d: 05/10/2	021			
94.000	5.00	mg/L	104.10		90.3	70-130			
Sou	rce: MGE007	77-07	Prepared	& Analyze	d: 05/10/2	021			
17.600	10.0	mg/L		15.600			12.0	20	
			Prepared	& Analyze	d: 05/10/2	021			
<25.0	25.0	mg/L							
			Prepared	& Analyze	d: 05/10/2	021			
94.000	25.0	mg/L	100.10		93.9	70-130			
Sou	rce: MGE007	77-07	Prepared	& Analyze	d: 05/10/2	021			
480.00	25.0	mg/L		480.00			0.00	20	
			Prepared	& Analyze	d: 05/11/2	021			
<5.00	5.00	mg/L							
			Prepared	& Analyze	d: 05/11/2	021			
92.000	5.00	mg/L	104.10		88.4	70-130			
Sou	rce: MGE007	77-17	Prepared	& Analyze	d: 05/11/2	021			
1.2000	10.0	mg/L		<10.0				20	M_K-06
	94.000 Sou 17.600  <25.0  94.000 Sou 480.00  <5.00  92.000 Sou	94.000 5.00  Source: MGE007 17.600 10.0  425.0 25.0 94.000 25.0  Source: MGE007 480.00 25.0  5.00 5.00  Source: MGE007  Source: MGE007  Source: MGE007	Result         Limit         Units           94.000         5.00         mg/L           Source: MGE0077-07           17.600         10.0         mg/L           <25.0	Prepared   Prepared   Prepared	Prepared & Analyze	Prepared & Analyzed: 05/10/2	Prepared & Analyzed: 05/10/2021	Prepared & Analyzed: 05/10/2021	Prepared & Analyzed: 05/10/2021



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

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Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0199 - Wet Prep										
Blank (BGE0199-BLK1)				Prepared	& Analyze	d: 05/11/2	.021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0199-BS1)				Prepared	& Analyze	d: 05/11/2	.021			
Total Dissolved Solids	86.000	25.0	mg/L	100.10		85.9	70-130			
Duplicate (BGE0199-DUP1)	Sou	rce: MGE007	77-17	Prepared	& Analyze	d: 05/11/2	.021			
Total Dissolved Solids	446.00	25.0	mg/L		446.00			0.00	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: MGE007	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

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Project Name/Location: Sherco BAP CCR

Reported:

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### **Wet Chemistry - Quality Control**

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

Batch BGE0227 - Wet Prep

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 Name/Location: Sherco BAP CCR

Reported:

05/25/2021 09:03

### **Total Metals by ICPMS - Quality Control**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0183 - EPA 200.2, EPA 3005										
Blank (BGE0183-BLK1)				Prepared:	05/10/202	21 Analyze	ed: 05/11/2	021		
Lead	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							
Antimony	<0.500	0.500	ug/L							
Γhallium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
CS (BGE0183-BS1)				Prepared:	05/10/202	21 Analyze	ed: 05/11/2	021		
Selenium	101.57	0.500	ug/L	100.00		102	85-115			
<sup>-</sup> hallium	99.388	0.500	ug/L	100.00		99.4	85-115			
Arsenic	98.087	0.500	ug/L	100.00		98.1	85-115			
Chromium	99.667	0.500	ug/L	100.00		99.7	85-115			
Barium	96.667	0.500	ug/L	100.00		96.7	85-115			
Cadmium	100.92	0.100	ug/L	100.00		101	85-115			
Cobalt	99.924	0.500	ug/L	100.00		99.9	85-115			
ead	97.439	0.500	ug/L	100.00		97.4	85-115			
Antimony	98.939	0.500	ug/L	100.00		98.9	85-115			
Molybdenum	98.658	0.500	ug/L	100.00		98.7	85-115			
eryllium	94.948	0.500	ug/L	100.00		94.9	85-115			
Duplicate (BGE0183-DUP1)	So	urce: MGE00	52-23	Prepared:	05/10/202	21 Analyze	ed: 05/11/2	021		
Selenium	<0.500	0.500	ug/L		0.52809				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
ead	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	0.26078	0.500	ug/L		0.18410			34.5	20	M_D-RI
Chromium	0.67496	0.500	ug/L		0.61369			9.51	20	
Cobalt	<0.500	0.500	ug/L		<0.500				20	
cadmium	<0.100	0.100	ug/L		<0.100				20	
Beryllium	<0.500	0.500	ug/L		<0.500				20	
Barium	44.223	0.500	ug/L		44.883			1.48	20	
Arsenic	0.55338	0.500	ug/L		0.62724			12.5	20	
- Fhallium	< 0.500	0.500	ug/L		<0.500				20	

Xcel Energy Minneapolis Testing Lab



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Total Metals by ICPMS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0183 - EPA 200.2, EPA :	3005									
Duplicate (BGE0183-DUP2)	So	urce: MGE00	52-24	Prepared: 05/10/2021 Analyzed: 05/11/2021						
Selenium	0.72613	0.500	ug/L		0.86732			17.7	20	
Arsenic	0.51480	0.500	ug/L		0.53578			3.99	20	
Barium	41.907	0.500	ug/L		46.245			9.84	20	
Beryllium	<0.500	0.500	ug/L		<0.500				20	
Cobalt	0.23303	0.500	ug/L		0.20095			14.8	20	
Chromium	1.0139	0.500	ug/L		1.1444			12.1	20	
Molybdenum	0.12728	0.500	ug/L		0.12309			3.35	20	
Lead	0.067500	0.500	ug/L		0.067630			0.192	20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Fhallium	<0.500	0.500	ug/L		<0.500				20	
Matrix Spike (BGE0183-MS1)	So	urce: MGE00	52-23	Prepared:	05/10/202	1 Analyze	ed: 05/11/2	021		
Cobalt	102.37	0.500	ug/L	100.00	<0.500	102	75-125			
Beryllium	100.79	0.500	ug/L	100.00	<0.500	101	75-125			
Antimony	101.16	0.500	ug/L	100.00	<0.500	101	75-125			
Arsenic	99.985	0.500	ug/L	100.00	0.62724	99.4	75-125			
Selenium	106.57	0.500	ug/L	100.00	0.52809	106	75-125			
3arium	143.75	0.500	ug/L	100.00	44.883	98.9	75-125			
Molybdenum	101.19	0.500	ug/L	100.00	0.18410	101	75-125			
Гhallium	95.212	0.500	ug/L	100.00	<0.500	95.2	75-125			
Lead	94.057	0.500	ug/L	100.00	<0.500	94.1	75-125			
Cadmium	101.06	0.100	ug/L	100.00	<0.100	101	75-125			
Chromium	102.90	0.500	ug/L	100.00	0.61369	102	75-125			
Matrix Spike (BGE0183-MS2)	So	urce: MGE00	52-24	Prepared:	05/10/202	1 Analyze	ed: 05/11/2	021		
Cadmium	100.50	0.100	ug/L	100.00	<0.100	101	75-125			
Arsenic	102.66	0.500	ug/L	100.00	0.53578	102	75-125			
Barium	149.01	0.500	ug/L	100.00	46.245	103	75-125			
Chromium	99.873	0.500	ug/L	100.00	1.1444	98.7	75-125			
Cobalt	99.818	0.500	ug/L	100.00	0.20095	99.6	75-125			
Molybdenum	106.54	0.500	ug/L	100.00	0.12309	106	75-125			
∟ead	92.868	0.500	ug/L	100.00	0.067630	92.8	75-125			
Antimony	105.19	0.500	ug/L	100.00	<0.500	105	75-125			
Selenium	107.36	0.500	ug/L	100.00	0.86732	106	75-125			
Thallium	96.078	0.500	ug/L	100.00	<0.500	96.1	75-125			
Beryllium	113.55	0.500	ug/L	100.00	<0.500	114	75-125			

Xcel Energy Minneapolis Testing Lab



RPD

%REC

Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Total Metals by ICPMS - Quality Control**

Spike

Source

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0183 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BGE0183-MSD1)	Soui	rce: MGE005	52-23	Prepared	05/10/202	1 Analyze	ed: 05/11/2	021		
Thallium	95.509	0.500	ug/L	100.00	<0.500	95.5	75-125	0.312	20	
Beryllium	106.78	0.500	ug/L	100.00	<0.500	107	75-125	5.77	20	
Selenium	102.69	0.500	ug/L	100.00	0.52809	102	75-125	3.71	20	
Lead	94.189	0.500	ug/L	100.00	<0.500	94.2	75-125	0.140	20	
Molybdenum	100.69	0.500	ug/L	100.00	0.18410	101	75-125	0.498	20	
Cobalt	100.12	0.500	ug/L	100.00	<0.500	100	75-125	2.23	20	
Barium	143.12	0.500	ug/L	100.00	44.883	98.2	75-125	0.440	20	
Arsenic	99.724	0.500	ug/L	100.00	0.62724	99.1	75-125	0.261	20	
Cadmium	102.86	0.100	ug/L	100.00	<0.100	103	75-125	1.76	20	
Antimony	101.68	0.500	ug/L	100.00	<0.500	102	75-125	0.518	20	
Chromium	102.48	0.500	ug/L	100.00	0.61369	102	75-125	0.412	20	
Matrix Spike Dup (BGE0183-MSD2)	Soui	rce: MGE005	52-24	Prepared	05/10/202	1 Analyze	ed: 05/11/2	021		
_ead	92.160	0.500	ug/L	100.00	0.067630	92.1	75-125	0.766	20	
Selenium	109.18	0.500	ug/L	100.00	0.86732	108	75-125	1.69	20	
Fhallium	95.283	0.500	ug/L	100.00	<0.500	95.3	75-125	0.831	20	
Cadmium	104.68	0.100	ug/L	100.00	<0.100	105	75-125	4.07	20	
3arium	143.18	0.500	ug/L	100.00	46.245	96.9	75-125	3.99	20	
Antimony	102.00	0.500	ug/L	100.00	<0.500	102	75-125	3.08	20	
Cobalt	102.06	0.500	ug/L	100.00	0.20095	102	75-125	2.22	20	
Chromium	102.25	0.500	ug/L	100.00	1.1444	101	75-125	2.35	20	
Beryllium	105.56	0.500	ug/L	100.00	<0.500	106	75-125	7.29	20	
Arsenic	101.02	0.500	ug/L	100.00	0.53578	100	75-125	1.62	20	
Molybdenum	100.89	0.500	ug/L	100.00	0.12309	101	75-125	5.45	20	
Batch BGE0217 - EPA 200.2, EPA 3005										
Blank (BGE0217-BLK1)				Prepared:	05/11/202	1 Analvze	ed: 05/12/2	021		
ead	<0.500	0.500	ug/L	•			·			
Antimony	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Γhallium	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							
Arsenic	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Beryllium	<0.100	0.100	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							

Xcel Energy Minneapolis Testing Lab



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Total Metals by ICPMS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0217 - EPA 200.2, EPA	3005									
LCS (BGE0217-BS1)				Prepared:	05/11/202	1 Analyze	ed: 05/12/20	021		
Arsenic	99.962	0.500	ug/L	100.00		100	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			
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			
Cadmium	95.833	0.100	ug/L	100.00		95.8	85-115			
Antimony	101.42	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			
Selenium	100.52	0.500	ug/L	100.00		101	85-115			
hallium	100.25	0.500	ug/L	100.00		100	85-115			
Ouplicate (BGE0217-DUP1)	So	urce: MGE007	77-20	Prepared:	05/11/202	1 Analyze	ed: 05/12/20	021		
Chromium	8.5361	0.500	ug/L		8.8178			3.25	20	
Cobalt	0.36438	0.500	ug/L		0.33380			8.76	20	
Selenium	6.6916	0.500	ug/L		6.4361			3.89	20	
Thallium Thallium	0.042402	0.500	ug/L		<0.500				20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Beryllium	<0.100	0.100	ug/L		<0.100				20	
Barium	53.986	0.500	ug/L		51.412			4.89	20	
Arsenic	0.72361	0.500	ug/L		0.67141			7.48	20	
Molybdenum	2.5762	0.500	ug/L		2.4802			3.79	20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
ead	0.27296	0.500	ug/L		0.26012			4.82	20	
Matrix Spike (BGE0217-MS1)	So	urce: MGE007	77-20	Prepared:	05/11/202	1 Analyze	ed: 05/12/20	021		
_ead	91.554	0.500	ug/L	100.00	0.26012	91.3	75-125			
Selenium	112.43	0.500	ug/L	100.00	6.4361	106	75-125			
Molybdenum	104.22	0.500	ug/L	100.00	2.4802	102	75-125			
Antimony	101.06	0.500	ug/L	100.00	<0.500	101	75-125			
Thallium	93.113	0.500	ug/L	100.00	<0.500	93.1	75-125			
Beryllium	99.268	0.100	ug/L	100.00	<0.100	99.3	75-125			
Arsenic	104.45	0.500	ug/L	100.00	0.67141	104	75-125			
Cobalt	95.711	0.500	ug/L	100.00	0.33380	95.4	75-125			
Barium	158.78	0.500	ug/L	100.00	51.412	107	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			

Xcel Energy Minneapolis Testing Lab



Arsenic

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 BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Total Metals by ICPMS - Quality Control**

											1
		Reporting		Spike	Source		%REC		RPD		l
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	l

Matrix Spike Dup (BGE0217-MSD1)	Sour	ce: MGE007	7-20	Prepared	: 05/11/202	1 Analyz	ed: 05/12/2	:021	
Barium	157.81	0.500	ug/L	100.00	51.412	106	75-125	0.617	20
Cadmium	98.262	0.100	ug/L	100.00	<0.100	98.3	75-125	0.190	20
Beryllium	100.74	0.100	ug/L	100.00	<0.100	101	75-125	1.47	20
Selenium	113.38	0.500	ug/L	100.00	6.4361	107	75-125	0.843	20
Molybdenum	100.97	0.500	ug/L	100.00	2.4802	98.5	75-125	3.17	20
Lead	93.073	0.500	ug/L	100.00	0.26012	92.8	75-125	1.65	20
Thallium	97.453	0.500	ug/L	100.00	<0.500	97.5	75-125	4.55	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
Cobalt	101.17	0.500	ug/L	100.00	0.33380	101	75-125	5.54	20

ug/L

100.00

0.67141

103

75-125

1.01

20

0.500

103.39



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco BAP CCR

Reported:

05/25/2021 09:03

### **Total Metals by ICP - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0182 - EPA 200.2, EPA	3005									
Blank (BGE0182-BLK1)				Prepared:	: 05/10/202	1 Analyz	ed: 05/14/2	021		
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
Lithium	<0.0150	0.0150	mg/L							
LCS (BGE0182-BS1)				Prepared:	: 05/10/202	1 Analyz	ed: 05/14/2	021		
Calcium	101.45	1.50	mg/L	100.00		101	85-115			
Boron	0.93123	0.0500	mg/L	1.0000		93.1	85-115			
Lithium	1.0173	0.0150	mg/L	1.0000		102	85-115			
Duplicate (BGE0182-DUP1)	So	urce: MGE00	52-21	Prepared:	: 05/10/202	1 Analyz	ed: 05/14/2	021		
Calcium	68.388	1.50	mg/L		72.404			5.71	20	
Lithium	0.0055244	0.0150	mg/L		0.0055212			0.0569	20	
Boron	0.036383	0.0500	mg/L		0.035672			1.97	20	
Duplicate (BGE0182-DUP2)	So	urce: MGE00	52-22	Prepared:	: 05/10/202	1 Analyz	ed: 05/14/2	021		
Lithium	0.0047976	0.0150	mg/L		0.0045328			5.68	20	
Calcium	89.087	1.50	mg/L		95.046			6.47	20	
Boron	0.064578	0.0500	mg/L		0.068389			5.73	20	
Matrix Spike (BGE0182-MS1)	So	urce: MGE00	52-21	Prepared:	: 05/10/202	1 Analyz	ed: 05/14/2	021		
Calcium	170.66	1.50	mg/L	100.00	72.404	98.3	70-130			
Lithium	1.0058	0.0150	mg/L	1.0000	0.0055212	100	70-130			
Boron	0.97656	0.0500	mg/L	1.0000	0.035672	94.1	70-130			
Matrix Spike (BGE0182-MS2)	So	urce: MGE00	52-22	Prepared:	: 05/10/202	1 Analyz	ed: 05/14/2	021		
Boron	1.0165	0.0500	mg/L	1.0000	0.068389	94.8	70-130			
Calcium	195.93	1.50	mg/L	100.00	95.046	101	70-130			
Lithium	1.0160	0.0150	mg/L	1.0000	0.0045328	101	70-130			



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Total Metals by ICP - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0182 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BGE0182-MSD1)	So	urce: MGE005	52-21	Prepared	: 05/10/202	1 Analyze	ed: 05/14/2	021		
Boron	0.99103	0.0500	mg/L	1.0000	0.035672	95.5	70-130	1.47	20	
Calcium	170.40	1.50	mg/L	100.00	72.404	98.0	70-130	0.150	20	
Lithium	1.0007	0.0150	mg/L	1.0000	0.0055212	99.5	70-130	0.513	20	
Matrix Spike Dup (BGE0182-MSD2)	So	urce: MGE005	52-22	Prepared	: 05/10/202	1 Analyze	ed: 05/15/2	021		
Boron	1.0212	0.0500	mg/L	1.0000	0.068389	95.3	70-130	0.462	20	
Calcium	192.63	1.50	mg/L	100.00	95.046	97.6	70-130	1.70	20	
Lithium	0.99692	0.0150	mg/L	1.0000	0.0045328	99.2	70-130	1.90	20	
Batch BGE0216 - EPA 200.2, EPA 3005										
Blank (BGE0216-BLK1)				Prepared	: 05/11/202 <sup>-</sup>	1 Analyze	ed: 05/16/2	021		
Lithium	<0.0150	0.0150	mg/L							
Calcium	<1.50	1.50	mg/L							
Boron	<0.0500	0.0500	mg/L							
LCS (BGE0216-BS1)				Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Calcium	98.116	1.50	mg/L	100.00		98.1	85-115			
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			
Duplicate (BGE0216-DUP1)	So	urce: MGE007	77-18	Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Calcium	64.074	1.50	mg/L		63.223			1.34	20	
Lithium	<0.0150	0.0150	mg/L		0.0043374				20	
Boron	0.16959	0.0500	mg/L		0.17192			1.37	20	
Duplicate (BGE0216-DUP2)	So	urce: MGE007	77-19	Prepared	: 05/11/202	1 Analyze	ed: 05/16/2	021		
Boron	0.22155	0.0500	mg/L		0.22570			1.86	20	
Calcium	77.840	1.50	mg/L		77.544			0.381	20	
Lithium	<0.0150	0.0150	mg/L		<0.0150				20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Total Metals by ICP - Quality Control**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGE0216 - EPA 200.2, EPA 3005										
Matrix Spike (BGE0216-MS1)	So	urce: MGE007	77-18	Prepared	d: 05/11/202	1 Analyze	ed: 05/16/2	021		
Lithium	0.99376	0.0150	mg/L	1.0000	0.0043374	98.9	70-130			
Calcium	163.84	1.50	mg/L	100.00	63.223	101	70-130			
Boron	1.1228	0.0500	mg/L	1.0000	0.17192	95.1	70-130			
Matrix Spike (BGE0216-MS2)	So	urce: MGE007	77-19	Prepared	d: 05/11/202	1 Analyze	d: 05/16/2	021		
Lithium	0.99455	0.0150	mg/L	1.0000	<0.0150	99.5	70-130			
Boron	1.1753	0.0500	mg/L	1.0000	0.22570	95.0	70-130			
Calcium	180.94	1.50	mg/L	100.00	77.544	103	70-130			
Matrix Spike Dup (BGE0216-MSD1)	So	urce: MGE007	77-18	Prepared	d: 05/11/202	1 Analyze	d: 05/16/2	021		
Lithium	0.98139	0.0150	mg/L	1.0000	0.0043374	97.7	70-130	1.25	20	
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	
Matrix Spike Dup (BGE0216-MSD2)	So	urce: MGE007	77-19	Prepared	d: 05/11/202	1 Analyze	d: 05/16/2	021		
Calcium	183.55	1.50	mg/L	100.00	77.544	106	70-130	1.44	20	
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	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Mercury - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0230 - EPA 245.1, EPA 7470A										
Blank (BGE0230-BLK1)				Prepared	& Analyzed	d: 05/11/20	021			
Mercury	<0.200	0.200	ug/L							
LCS (BGE0230-BS1)				Prepared	& Analyzed	d: 05/11/20	021			
Mercury	2.6906	0.200	ug/L	3.0000		89.7	85-115			
Duplicate (BGE0230-DUP1)	Sourc	e: MGE005	2-25	Prepared	& Analyzed	d: 05/11/20	021			
Mercury	<0.200	0.200	ug/L	•	<0.200				20	
Duplicate (BGE0230-DUP2)	Sourc	e: MGE005	2-26	Prepared	& Analyzed	d: 05/11/20	021			
Mercury	<0.200	0.200	ug/L	-	<0.200				20	
Matrix Spike (BGE0230-MS1)	Sourc	e: MGE005	2-25	Prepared	& Analyzed	d: 05/11/20	021			
Mercury	2.7511	0.200	ug/L	3.0000	<0.200	91.7	70-130			
Matrix Spike (BGE0230-MS2)	Sourc	e: MGE005	2-26	Prepared	& Analyzed	d: 05/11/20	021			
Matrix Spike (BGE0230-MS2) Mercury	<b>Sourc</b> 2.8204	e: MGE005 0.200	<b>52-26</b> ug/L	Prepared 3.0000	& Analyzed	94.0	70-130			
	2.8204		ug/L	3.0000		94.0	70-130			
Mercury	2.8204	0.200	ug/L	3.0000	<0.200	94.0	70-130	0.818	20	
Mercury  Matrix Spike Dup (BGE0230-MSD1)	2.8204 <b>Source</b> 2.7737	0.200 e: MGE005	ug/L 62-25 ug/L	3.0000 Prepared 3.0000	<0.200 & Analyzed	94.0 d: 05/11/20 92.5	70-130 021 70-130	0.818	20	
Mercury  Matrix Spike Dup (BGE0230-MSD1)  Mercury	2.8204 <b>Source</b> 2.7737	0.200 ee: MGE005 0.200	ug/L 62-25 ug/L	3.0000 Prepared 3.0000	<0.200 & Analyzed	94.0 d: 05/11/20 92.5	70-130 021 70-130	0.818	20	
Mercury  Matrix Spike Dup (BGE0230-MSD1)  Mercury  Matrix Spike Dup (BGE0230-MSD2)	2.8204 Source 2.7737	0.200 ee: MGE005 0.200 ee: MGE005	ug/L 52-25 ug/L 52-26	3.0000 Prepared 3.0000 Prepared	<0.200 & Analyzed <0.200 & Analyzed	94.0 d: 05/11/20 92.5 d: 05/11/20	70-130 021 70-130 021			
Mercury  Matrix Spike Dup (BGE0230-MSD1)  Mercury  Matrix Spike Dup (BGE0230-MSD2)  Mercury	2.8204 Source 2.7737	0.200 ee: MGE005 0.200 ee: MGE005	ug/L 52-25 ug/L 52-26	3.0000 Prepared 3.0000 Prepared 3.0000	<0.200 & Analyzed <0.200 & Analyzed	94.0 d: 05/11/20 92.5 d: 05/11/20 89.3	70-130 021 70-130 021 70-130	5.13		



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 05/25/2021 09:03

### **Mercury - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0404 - EPA 245.1, EPA 7470A										
LCS (BGE0404-BS1)				Prepared:	05/17/202	21 Analyze	d: 05/18/2	021		
Mercury	2.8760	0.200	ug/L	3.0000		95.9	85-115			
Duplicate (BGE0404-DUP1)	Sou	rce: MGE007	7-21	Prepared:	05/17/202	21 Analyze	d: 05/18/2	021		
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BGE0404-MS1)	Sou	rce: 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)	Sou	rce: 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	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/25/2021 09:03

### **Qualifiers and Definitions**

M_TTT	Sample received at the lab outside of required hold time.
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_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_E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
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

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference



Section A Required Cli	Section A Required Client Information:	Section B Required Proje	Section B Required Project Information:	Section C Invoice Information	)U.							Page:	je: 1	of po
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:		Ste	Steve Davis	S)			REGULATORY AGENCY	ORY AG	ENCY	
Address	Environmental Services	Copy To:	Riley Jacobson	Company Name:						L NPDES	GROUND WATER	NTER	DRINKI	DRINKING WATER
	MP-7			Address;						TSU T	- RCRA	1	OTHER	OTHER MCES
Email To.	Chris Pelesi	Purchase Order No.	ar No.	Pace Quote Reference:	vence:					SITE	NC MN	1 1	L	L
Phone; (612) 597-7254	97-7254 Fax:	Project Number	3h5no-17 11	Pace Project Manager.	nager:	Chris Pelasi/	slosi/ Ri	Riley Jacobson	LIC	LOCATION		scL	N W	OTHER
Requested I	Requested Due Date/TAT:	Project Name:	Xcel Energy Shero	Sherco Ponds Spring	g Pace Profile #	c #:				Filtered (Y/N)	1111	111	1	/
Sec	Section D Required Client Information SAMPLE ID One Character per box.	Vaird Matrix Codes  MATRIX DIPHURIS WATER WASTE WATER PRODUCT SQUISCUID	IX CODE	O O	COLLECTED	TA 9MBT 3	NOTON SPANIATN		Preservatives	Requested Analysis:	\$30d	(NIK) SUNG Ed-45 EdVIT-40, EVER-1	NEW SUNG	
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### Pace Analytical"

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

Company: Xcel Energy	Report To:	Chris Pelo	elosi	Attention:		Steve	Davis		The state of the s		REGUL/	REGULATORY AGENCY	ENCY	
Address: Environmental Services	ices Copy To:	Riley Jacobson	cobson	Company Name:						NPDES F	GROUND WATER	VATER	DRINKING WATER	NG W
MP-7				Address:					Boson	_ usr _	RCRA	L	OTHER MCES	MCE
Email To. Chris Pelosi	Purchase Order No.	order No.:		Pace Quote Reference:	nce:					SITE	NC E	1 1 L	L	M.
Phone; (812) 597-7254 Fax:	Project Number	8h5h0-17 page	48	Pace Project Manager	ger:	Chris Pelosi/	si/ Rile	Riley Jacobson		LOCATION		L scL	W.	OTHER
Requested Due Date/TAT: 2 We	2 Weeks Project Name.	ne: Xcel Energy		Sherco Ponds Spring	Pace Profile	#			F	Filtered (Y/N)	111	111	1	
Section D Required Client Information SAMPLE ID One Character per box. (A-Z, 9-91, 7)	Valid Matrix Code  Information MATRIX  MATRIX  WASTEWATER  WASTEWATER  PRODUCT  SOL. SOLID  OIL	CODE CODE CODE CODE CODE CODE CODE CODE	ATRIX CODE	COL	COLLECTED	TA GME TEMP AT TOTALE	S CONTAINERS	Preservatives	lo	Requested Analysis:	\$30 M	STORN (IE	(NIN) all	
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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

Peca Preject Na. Lab I.D. DRINKING WATE OTHER N/A Samples Intact OTHER MCES SAMPLE CONDITIONS of Custody Sealed Cooler N/A N/A REGULATORY AGENCY N IN Page: Received on lce N/A N/A GROUND WATER | Sor O. ni qmeT MN J HO 1800 300 TIME RCRA \* Kendall Johnson LOCATION NPDES -iltered (Y/N) SITE DATE TSU \_ 5/5/2 Requested Analysis: 12/4/5 × ACCEPTED BY / AFFILIATION lonsitiel KE MARTER Riby Lacabson + Chris Pelesi EOSSSEV Ca HOEN Jacobson IOH €ONH 1 1 1 -----\*OSZH --Unpreserved Chris Pelosi/ Riley Steve Davis 3 # OF CONTAINERS 50 3 10 3 00 3 SAMPLER NAME AND SIGNATURE SAMPLE TEMP AT TIME 1800 2000 2970 03-10 1235 1125 Sires 1435 150 1300 0110 0000 TIME Slutzi 12/1/21 514/21 12/1/5 12/1/5 SHAMI 12/11/5 12/5/5 17/1/5 RELINQUISHED BY / AFFILIATION DATE 12/11/5 Shille 12/1/5 DATE COLLECTED ace Quote Reference: Pace Project Manager. TIME Invoice Information Company Name Section C DATE Ponds Tark Jack Xcel Energy Sherco 0 0 9 0 0 0 0 0 O 0 TW Rilley Jacobson TW TW TW M WT TW TW TW TW MATRIX CODE Chris Pelosi Sh 563-12 agunn toelord Required Project Information; CODE Purchase Order No. \*Submitting 30 Suples + 3 Duf + 3 Joze : 1280047 July 2.20 Project Name: Section B -Res 514/21 Report To: Copy To: Required Client Information P-90A P-92A P-92B P-92D P-88 P-56 D9-4 P-62 99-d 100 P-90 Environmental Services One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE SAMPLEID Chris Pelas Xcel Energy Required Client Information: Fax: Requested Due Date/TAT: Section D Additional Comments: Phone; (612) 597-7254 Section A mail To: H MHI

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Company:	Xcel Energy	Report To:	Chris Pelosi	Si	Attention:			S	Steve D	Davis				RE	REGULATORY AGENCY	Y AGEN	ιςγ
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Page	Section A	Section A	Section B	Section B		S	Section C	1												Page:	3 of	9
Application   Column   Colum	Company		Penart To	- 1		IVI	Voice Impirit	duton.			1											
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Fig.   Project National 21-0 to \$4 gr   Project National 21-0 to	Address:	Environmental Services	Copy To:	Riley Jacob	Son	Š	empany Nan	le:								I_ NPDES	1>	GROUND WATER IT	TER !		INKING	DRINKING WATER
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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 N/A 0 OTHER SAMPLE CONDITIONS OTHER MCES of N/A N/A N/A REGULATORY AGENCY N N Page: 3 0 N/A N/A = SCL GROUND WATER | NC WN LHO 58 TIME RCRA × L LOCATION iltered (Y/N) NPDES 21/2 DATE SITE × TSU T equested nalysis: ACCEPTED BY / AFFILIATION lonsities Ke 1825203 HOBI Chris Pelosi/ Riley Jacobson IOI FONH 1 1 2 -\*052 Steve Davis 00 3 3 9 0 0 0 65 0 4 # OF CONTAINERS 00 SAMPLE TEMP AT 2500 0501 1505 1020 1045 10201 2521 0021 12/3/5 1035 アニ 1120 5/5/W 0855 0101 12/5/5 TIME COMPOSITE END/GRAE 12/11/5 14513 2/4/5 stotu 12/2/2 5/4/21 12/4/21 11/2/2 5/4/21 RELINQUISHED BY / AFFILIATION DATE 12/4/5 DATE COLLECTED ace Quote Reference: ace Project Manager TIME Invoice Information. Xcel Energy Sherco Ponds Spring Sompany Name COMPOSITE START Section C DATE SAMPLE TYPE G=GRAB C=COMP 0 9 0 0 0 9 0 O 0 0 0 WT G WT TW WT TW WT WT TW WT TW TW Riley Jacobson TW MATRIX CODE Chris Pelosi 3h5h0-12 Required Project Information: Purchase Order No. roject Number Project Name: Section B Report To: Copy To: Section D Required Client Information P-101A P-101B P-93D P-126 P-129 P-130 P-93A P-93B P-94A P-127 P-128 P-131 **Environmental Services** 2 Weeks One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE SAMPLE ID Xcel Energy Chris Pelosi MP-7 Section A Required Client Information: Fах: equested Due Date/TAT: Additional Comments: hone, (612) 597-7254 mail To: ompany ITEM #

The my worth: 2.1°C

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12/4/5

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Samples Intact

Sealed Cooler

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SAMPLER NAME AND SIGNATURE



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Phone: (612) 597-7254	Fax	Project Number	Xh-5h0-12 199	×	Pace Project Manager:	Manager:	Chns F	Pelosi/	Riley Jacobson	cobson	LOCATION		Lisci-	· M	OTHER
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# CHAIN-OF-CUSTODY / Analytical Request Document

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ON Report To: Copy To: WELL #4 WELL #6 P-173 P-174 P-175 P-176 P-178A P-178B P-164 P-165 P-177 **Environmental Services** 2 Weeks One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE Section D Required Client Info SAMPLE ID Chris Pelosi Xcel Energy Required Client Information: Fax: equested Due Date/TAT: Additional Comments hone; (512) 597-7254 mail To: Address: HEM#

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SAMPLER NAME AND SIGNATURE

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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.

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	MP-7				Address:						TSU T	- RCRA	L	OTHER	OTHER MCES
Email To:	Chris Pelosi	Purchase Order No.:	er No.:		Pace Quote Reference	ference					SITE	N N N N N N N N N N N N N N N N N N N	1 1	L N	L
Phone; (612) 597-7254	-7254 Fax:	Project Number	8721-04548	DA .	Pace Project Manager.	anager:	Chris Pe	Pelosi/ Ri	Riley Jacobson	son	LOCATION		- sol	M	OTHER
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Address: E	Environmental Services	Copy To: Riley Jacobson		Company Name:						L NPDES	12	GROUND WATER		DRINKING WATER
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Phone; (612) 597-7254	Fax:	Project Number 21 - 04548		Pace Project Manager.	ger	Chris Pelosi/ Riley Jacobson	elosi/ R	iley Ja	cobson	LOCATION		₩ НО	SCT WIE	OTHER
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Greensburg, PA 15601 (724)850-5600

June 10, 2021

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

RE: Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

#### 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

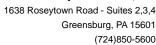
Enclosures

cc: Eric Ealy, Xcel Energy
Christine M. Keefe, Xcel Energy
Ciara Builkia, Page Applytical Service

Ciara Ruikkie, Pace Analytical Services - Field Svcs

Division







#### **CERTIFICATIONS**

Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

#### 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

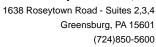
New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

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 Ponds Sprin

Pace Project No.: 30420944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30420944001	P-130	Water	05/05/21-08:55	05/12/21 10:30
30420944002	P-131	Water	05/03/21 10:35	05/12/21 10:30
30420944003	P-132	Water	05/03/21 13:05	05/12/21 10:30
30420944004	P-150	Water	05/03/21 09:10	05/12/21 10:30
30420944005	P-151	Water	05/06/21 15:50	05/12/21 10:30
30420944006	P-152A	Water	05/04/21 12:50	05/12/21 10:30
<del>30420944007</del>	P-153	Water	05/03/21 14:35	05/12/21 10:30
30420944008	P-154A	Water	05/03/21 14:00	05/12/21 10:30
30420944009	P-162	Water	05/05/21 08:45	05/12/21 10:30
30420944010	P-163	Water	05/05/21 09:30	05/12/21 10:30
30420944011	P-164	Water	05/05/21 10:00	05/12/21 10:30
<del>30420944012</del>	P-165	Water	05/06/21 15:00	05/12/21 10:30
30420944013	P-173	Water	05/05/21 09:35	05/12/21 10:30
30420944014	P-174	Water	05/05/21 10:05	05/12/21 10:30
<del>30420944015</del>	P-175	Water	05/05/21 10:35	05/12/21 10:30
30420944016	P-176	Water	05/05/21 11:05	05/12/21 10:30
<del>30420944017</del>	P-177	Water	05/04/21 15:40	05/12/21 10:30
30420944018	DUPLICATE	Water	05/03/21 09:20	05/12/21 10:30
30420944019	RINSE P-3	Water	05/03/21-09:20	05/12/21 10:30



# **SAMPLE ANALYTE COUNT**

Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30420944001	P-130	EPA 903.1	 MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944002	P-131	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944003	P-132	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944004	P-150	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944005	P-151	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944006	P-152A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944007	P-153	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944008	P-154A	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944009	P-162	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944010	P-163	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944011	P-164	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944012	P-165	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	<del>VAL</del>	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944013	P-173	EPA 903.1	MK1	4	PASI PA



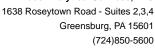
# **SAMPLE ANALYTE COUNT**

Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	WAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI PA
30420944014	P-174	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944015	P-175	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944016	P-176	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	<del>VAL</del>	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944017	P-177	EPA 903.1	MK1	4	PASI PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA
30420944018	DUPLICATE	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	VAL	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI PA
30420944019	RINSE P-3	EPA 903.1	MK1	4	PASI-PA
		EPA 904.0	<del>VAL</del>	4	PASI-PA
		Total Radium Calculation	RMK	4	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg





Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Pace-MN Field Services Division

Date: June 10, 2021

#### **General Information:**

19 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.

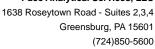
# **Laboratory Control Spike:**

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 Ponds Sprin

Pace Project No.: 30420944

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Pace-MN Field Services Division

**Date:** June 10, 2021

#### **General Information:**

19 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.

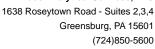
#### **Additional Comments:**

**Analyte Comments:** 

QC Batch: 449554

1c: Sample analyzed at reduced volume due to suspended material.

- P-175 (Lab ID: 30420944015)
  - Radium-228





Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

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

Client: Pace-MN Field Services Division

Date: June 10, 2021

#### **General Information:**

19 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:**

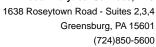
This data package has been reviewed for quality and completeness and is approved for release.



Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Sample: P-130	Lab ID: 304209		Received:	05/12/21 10:30	Matrix: Water	
<del>PWS:</del>	<del>Site ID:</del>	Sample Type:				
<del>Parameters</del>	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	0.485 ± 0.341 (0.164) C:NA T:96%	<del>pCi/L</del>	06/08/21 16:0	2 13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	0.396 ± 0.329 (0.654) C:71% T:82%	<del>pCi/L</del>	06/08/21 11:4	8 1 <del>5262-20-1</del>	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.881 ± 0.670 (0.818)	<del>pCi/L</del>	<del>06/10/21 09:</del> 4	<del>1 7440-14-4</del>	
Sample: P-131 PWS:	Lab ID: 304209 Site ID:	44002 Collected: 05/03/21 10:35 Sample Type:	Received:	05/12/21 10:30	Matrix: Water	
-		. ,.				
Parameters	Method	Act ± Unc (MDC) Carr Trac ————	Units	Analyzed	<del>CAS No.</del> 	Qua
	Pace Analytical Se	<del>ervices - Greensburg</del>				
Radium-226	EPA 903.1	<del>-0.195 ± 0.297 (0.779)</del> C:NA T:95%	<del>pCi/L</del>	06/08/21 16:1	3 13982-63-3	
	Pace Analytical So	ervices - Greensburg				
Radium-228	EPA 904.0	0.569 ± 0.356 (0.653) C:70% T:83%	<del>pCi/L</del>	06/08/21 11:4	<del>8 15262-20-1</del>	
	Pace Analytical So	ervices - Greensburg				
<del>Total Radium</del>	Total Radium Galculation	0.569 ± 0.653 (1.43)	<del>pCi/L</del>	06/10/21 09:4	1 7440-14-4	
Sample: P-132	Lab ID: 304209	44003 Collected: 05/03/21 13:05	Received:	-05/12/21 10:30	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	<del>Units</del>	Analyzed	CAS No.	Qua
	Pace Analytical Se	ervices - Greensburg				
Radium 226	EPA 903.1	0.0601 ± 0.312 (0.647) C:NA T:92%	<del>pCi/L</del>	06/08/21 16:0	2 13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
<del>Radium 228</del>	EPA 904.0	0.583 ± 0.397 (0.757) C:73% T:81%	<del>pCi/L</del>	06/08/21 11:4	<del>8 15262-20-1</del>	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.643 ± 0.709 (1.40)	<del>pCi/L</del>	06/10/21 09:4	1 7440-14-4	





Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Sample: P-150 PWS:	Lab ID: 30420944 Site ID:		Received:	05/12/21 10:30	Matrix: Water	
<del>۲۷۷۵.</del>	<del>оне ю.</del>	Sample Type:				
<del>Parameters</del>	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Serv	ices - Greensburg				
Radium-226	EPA 903.1	0.376 ± 0.382 (0.577) C:NA T:98%	<del>pCi/L</del>	06/08/21 16:02	<del>2 13982-63-3</del>	
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 904.0	0.966 ± 0.414 (0.653) C:72% T:84%	<del>pCi/L</del>	06/08/21 11:48	15262-20-1	
	Pace Analytical Serv	ices - Greensburg				
<del>Total Radium</del>	Total Radium Calculation	1.34 ± 0.796 (1.23)	<del>pCi/L</del>	<del>06/10/21 09:41</del>	7440-14-4	
Sample: P-151	<del>Lab ID: 30420944</del>	<b>005</b> Collected: 05/06/21 15:50	Received:	05/12/21 10:30	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters Parameters Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Serv	ices - Greensburg				
Radium-226		0.207 ± 0.450 (0.829) C:NA T:96%	<del>pCi/L</del>	06/08/21 16:02	13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228		<del>0.497 ± 0.323 (0.597)</del> C <del>:71% T:83</del> %	<del>pCi/L</del>	06/08/21 11:48	15262-20-1	
	Pace Analytical Serv	<del>ices - Greensburg</del>				
<del>Total Radium</del>	Total Radium Calculation	0.704 ± 0.773 (1.43)	<del>pCi/L</del>	06/10/21 09:41	7440-14-4	
Sample: P-152A	Lab ID: 30420944	.006 Collected: 05/04/21 12:50	Received:	05/12/21 10:30	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Serv	ices - Greensburg		•		,
Radium-226	EPA 903.1	0.405 ± 0.304 (0.157) C:NA T:94%	pCi/L	06/08/21 16:02	2 13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228		0.325 ± 0.330 (0.679) C:74% T:82%	pCi/L	06/08/21 11:48	15262-20-1	
	Pace Analytical Serv	ices - Greensburg				



Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Sample: P-153 PWS:	Lab ID: 30420 Site ID:	944007 Collected: 05/03/21 14:35 Sample Type:	Received:	05/12/21 10:30	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	<del>Units</del>	Analyzed	CAS No.	Qua
T diamotors		Services - Greensburg		- Analyzou		
Radium-226	EPA 903.1	0.304 ± 0.492 (0.857) C:NA T:96%	<del>pCi/L</del>	06/08/21 16:02	2 13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	-0.0530 ± 0.314 (0.745) C:72% T:83%	<del>pCi/L</del>	06/08/21 11:48	3 <u>15262-20-1</u>	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.304 ± 0.806 (1.60)	<del>pCi/L</del>	06/10/21 09:4 <sup>-</sup>	<del>1 7440-14-4</del>	
Sample: P-154A PWS:	Lab ID: 30420 Site ID:	944908 Gollected: 05/03/21 14:00 Sample Type:	Received:	05/12/21 10:30	Matrix: Water	
Parameters Parameters Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.178 ± 0.309 (0.551) C:NA T:94%	<del>pCi/L</del>	06/08/21 16:24	1 13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.507 ± 0.407 (0.801) C:72% T:72%	<del>pCi/L</del>	06/08/21 14:50	15262-20-1	
	Pace Analytical S	Services - Greensburg				
<del>Total Radium</del>	Total Radium Calculation	0.685 ± 0.716 (1.35)	<del>pCi/L</del>	06/10/21-09:4	<del>1 7440-14-4</del>	
Sample: P-162	Lab ID: 30420	944009 Collected: 05/05/21 08:45	Received:	05/12/21 10:30	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg				
<del>Radium 226</del>	EPA 903.1	0.203 ± 0.310 (0.183) C:NA T:89%	<del>pCi/L</del>	06/08/21 16:24	<del>1 13982 63 3</del>	
	Pace Analytical S	Services - Greensburg				
Radium 228	EPA 904.0	0.299 ± 0.410 (0.876) C:72% T:63%	<del>pCi/L</del>	06/08/21 14:50	<del>15262-20-1</del>	
	Pace Analytical S	<del>Services - Greensburg</del>				
<del>Total Radium</del>	Total Radium Calculation	0.502 ± 0.720 (1.06)	<del>pCi/L</del>	06/10/21 09:4	<del>1 7440 14 4</del>	



Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

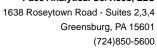
Sample: P-163	Lab ID: 304209	<b>44010</b> Collected: 05/05/21 09:30	Received:	05/12/21 10:30 Ma	trix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	0.129 ± 0.295 (0.475) C:NA T:88%	<del>pCi/L</del>	06/08/21 16:24	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	0.825 ± 0.489 (0.899) C:67% T:73%	<del>pCi/L</del>	06/08/21 14:50	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.954 ± 0.784 (1.37)	<del>pCi/L</del>	06/10/21 09:41	7440-14-4	
Sample: P-164	<del>Lab ID: 304209</del> Site ID:	44011 Collected: 05/05/21 10:00 Sample Type:	Received:		trix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	<del>Analyzed</del>	CAS No.	Qua
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	-0.134 ± 0.322 (0.804)	<del>pCi/L</del>	06/08/21 16:24	12002 62 2	
Radium 220	LI A 300.1	C:NA T:81%	POI/E	00/00/21 10.24	10002-00-0	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	0.647 ± 0.385 (0.701) C:76% T:75%	<del>pCi/L</del>	06/08/21 14:50	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
<del>Total Radium</del>	Total Radium Calculation	0.647 ± 0.707 (1.51)	<del>pCi/L</del>	06/10/21-09:41	7440-14-4	
Sample: P-165	Lab ID: 304209	44012 Collected: 05/06/21 15:00	Received:	-05/12/21-10:30 Ma	trix: Water	
PWS:	Site ID:	Sample Type:				
<del>Parameters</del>	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical So	ervices Greensburg				
Radium 226	EPA 903.1	0.245 ± 0.281 (0.166) C:NA T:96%	<del>pCi/L</del>	06/08/21 16:24	1 <del>3982-63-3</del>	
	Pace Analytical So	ervices - Greensburg				
Radium 228	EPA 904.0	0.903 ± 0.440 (0.730) C:68% T:78%	<del>pCi/L</del>	06/08/21 14:50	1 <del>5262-20-1</del>	
	Pace Analytical Se	ervices - Greensburg				
<del>Total Radium</del>	Total Radium Galculation	1.15 ± 0.721 (0.896)	<del>pCi/L</del>	06/10/21 09:41	7440-14-4	



Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Sample: P-173	Lab ID: 30420	<b>0944013</b> Collected: 05/05/21 09:35	Received:	05/12/21 10:30 M	atrix: 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	0.622 ± 0.536 (0.797) C:NA T:100%	<del>pCi/L</del>	06/08/21 16:24	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.307 ± 0.345 (0.721) C:77% T:79%	<del>pCi/L</del>	06/08/21 14:50	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.929 ± 0.881 (1.52)	<del>pCi/L</del>	06/10/21-09:41	7440-14-4	
Sample: P-174 PWS:	Lab ID: 30420 Site ID:	0944014	Received:	<del>05/12/21 10:30</del> M	atrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
- drameters			Onito		- OAO NO.	
		Services - Greensburg				
Radium 226	EPA 903.1	0.290 ± 0.441 (0.759) C:NA T:88%	<del>pCi/L</del>	06/08/21 16:24	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.200 ± 0.384 (0.843) C:74% T:76%	<del>pCi/L</del>	06/08/21 14:50	15262-20-1	
	Pace Analytical S	Services - Greensburg				
<del>Total Radium</del>	Total Radium Calculation	0.490 ± 0.825 (1.60)	<del>pCi/L</del>	06/10/21 09:41	7440-14-4	
Compiler D 475	Lab ID: 20400	004404F Callastadi 05/05/04 40:05	Danaireade	05/40/04 40:20 N	atrice Mater	
Sample: P-175 PWS:	Lab ID: 30420 Site ID:	<b>O944015</b> Collected: 05/05/21 10:35 Sample Type:	<del>Received:</del>	05/12/21 10:30 M	atrix: Water	
Parameters -	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qua
	Pace Analytical S	Services - Greensburg		•		
Radium 226	EPA 903.1	6.97 ± 2.39 (0.511) C:NA T:92%	<del>pCi/L</del>	06/08/21 16:24	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	10.7 ± 3.48 (4.62) C:76% T:67%	<del>pCi/L</del>	06/08/21 18:10	<del>15262-20-1</del>	<del>1c</del>
	Pace Analytical S	Services - Greensburg				
<del>Total Radium</del>	Total Radium Galculation	17.7 ± 5.87 (5.13)	<del>pCi/L</del>	06/10/21 09:41	7440-14-4	

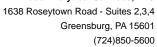




Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Sample: P-176	Lab ID: 30420		Received:	05/12/21 10:30 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	0.294 ± 0.306 (0.432) C:NA T:91%	<del>pCi/L</del>	06/08/21 16:37 13982-63-3	•
	Pace Analytical S	Services - Greensburg			
Radium-228	EPA 904.0	0.319 ± 0.592 (1.30) C:72% T:73%	<del>pCi/L</del>	06/08/21 18:10 15262-20-1	
	Pace Analytical S	Services - Greensburg			
Total Radium	Total Radium Calculation	0.613 ± 0.898 (1.73)	<del>pCi/L</del>	06/10/21 09:41 7440-14-4	
Sample: P-177	Lab ID: 30420		Received:	-05/12/21 10:30 Matrix: Water	
PWS:	Site ID:	Sample Type:			
Parameters Parameters Parameters	Method	Act ± Unc (MDC) Carr Trac	<del>Units</del>	Analyzed CAS No.	Qua
	Pace Analytical S	Services - Greensburg			
Radium-226	EPA 903.1	0.219 ± 0.264 (0.403) C:NA T:95%	<del>pCi/L</del>	06/08/21 16:37 13982 63 3	•
	Pace Analytical S	Services - Greensburg			
Radium-228	EPA 904.0	0.287 ± 0.558 (1.23) C:71% T:79%	<del>pCi/L</del>	06/08/21 18:10 15262-20-1	
	Pace Analytical S	Services - Greensburg			
<del>Total Radium</del>	Total Radium Calculation	0.506 ± 0.822 (1.63)	<del>pCi/L</del>	06/10/21 09:41 7440 14-4	
Sample: DUPLICATE	Lab ID: 30420		Received:	-05/12/21 10:30 Matrix: Water	
<del>PWS:</del>	Site ID:	Sample Type:			
<del>Parameters</del>	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed CAS No.	Qua
	Pace Analytical S	Services - Greensburg			
Radium 226	EPA 903.1	0.111 ± 0.254 (0.409) C:NA T:97%	<del>pCi/L</del>	06/08/21 16:37 13982 63 3	•
	Pace Analytical S	Services - Greensburg			
Radium-228	EPA 904.0	0.156 ± 0.517 (1.16) C:76% T:86%	<del>pCi/L</del>	06/08/21 18:10 15262 20 1	
	Pace Analytical S	Services - Greensburg			
<del>Total Radium</del>	Total Radium Calculation	0.267 ± 0.771 (1.57)	<del>pCi/L</del>	06/10/21 09:41 7440 14-4	





Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

Sample: RINSE P-3 PWS:	<b>Lab ID: 3042</b> 0 Site ID:	O944019 Collected: 05/03/21 09:20 Sample Type:	Received:	05/12/21 10:30 I	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 903.1	0.414 ± 0.386 (0.508) C:NA T:97%	<del>pCi/L</del>	06/08/21 16:37	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 904.0	0.836 ± 0.539 (1.02) C:77% T:88%	<del>pCi/L</del>	06/08/21 18:10	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	<del>1.25 ± 0.925 (1.53)</del>	<del>pCi/L</del>	06/10/21 09:41	7440-14-4	



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



#### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Xcel Energy Sherco Ponds Sprin

Pace Project No.: 30420944

QC Batch: 449553 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: 30420944001, 30420944002, 30420944003, 30420944004, 30420944005, 30420944006, 30420944007,

30420944008, 30420944009, 30420944010, 30420944011, 30420944012, 30420944013, 30420944014,

30420944015, 30420944016, 30420944017, 30420944018, 30420944019

METHOD BLANK: 2169392 Matrix: Water

Associated Lab Samples: 30420944001, 30420944002, 30420944003, 30420944004, 30420944005, 30420944006, 30420944007,

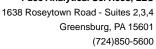
30420944008, 30420944009, 30420944010, 30420944011, 30420944012, 30420944013, 30420944014,

30420944015, 30420944016, 30420944017, 30420944018, 30420944019

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

 Radium-226
 0.0492 ± 0.225 (0.362) C:NA T:100%
 pCi/L
 06/08/21 16:02

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 Ponds Sprin

Pace Project No.: 30420944

QC Batch: 449554 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: 30420944001, 30420944002, 30420944003, 30420944004, 30420944005, 30420944006, 30420944007,

30420944008, 30420944009, 30420944010, 30420944011, 30420944012, 30420944013, 30420944014,

30420944015, 30420944016, 30420944017, 30420944018, 30420944019

METHOD BLANK: 2169393 Matrix: Water

Associated Lab Samples: 30420944001, 30420944002, 30420944003, 30420944004, 30420944005, 30420944006, 30420944007,

30420944008, 30420944009, 30420944010, 30420944011, 30420944012, 30420944013, 30420944014,

30420944015, 30420944016, 30420944017, 30420944018, 30420944019

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

 Radium-228
 0.303 ± 0.325 (0.674) C:70% T:91%
 pCi/L
 06/08/21 11:40

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 Ponds Sprin

Pace Project No.: 30420944

#### **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: 06/10/2021 10:09 AM

1c Sample analyzed at reduced volume due to suspended material.

CHAIN-OF-CUSTODY / Analytical Reduest Document
The Chain-of-Custody is a LEGAL DOCUMENT. All rele. MO#: 30420944

Face Analytical

Address:

DRINKING WATER OTHER. OTHER MCES L Z <u>≥</u> ≅ 000 200 go 502 3 SCT <u>L</u> ⊒ T NPDES F GROUND WATER T NN F (P<sup>S</sup> T RCRA LOCATION × × × -litered (Y/N) SITE TSU \_i × × × × × Requested Analysis: × × × )(µGL lonsruel <sub>E</sub>O<sub>s</sub>S<sub>s</sub>eN HOG 1700 SE Elm St, Minneapolis, MN 55408 ICF N HIO N osi upreserved Ciara Ruikkie Tom Halverson # OF CONTAINERS Pace MN Field Services Carin Ferris COLLECTION 1035 1305 TIME 835 5/3/21 910 COMPOSITE END/GRAB Pace Profile #: Sishi 5/3/21 5/3/2 DATE COLLECTED Pace Quote Reference: Pace Project Manager: TIME Xcel Energy Sherco Ponds Spring Invoice Information Company Name: COMPOSITE START Section C DATE Attention: Address: G=GRAB C=COMP Ø ര ഗ G SAMPLE TYPE ¥ Ž × M Riley Jacobson MATRIX CODE Chris Pelosi Section B Required Project Information: urchase Order No.: roject Number Project Name. MATRIX
DRINKING WATER
WASTE WATER
WASTE WATER
BRODUCT
SOLLSOLD Copy To: Required Client Information P-131 P-132 P-150 P-130 15 Days One Character per box. (A-2, 0-9 / ,-) Sample IDs MUST BE UNIQUE c/o Pace MN Field SAMPLE ID Chris Pelosi Xcel Energy RADIUM Fax: Required Client Informetion: Requested Due Date/TAT: Section D Phone; (612) 597-7254 Section A Email To:

WT G   ST/2h   1000   2   2	5		-210	SAMPLE CONDITIONS	1010 N/A \$ 8 8	N/A N/A	N/A N/A	N/A N/A	O° ni qrr lce lce sulfody ed Cooler ed Cooler
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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"

pejuj səjdweş N/A N/A N/A DRINKING WATER SAMPLE CONDITIONS OTHER OTHER MCES Sealed Cooler ŏ N/S N/A N/A 5 0 58 <u>≥</u> ≥ REGULATORY AGENCY 50 710 0 910 Ø.Y N/A N/J N/A Received on \<u>4</u> S GROUND WATER ☐ O° ni qmaT 80270 L Ho TIME 1030 (<u>b</u> RCRA L LOCATION × × × × × 5-12-21 DATE Filtered (Y/N) T NPDES SITE × × × × × TSU T Requested Analysis: M × × × × = 1941C ACCEPTED BY / AFFILIATION lonsrii elv 482S2O3 HOB 1700 SE Elm St, Minneapolis, MN 55408 2 7 2 N 4NO3 \*O\$<sup>2</sup>H Jnpreserved Ciara Ruikkie N N 8 N Tom Halverson # ОF СОИТАІИЕРЯ Pace MN Field Services Carin Ferris SAMPLE TEMP AT COLLECTION EMIL 025/ 1540 30110 02120 0935 1035 S TIME 8 COMPOSITE END/GRAB Xcel Energy Sherco Ponds Spring Pose Prent #: SISPu 5421 13/14 SISTU 5/5/21 444 2/2/2 RELINGUISHED BY / AFFILIATION | DATE 21317 DATE COLLECTED Pace Quote Reference: Pace Project Manager: TIME Invoice Information: Company Name: ther COMPOSITE START 北京 Section C DATE Attention: Address: G=GRAB C=COMP Ó ტ Ø O O ഗ O **SAMPLE TYPE** ¥ ¥ ΜŢ ۲× M۲ Ş Σ Riley Jacobson **BUOD XIRTAM** Chris Pelosi Section B Required Project Information: Purchase Order No.: Project Number Project Name: Valid Mairo Co MATRIX DENGUO WATER WATER MASTE WATER PRODUCT SCLEGUD OIL Report To: Copy To: DUPLICATE PS RINSE P-3 Required Client Information P-175 P-176 P-173 P-174 P-177 15 Days (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE c/o Pace MN Field One Character per box. SAMPLE ID Chris Pelosi Xcel Energy RADIUM Fax: Required Client Information: Requested Due Date/TAT: Additional Comments: Section D Phone: (612) 597-7254 Section A Email To: Company: Address: ILEW#

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

Custody

poj

Yender Janson

Lesoser d

SIGNATURE of SAMPLER:

SAMPLER NAME AND SIGNATURE

Sherce Ponds Spring

Pace MN

Client

SrəA

**Hr**9A

Matrix

Line Item

Sample

Site

Pace Analytical \*

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SPLC											 		
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WGFU													
NOAK													
U69V													ပ္ပ
T65V										••••			Plastic / Misc.
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USDA	_					<u> </u>	_	<u> </u>			-		Glass
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	Plastic / Misc.	WISC.
1 Gallon Cubitainer	EZI	5g Encore
1/2 Gallon Cubitainer	VOAK	Kit for Volatile Solid
120mL Coliform Na Thiosulfate	-	Wipe/Swab
1L plastic HNO3	ZPLC	Ziploc Bag

12GN SP5T BP1N BP1U BP3S BP3N BP3U BP3C BP2S

40mL clear VOA vial Na Thiosul

40mL clear VOA vial

7690 VG9T 10mL clear VOA vial HCI

/69Н

00mL amber glass Na Thiosulfate

L amber glass H2SO4

AG1S AG1H AG1T BG1U AG3S AG3U

Gallon Jug

S

L amber glass HCI

00mL amber glass unprserved

AG5U

<u>N</u>

AG5T

Gallon Jug with HNO3

Container Codes

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4oz amber wide jar

40ml, amber VOA vial H2SO4

DG9S

GCUB 1 Gallon Cubitainer

L plastic unpreserved

250mL plastic H2SO4 250mL plastic HNO3

WT	Water
SL	Solid
9	Non-aqueous liquid
WP	Wipe

500mL plastic unpreserved

500mL plastic H2SO4

250ml plastic NAOH

250mL plastic unpreserved

500mL clear glass unpreserved 500mL amber glass unpreserved

4oz wide jar unpreserved

WGFU IGFU

BG2U

L amber glass Na Thiosulfate

8oz wide jar unpreserved

WGKU

250mL amber glass unpreserved

250mL amber glass H2SO4

L clear glass unpreserved

AG2U

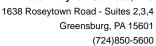
FNV.FRM.GRUR.0072 00 29Dec.2020

Pittsburgh Lab Sample Condition Upon Receipt Excel Project # # 30420944 Client Name: Páce Analytical Courier: Fed Ex UPS USPS Client Commercial Pace Other IMS Login 9371 92926415 . yes no Custody Seal on Cooler/Box Present: 🗷 yes ☐ no Seals intact: Type of ice: Wet Blue None Thermometer Used Final Temp: °C Correction Factor: Observed Temp **Cooler Temperature** Temp should be above freezing to 6°C Date and initials of person examining pH paper Lot# contents: - (4-21 lodition N/A No Yes Comments: Chain of Custody Present: Chain of Custody Filled Out: Chain of Custody Relinquished: Sampler Name & Signature on COC: Sample Labels match COC: Matrix: -Includes date/time/ID Samples Arrived within Hold Time: Short Hold Time Analysis (<72hr remaining): Rush Turn Around Time Requested: 9. Sufficient Volume: 10. Correct Containers Used: -Pace Containers Used: 11. Containers Intact: 12. Orthophosphate field filtered 13. Hex Cr Aqueous sample field filtered 14. Organic Samples checked for dechlorination: 15. Filtered volume received for Dissolved tests All containers have been checked for preservation. 16. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix Date/time of Initial when All containers meet method preservation preservation completed requirements. Lot # of added preservative 17. Headspace in VOA Vials ( >6mm): 18. Trip Blank Present: Trip Blank Custody Seals Present Survey Meter Initial when Rad Samples Screened < 0.5 mrem/hr Date: 5-14-21 Client Notification/ Resolution: Contacted By: Date/Time: Person Contacted: Comments/ Resolution:

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.





July 06, 2021

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

RE: Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

#### 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 Ferris

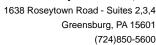
Carin a. Ferris

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 Sherco Spring '21 RAD RE

Pace Project No.: 30425692

#### 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

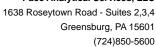
New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

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



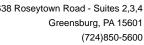


# **SAMPLE SUMMARY**

Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30425692001	P-01A-1	Water	06/10/21 12:55	06/12/21 10:45
30425692002	P-17	Water	06/10/21 17:05	06/12/21 10:45
30425692003	P-22	Water	06/10/21 15:00	06/12/21 10:45
30425692004	P-23	Water	06/10/21 15:30	06/12/21 10:45
30425692005	P-155	Water	06/10/21 14:00	06/12/21 10:45
30425692006	P-156	Water	06/10/21 12:05	06/12/21 10:45
30425692007	P-157	Water	06/10/21 16:00	06/12/21 10:45
30425692008	P-158	Water	06/10/21 16:30	06/12/21 10:45
30425692009	DUPLICATE	Water	06/10/21 14:00	06/12/21 10:45
30425692010	RINSE	Water	06/10/21 13:45	06/12/21 10:45





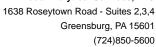
# **SAMPLE ANALYTE COUNT**

Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30425692001	P-01A-1	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692002	P-17	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692003	P-22	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692004	P-23	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692005	P-155	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692006	P-156	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692007	P-157	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692008	P-158	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692009	DUPLICATE	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30425692010	RINSE	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg





Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Pace-MN Field Services Division

**Date:** July 06, 2021

#### **General Information:**

10 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.

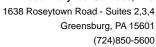
# **Laboratory Control Spike:**

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 '21 RAD RE

Pace Project No.: 30425692

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Pace-MN Field Services Division

**Date:** July 06, 2021

#### **General Information:**

10 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.

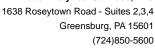
# **Laboratory Control Spike:**

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 '21 RAD RE

Pace Project No.: 30425692

Method: Total Radium Calculation

Description: Total Radium 228+226

Client: Pace-MN Field Services Division

**Date:** July 06, 2021

#### **General Information:**

10 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:**

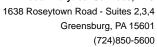
All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### 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.

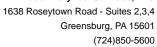




Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

Sample: P-01A-1 PWS:	<b>Lab ID: 30425</b> Site ID:	<b>Collected:</b> 06/10/21 12:55 Sample Type:	Received:	06/12/21 10:45 M	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.282 ± 0.368 (0.607) C:NA T:87%	pCi/L	07/06/21 12:37	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.268 ± 0.299 (0.626) C:75% T:96%	pCi/L	07/01/21 11:00	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	$0.550 \pm 0.667$ (1.23)	pCi/L	07/06/21 15:39	7440-14-4	
Sample: P-17 PWS:	Lab ID: 30425 Site ID:	6692002 Collected: 06/10/21 17:05 Sample Type:	Received:	06/12/21 10:45 M	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.0973 ± 0.467 (0.882) C:NA T:99%	pCi/L	07/06/21 12:37	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.708 ± 0.343 (0.577) C:77% T:91%	pCi/L	07/01/21 11:00	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.805 ± 0.810 (1.46)	pCi/L	07/06/21 15:39	7440-14-4	
Sample: P-22	Lab ID: 30425	6692003 Collected: 06/10/21 15:00	Received:	06/12/21 10:45 M	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.169 ± 0.397 (0.736) C:NA T:91%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	-0.0905 ± 0.411 (0.956) C:79% T:86%	pCi/L	07/01/21 11:00	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.169 ± 0.808 (1.69)	pCi/L	07/06/21 15:39	7440-14-4	





Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

Sample: P-23 PWS:	<b>Lab ID: 304256</b> Site ID:	<b>92004</b> Collected: 06/10/21 15:30 Sample Type:	Received:	06/12/21 10:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	0.0538 ± 0.246 (0.146) C:NA T:92%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	0.847 ± 0.471 (0.873) C:77% T:82%	pCi/L	07/01/21 11:00	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.901 ± 0.717 (1.02)	pCi/L	07/06/21 15:39	7440-14-4	
Sample: P-155 PWS:	<b>Lab ID: 304256</b> Site ID:	92005 Collected: 06/10/21 14:00 Sample Type:	Received:	06/12/21 10:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	0.158 ± 0.310 (0.567) C:NA T:91%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	0.823 ± 0.455 (0.847) C:77% T:91%	pCi/L	07/01/21 11:00	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.981 ± 0.765 (1.41)	pCi/L	07/06/21 15:39	7440-14-4	
Sample: P-156 PWS:	<b>Lab ID: 304256</b> Site ID:	<b>92006</b> Collected: 06/10/21 12:05 Sample Type:	Received:	06/12/21 10:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg		•		
Radium-226	EPA 903.1	-0.170 ± 0.369 (0.851) C:NA T:96%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	-0.192 ± 0.441 (1.04) C:74% T:82%	pCi/L	07/01/21 11:00	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.000 ± 0.810 (1.89)	pCi/L	07/06/21 15:39	7440-14-4	



Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

Sample: P-157	Lab ID: 30425	<b>692007</b> Collected: 06/10/21 16:00	Received:	06/12/21 10:45 Ma	atrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg		-		
Radium-226	EPA 903.1	0.109 ± 0.339 (0.656) C:NA T:95%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.781 ± 0.507 (0.948) C:77% T:79%	pCi/L	07/01/21 14:15	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	$0.890 \pm 0.846  (1.60)$	pCi/L	07/06/21 15:39	7440-14-4	
Sample: P-158	Lab ID: 30425		Received:	06/12/21 10:45 Ma	atrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	-0.164 ± 0.415 (0.909) C:NA T:89%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.216 ± 0.405 (0.889) C:72% T:84%	pCi/L	07/01/21 14:15	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.216 ± 0.820 (1.80)	pCi/L	07/06/21 15:39	7440-14-4	
Sample: DUPLICATE	Lab ID: 30425		Received:	06/12/21 10:45 Ma	atrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.293 ± 0.346 (0.544) C:NA T:87%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.201 ± 0.473 (1.05) C:76% T:80%	pCi/L	07/01/21 14:15	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.494 ± 0.819 (1.59)	pCi/L	07/06/21 15:39	7440-14-4	



Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

Sample: RINSE PWS:	<b>Lab ID: 304256</b> Site ID:	<b>Sample Type:</b> Collected: 06/10/21 13:45	Received:	06/12/21 10:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 903.1	-0.0988 ± 0.306 (0.696) C:NA T:101%	pCi/L	07/06/21 12:51	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 904.0	0.142 ± 0.458 (1.03) C:74% T:81%	pCi/L	07/01/21 14:15	5 15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.142 ± 0.764 (1.73)	pCi/L	07/06/21 15:39	7440-14-4	



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

#### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

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: 30425692001, 30425692002, 30425692003, 30425692004, 30425692005, 30425692006, 30425692007,

30425692008, 30425692009, 30425692010

METHOD BLANK: 2185607 Matrix: Water

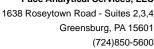
Associated Lab Samples: 30425692001, 30425692002, 30425692003, 30425692004, 30425692005, 30425692006, 30425692007,

30425692008, 30425692009, 30425692010

 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 '21 RAD RE

Pace Project No.: 30425692

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: 30425692001, 30425692002, 30425692003, 30425692004, 30425692005, 30425692006, 30425692007,

30425692008, 30425692009, 30425692010

METHOD BLANK: 2185604 Matrix: Water

Associated Lab Samples: 30425692001, 30425692002, 30425692003, 30425692004, 30425692005, 30425692006, 30425692007,

30425692008, 30425692009, 30425692010

 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.

#### **REPORT OF LABORATORY ANALYSIS**



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

#### **QUALIFIERS**

Project: Xcel Sherco Spring '21 RAD RE

Pace Project No.: 30425692

#### **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: 07/06/2021 03:41 PM

Pace Project No. Lab I.D. DRINKING WATE OTHER N/A N/A N/A Samples Intact OTHER MCES SAMPLE CONDITIONS 670 000 500 Sealed Cooler 300 e-File(ALLQ020rev.3,31Mar05))22Jun2005 \v 0 0 \v Col N/A N/A N/λ Custody 803 700 500 REGULATORY AGENCY IL |≧ L ≩ 20 lce 机洗 N/A N/A N/A Received on T NPDES T GROUND WATER T SCT MO#:30425692 ١ O° ni qmeT 동 (**I** TIME RCRA 72 ე ე 930 LOCATION 6-17-21 × × × × × Filtered (Y/N) SITE DATE 12/11/0) T ∪ST × × × × × × × × × × 6/11/21 Requested Analysis: × ×  $\overline{\times}$  $\overline{\times}$ × × × × × DATE Signed (MM / DD / YY) 6/10/21 nerliC ACCEPTED BY / AFFILIATION lonsiteM Pac 49<sup>5</sup>2<sup>5</sup>O<sup>3</sup> Preservatives HOBI CHAIN-OF-CUSTODY / Anal PRINT Name of SAMPLER CHRIS Relies + Kendull Jahnson SE Elm St, Minneapolis, MN 55408 The Chain-of-Custody is a LEGAL DOCUMENT, All ICI FAD EX HOO N N 8 Allth - ladab-\*OSZH ubtesetved Ciara Ruikkie Tom Halverson N Pace MN Field Services Carin Ferris SAMPLER NAME AND SIGNATURE (Cir.) 6((0/4) согтеслюи TA 9MBT 3J9MAS TIME 930 950 1345 910 TIME 6/10/21 1255 1000 1630 0061 12/01/9 1500 Z S 2011 12/01/9 5021 6/10/21 1530 COMPOSITE END/GRAB Pace Profile #; SIGNATURE of SAMPIAR: 12/01/9 12/01/9 12/01/0) 12/01/9 6/10/21 6/10/21 DATE 12/11/9 1700 ( DATE 12/11/9 COLLECTED Pace Quote Reference: Pace Project Manager: HWE. Invoice Information: RELINQUISHED BY / AFFILIATION Xcel Sherco Spring '21 RAD RE ι Company Name: 1 8 COMPOSITE START Section C DATE Attention: Address: 1 ı Í SAMPLE TYPE GRADE CCOMP O O Ø മ O O O O ഗ Riley Jacobson ₹ ₹ ž Ž ₹ ₹ ₹ ¥ ₹ ¥ Chris Pelosi MATRIX CODE Required Project Information: Purchase Order No.: Project Number Project Name: Section B Valid Matrix Co. MATRIX Co. MATRIX Co. DRANGING WATER WATER WATER PRODUCT SOUSOLD Report To: Copy To: Required Client Information DUPLICATE P-01A-1 P-155 P-156 P-157 P-158 RINSE P-22 P-17 P-23 15 Days One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE c/o Pace MN Field Xcel Energy Chris Pelosi SAMPLE 1D RADIUM Pace Analytical Required Client Information: XX E Requested Due Date/TAT: Additional Comments: Section D hone; (612) 597-7254 Section A company: ddress: ILEM # വ വ 8 6 10 П Page 15 of 16

Pace Analytical Client Name:	•	<u> X.C</u>	el	-	Project #	
Courier: Fed Ex UPS USPS Clien	t 🗆				Label	
		-			LIMS Login 10	<del></del> [] }
Custody Seal on Cooler/Box Present:  yes	ام <del>[</del> ] -			intact: yes	no	2
Thermometer Used	Туре	of Ice:		Blue None	°C = 1=	° 569
Cooler Temperature Observed Temp  Temp should be above freezing to 6°C		-	Corr	ection Factor:	Final Temp:	<b>2</b>
remp anodic be above needing to 0.0				pH paper Lot#		Z:
Comments:	Yes	No	N/A	10038c1	contents:	- 4
Chain of Custody Present:	~~~			1.		<b>-8</b>
Chain of Custody Filled Out:	,			2.		- ':/l
Chain of Custody Relinquished:	-			3.		<b>*</b>
Sampler Name & Signature on COC:				4.		0
Sample Labels match COC:	_			5.		-3
-Includes date/time/ID Matrix:	WT			1		
Samples Arrived within Hold Time:		· ·		6.		
Short Hold Time Analysis (<72hr remaining):		-		7.		
Rush Turn Around Time Requested:				8.		
Sufficient Volume:			<u> </u>	9.		
Correct Containers Used:	_			10.		
-Pace Containers Used:	_					
Containers Intact:	_			11.		
Orthophosphate field filtered				12.		
Hex Cr Aqueous sample field filtered			_	13.		
Organic Samples checked for dechlorination:				14.		
Filtered volume received for Dissolved tests			<b>مس</b> ر	15.		
All containers have been checked for preservation.	-			16.		
exceptions: VOA, coliform, TOC, O&G, Phenolics, Non-aqueous matrix	Radon			PF	42	
All containers meet method preservation				Initial when	Date/time of	
equirements.				completed //	preservation	
	T			preservative	The state of the s	
leadspace in VOA Vials ( >6mm):		<u></u>		17.		
rip Blank Present:			4-4	18.		
rip Blank Custody Seals Present			-	Section Free de march		
Rad Samples Screened < 0.5 mrem/hr				Initial when completed:	Date: G-13-31 Survey Meter	
Client Notification/ Resolution:						
Person Contacted:			Date/	Гime:	Contacted By:	
Comments/ Resolution:						<del></del>

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)

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

\*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



e l	Client Xcel Energi	1	_ Projec	t Shew 1	dads i	Fall 202	Projec	t No. 21	1-05223
Weil Description and Presampling information	Monitoring Point ID_	P-01A	-1				La	beled P	-01A-1
	Inside Diameter_	2	(inches)	Key#	2106		X Locked	d [	Not Locked
,	Casing Material:	▼ PVC	□ s	teel	□ s	tainless S	Steel		
	D	epth Meas	urement	and Elev	ations	(from t	op of well	casing)	0.
ı				Top of C	asing [	Elevation	NA.		Feet www.cse
						ell Depth		18	_Feetcsp
Į		er level meas							_Feet[]
	Static water lev								_Feet
	Purge Method Blad	Static ( Der Pump		el Elevation	Before	Purging	Pump ID	BPC-1	_Feet
		12/21		-		\ <i>\\</i> /a	ter Column		
	Time Purged	M		-	TO P		ing Volume		
	Pump Rate	V		GPM / LF			ime Purged	6	Gallons
	5.16.11				ld Da	ramata	r Magazira	monto of	Comple
I	Date Sampled _ Time Sampled	11/2/21		FIE	THE REAL PROPERTY.	ramete	r Measure	250000000000000000000000000000000000000	
×	Sampling Equip.	0855	-	Spec. C	pH_		_(units) _(µmhos/cm)	D.O Turbidity	
	Meter ID	MA	-	emp. Obse	_		(°C) 112784	— Eh	
	Analyzed by	7.2		emp. Corre	1000		(°C)	Other	
-	Field Measure				X Y			□ NA	
	Sample for Soluble				X Y		☐ No	□ NA	
		rature Correc			°C				
	Weather Conditions Du	ring Sampling	g: M						
١	Sample Description:	M							
									submirsible, unsucest
	Top of purp: 79.12'	* Attempted	to San	que, co.	ild no	ot pur	me - 263	ulzlz	
	Time pH	Specifc Con		Temp (		D.O.	Turbidity	Eh	Volume Purged
	(units)	(μmhos	/cm)	(observe	ed)	(mg/l)	(NTU)	(mV)	(cumulative gal)
					-				
				-	9				
				ut	110				
									,-
N									
Sal	mples chilled immediately a	fter collection	I I	≺ Yes	Other				
	Revised: 01/25/2021	nor component.		N 703	Joiner				
me	Affiliation of Sampler(s):	Elex Deriol	oser	$\widehat{\mathcal{P}}$	ace A	nulytica	1		
.,,,		1	2		of Follows	1.00	****		
Le	ad Technician Signature:	They	11				Date:	11/2	12
		7						1	



uo	Client Xcel	Energy		Project	shee'	Pords	Fall 2021	Projec	ct No. 21	-05223
Presampling Information	Monitoring F	oint ID_	P-17					La	beled P	-17
ıforı	Inside Di	ameter	2	(inches)	Key#	2106	×	X Locked	d 🗆	Not Locked
ng Ir	Casing M	aterial:	N PVC	☐ Ste	eel		Stainless St	eel		
npli		De	pth Measu	rement a	and Elev	ations	(from to	p of well	casing)	
esar					Top of (	Casing	Elevation	NA	41 = 1	Feet
i Pr	111111111111111111111111111111111111111		9.2				ell Depth		76	Feet www inly
and			r level measu							- 1772
tion	Static	water leve	el measurem Static V	ent at time Vater Level						Feet Feet
crip	Purge Method	d Bladd	er Pump	vator Leve	Licvation	Deloit	er diging.	Pump ID		-1 661
Well Description	Date Purged	11/2	121				Wat	er Column		Feet
Vell	Time Purged	14	40-1516				One Casi	ng Volume	7-95	Gallons
>	Pump Rate	9	0.25		GPM/L	PM	Volur	ne Purged	9	Gallons
	Date Sa	ampled	112/27		Fi	eld Pa	rameter	Measure	ments of	Sample
- 1		ampled				рН_	7.8	(units)	D.O	4 (mg/l)
	Sampling	Equip. P.	mp		Spec. C	Cond.	500	(μmhos/cm)	Turbidity	/. ( (NTU)
Data	М	eter ID _M	185-7/TMS	Te	emp. Obse	erved _	9.7	(°C)	Eh	(Nm) <u>83</u>
J Br	Analy	zed by	RUS	_ Te	mp. Corre	ected_	9.8	(°C)	Other	der no obor
Field Sampling	14 14 15 15 15 15 15 15		nents Temp.			X	es es	☐ No	□ NA	
San	Sample fo		Metals Filter ature Correct			· ASS	es	☐ No	X NA	-
ield	Weather Cond					_	Neu	J. PH		
11.	Sample Desc									
	Observ	ations:	ure	4						
	Time	pH	Specifc Cond		Temp		D.O.	Turbidity	Eh	Volume Purged
ts	1452 7	(units)	(μmhos/	cm)	(observ		(mg/l) 4.3	(NTU)	(mV)	(cumulative gal)
n Te	1504 7	-	510		9,	_	le, 4	M	183	
atio	1516 7	.8	500	-	9.		6.4	ma	183	9
Stabilization Test	1314				1.	7			135	/
Stal							Res			
							11212			
			Maria de la companya		1					
	amples chilled imm	lediately af	ter collection:	×	Yes	Other				
	e/Affiliation of San	anlor(a):	7-10.1	ebs	Ĩ	Para A	nulytical			
valil	GAMMANON OF SAM	ihici(s).	2/2	OV SI			- Jime	7	T.	
L	ead Technician Si	gnature: 1	les /					Date:	11/2/	21
			11/10							



					Shew Po			Marie Control	05223
	Monitoring	g Point ID_	P-22				La	beled P	22
	Inside	Diameter	2	(inches)	Key#	2106	X Locked	d 🗆	Not Locked
	Casing	Material:	<b>▼</b> PVC	☐ Ste	eel	Stainless :	Steel		
Ī		De	epth Measu	rement a	and Eleva	tions (from	top of well	casing)	
Г					Top of Ca	asing Elevatio	nNA		Feet
Ĭ						otal Well Depti			Feet
l	1					g (Start Depth	11		Feet
N	Sta	itic water lev				g (Final Depth			Feet
	Purge Meth	had Blad	Der Pump	valer Level	Lievation	Before Purgin	Pump ID		Feet
V	Date Purg		1.121		7	W	ater Column		Feet
	Time Purg		435 -15	11	_		sing Volume		
1	Pump R	ate	0.25		GPM/LP	M Vol	ume Purged	9	Gallons
	Date	Sampled	1/1/21		Fiel	ld Paramete	er Measure	ments of	Sample
1		Sampled		-		pH 7.5	(units)		2.5 (mg/l)
ğ		ng Equip. <u> </u>		-	Spec. Co	ond. 730	(μmhos/cm)	Turbidity	
Į.	33.73		185-7 TM.5	Te	emp. Obser		(°C)		177 (mV)
	An	alyzed by			mp. Correc	eted 10.0	(°C)	Other	clerwodar
			ments Temp.			X Yes	☐ No	☐ NA	
	Weather Co Sample De	Temper onditions Durescription:ervations	clen me * DuPUL	tion Factor:	overall BAP	Yes °C  www wo  Collected bu		□ NA	
	Weather Co Sample De Obs	Temper onditions Dur escription: ervations:	ature Correcting Sampling  cie  ** DuPLIU  ** RINSE	tion Factor:  1: 40°F  Color Core  ATE ECH  BAP Co	Overant BAP	°C www we we we were we were we were we were we were well as a second with the weather we were well as a second with the weather well as a sec	10 mph ne (2,15	75 bylus	Volume Purged
	Weather Co Sample De	Temper onditions Durescription:ervations	ature Correct ring Sampling cter w DuPUU	tion Factor:  1: 40°F  20 PAR  ATE ECH  BAP Ce	overall BAP	°C We	10 myln		(cumulative gal)
	Weather Co Sample De Obs Time	Temper onditions Dur escription: ervations:	ature Correcting Sampling  cle_ ~  DUPLLY  RINSE  Specifc Cond	tion Factor:  HOF  ATE EAR  BAP ca	OVERALLE CONTRACTOR (°C)	Collected but  Collected but  D. 15 Z.O  D.O.  (mg/l)	10 24 pl	75 by Rus	
	Weather Co Sample De Obs	Temper onditions Dur escription:ervations:	Specifc Cone (µmhos/	tion Factor:  HOFF  BAP Conductance (cm)	Temp (°C (observed)	Collected by 1520  D.O. (mg/l)  8.5	Turbidity (NTU)	Eh (mV)	(cumulative gal)
	Weather Co Sample De Obs Time	Temper onditions Durescription:ervations:	Specifc Cone (µmhos/	tion Factor:  HOFF  BAP Conductance (cm)	Temp (°C (observed)	Collected by 1520  D.O. (mg/l)  8.5	Turbidity (NTU)	15 by Rus Eh (mV) 17-7	(cumulative gal)
	Weather Co Sample De Obs Time	Temper onditions Durescription:ervations:	Specifc Cone (µmhos/	tion Factor:  HOFF  BAP Conductance (cm)	Temp (°C (observed)	Collected by 1520  Collected by 1520  C) D.O. (mg/l)  8.5  8.5	Turbidity (NTU)	Eh (mV) 177 177	(cumulative gal)
	Weather Co Sample De Obs Time	Temper onditions Durescription:ervations:	Specifc Cone (µmhos/	tion Factor:  HOFF  BAP Conductance (cm)	Temp (°C (observed)	Collected by 1520  Collected by 1520  C) D.O. (mg/l)  8.5  8.5	Turbidity (NTU)	Eh (mV) 177 177	(cumulative gal)
	Weather Co Sample De Obs Time	Temper onditions Durescription:ervations:	Specifc Cone (µmhos/	tion Factor:  HOFF  BAP Celluctance (cm)	Temp (°C (observed)	Collected by 1520  Collected by 1520  C) D.O. (mg/l)  8.5  8.5	Turbidity (NTU)	Eh (mV) 177 177	(cumulative gal)
	Weather Co Sample De Obse Time	Temper onditions Durescription:escription:ervations:	Specific Conductions (µmhos/	tion Factor:  HOFF  ATE ACH  BAP CA  ductance  com)	Temp (°C (observed)	Collected by 1520  Collected by 1520  Collected by 1520  Collected by 1520  Response of the second collected by 1520  Collected	Turbidity (NTU)	Eh (mV) 177 177	(cumulative gal)
Sam	Weather Co Sample De Obse Time	Temper onditions Durescription:escription:ervations:,	Specifc Cone (µmhos/	tion Factor:  HOFF  ATE ACH  BAP CA  ductance  com)	Temp (°C (observed)	Collected by 1520  Collected by 1520  C) D.O. (mg/l)  8.5  8.5	Turbidity (NTU)	Eh (mV) 177 177	3
Sam Re	Weather Co Sample De Obse Time 1447 1459 1501	Temper onditions Durescription:escription:ervations:	Specific Cone (µmhos)	tion Factor:  HOFF  BAF CA  ductance  com)	Temp (°C (observer) 10. C	Collected by Collected by 1520  Collected by 9, 1520  Coldinated by 8,5 8,5 8,5  Collected by 1520  Collecte	Turbidity (NTU)  MA  MA	Eh (mV) 177 177	(cumulative gal)
ian Rame/	Weather Co Sample De Obse Time 1447 1459	Temper onditions Durescription:escription:ervations:	Specific Cone (µmhos) 720 73 of the collection:	tion Factor:  HOFF  BAF CA  ductance  com)	Temp (°C (observer) 10. C	Collected by 1520  Collected by 1520  Collected by 1520  Collected by 1520  Response of the second collected by 1520  Collected	Turbidity (NTU)  MA  MA	Eh (mV) 177 177	(cumulative gal)



o	Client X	cel Energy	Proje	ct Shew lon	ds Fall 2021	Projec	t No. 21	05223
Well Description and Presampling Information	Monitorin	g Point ID	P-23			Lal	beled P	23
mon	Inside	Diameter	2 (inches)	Key #2	106	X Locked		Not Locked
611	Casin	g Material:	▶ PVC □ S	Steel [	Stainless St	teel		
		De	pth Measurement	and Elevati	ons (from to	op of well	casing)	
200					ing Elevation			Feet
		6.00	andreas de apole		al Well Depth			Feet www white
	C+		r level measurement be el measurement at tim					Feet Feet
	00	alic water leve	Static Water Lev					Feet
	Purge Met	hod Blad	der Pump			Pump ID		
5		ged III		_	Wat	ter Column		S Feet
Nell I	Time Pur		5 - 115Ce	-0		ing Volume_		
	Pump F	Rate	0.2	_GPM/LPM	Volu	me Purged_	4.2	Gallons
7	Date	Sampled	112/21	Field	Parameter	r Measure	ments of	Sample
		Sampled		F	H 7. Ce	(units)	D.O	7-le (mg/l)
	Sampl	ing Equip	Pump + Filter			(µmhos/cm)		1.5 (NTU)
Data				emp. Observe		(°C)		197 (mV)
n n	Aı	nalyzed by	fus T	emp. Correcte		-(°C)	Other	
ildu.			nents Temp. Corrected	70 a 4	X Yes	□ No	□ NA	
rieid Sampling	Samp		Metals Filtered in Fiel ature Correction Facto		☑ Yes C	☐ No	□ NA	
nei o	Weather C		ing Sampling: 37°			1		
			ker no oder	Jenry ,	, Opin	•		
1			ene					
N	Time	рН	Specifc Conductance	Temp (°C)		Turbidity	Eh	Volume Purged
70	1142	(units)	(μmhos/cm)	(observed)	(mg/l) 7,7	(NTU)	(mV) 197	(cumulative gal)
b -		7.Le	680 680	11.7	7.7	~A	197	14
	1149	7. Le	680	11.7		MA	197	2.8
Ĭ	1156	7.6	0.80	1111	7.6	7011	1-1 )	9,2
Stabilization rest				-				
					(PU)			-
		immediately af	ter collection:	× Yes	Other			
EDI	Revised 01/25/25		2. 3	2	-7.7.	à.		
		A STATE OF THE STA	/ / .	Vr.	· Auntilia	1		
am	e/Affiliation of	Sampler(s): \(\sigma\)	Gley Jucobser	Pau	2 Analytica	1		
		Sampler(s): n Signature:	10	Pau	2 Analytica	Date:	ulzlz	



			4		Shee Por	0. (0 000	1 10,00	LINO	1-05223		
_	Monitorin	g Point ID	P-152	Α.			La	beled_ 1	P-152A		
	Inside	Diameter	2	(inches)	Key # 2	06	X Locked	d [	Not Locked		
Ì	Casing	g Material:	PVC	☐ Ste	eel [	Stainless S	teel				
ı			Depth Measu	irement a	nd Elevation	ons (from t	op of well	casing)			
Г					Top of Cas	ing Elevation	NA		Feet , all In		
						I Well Depth	-	5	Feet www.cse		
			ter level meas						_Feet J		
	Sta	atic water le	evel measurem						_Feet		
	Purge Met	hod Bl	Wer Pinp	valer Lever	Elevation Be	nore Purging	Pump ID		_Feet		
	Date Pur		11/2/21		• 0	Wa	ter Column		Feet		
	Time Pur		25 -1534				ing Volume		Gallons		
	Pump R	Rate	0.05	(	GPM)LPM	Volu	me Purged	0.45	Gallons		
Г	Date	Sampled	11/21		Field	Paramete	r Measure	ments of	Sample		
		Sampled_		_		Н	(units)		(mg/l)		
			pump. the the	- 3)	Spec. Cond		(µmhos/cm)		(NTU)		
			MPS-7 TM		mp. Observe		(°C)	Eh.			
	Ar	nalyzed by		_	Temp. Corrected (°C) Other						
	Weather Co Sample De	Tempe onditions D escription: ervations:	le Metals Filter erature Correct uring Sampling the number bladder pump r	ion Factor: : 40'F  olar emoved to m	tool overs) a	Topofb	adder pmp	NA 39.50 NA 39.50 NA 39.50	o' MPLE COLLECTED		
Ī	Time	рН	Specifc Cond	ductance	Temp (°C)		Turbidity	Eh	Volume Purged		
ľ			(umbac)	am)	(observed)			(m) ()	(oumulative gal)		
		(units)	(μmhos/		(observed)	(mg/l)	(NTU)	(mV)	(cumulative gal)		
100	1528		(µmhos/		(observed)			(mV) /80	0.15		
	1528	(units)				(mg/l)	(NTU)		0.30		
	1528	(units)				(mg/l)	(NTU)		0.15		
	1528	(units)			8.5	(mg/l)	(NTU)		0.30		
	1528	(units)				(mg/l) 6.8	(NTU)		0.30		
	1528 1531 1534	(units) 8.0		0	8.5	(mg/l) 6.8	(NTU)		0.30		
an	1528 1531 1534	(units) 8.0	43.	)     	8.5	(mg/l) 6.8	(NTU)		0.30		
Sam n.Re	1528 1531 1534	(units) 8.0	43.	)     	8.5  Our 1/11/19	(mg/l) 6.8	(NTU)		0.30		
am Re	15 28 15 3 L 15 3 H	(units)  B.O  mmediately  Sampler(s):	after collection:	0	8.5  Our 1/11/19	(mg/l) 6.8	(NTU)		0.30		



Well Description and Presampling Information		wy		Shee Pord	1001 2021		21	-05223
	Monitoring Point	IDP-	155			Lai	beled1	2-155
ıfor	Inside Diame	ter	(inches)	Key# 210	06	X Locked		Not Locked
- B	Casing Mater	ial: 🔀 PVC	☐ Ste	el	Stainless Ste	eel		
		Depth Meas	urement a	nd Elevatio	ns (from to	p of well	casing)	
200				Top of Casir	g Elevation	NA		Feet Jumes C
Ĺ				Total	Well Depth	85.4	ר	Feet Lucion
		water level meas					4	FeetJ
5	Static wat	er level measurer					74	Feet
i	D	_		Elevation Bef	ore Purging_	NA	224	Feet
	Purge Method Date Purged	Blader Pum	P		Mot	Pump ID_		Feet
ב ב		0820-0832				er Column _ ng Volume		
	Pump Rate	0.2		GPM / LPM		ne Purged	2.4	Gallons
						_		
		ed <u>ullu</u> ed 0835	- 1		Parameter			
ă	Time Sampl	-	_			(units)		<u>6.0</u> (mg/l)
ų l	Sampling Equ	10 MPS-7/71	- To	Spec. Cond.		(μmhos/cm)	Turbidity	
Date	Page 55-0-74	by RG3		mp. Observed		(°C)		191 (mV)
i i				mp. Corrected		(°C)		M
Field Sampling		surements Temp oluble Metals Filte			Yes Yes	☐ No ☐ No	□ NA NA	
ő		mperature Correct		7 (1	27 63		NA.	
Ď	Weather Condition	s During Samplin	g: 27 5 S	inny Nu	P. Coupe			
Liei	Weather Condition Sample Description							
LIGIC	Sample Description	on: Near no	adev					
	Sample Description		adev					
	Sample Description	on: New 10  ns: New 10  Specific Cor	edev iductance			Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
	Sample Description Observation Time pH	on: New 10  Specifc Cor  (µmhos	iductance	Temp (°C)	D.O.	Turbidity		
	Sample Description Observation Time pH (units	Specific Cor (µmhos	inductance (s/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	(mV)	(cumulative gal)
	Sample Description Observation Time pH (units	Specific Cor (µmhos	inductance of the control of the con	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	(mV) 192	(cumulative gal)
	Time pH (units 0824 7.5	Specific Cor (µmhos	inductance of the control of the con	Temp (°C) (observed)  S. 7  3. 1	D.O. (mg/l)  (e   1  (e   0	Turbidity (NTU)	(mV) 192 192	(cumulative gal)
	Time pH (units 0824 7.5	Specific Cor (µmhos	inductance of the control of the con	Temp (°C) (observed)  S. 7  3. 1	D.O. (mg/l) (e l l (e l l	Turbidity (NTU)	(mV) 192 192	(cumulative gal)
	Time pH (units 0824 7.5	Specific Cor (µmhos	inductance of the control of the con	Temp (°C) (observed)  S. 7  3. 1	D.O. (mg/l)  (e   1  (e   0  R(2)	Turbidity (NTU)	(mV) 192 192	(cumulative gal)
Stabilization lest	Sample Description Observation  Time pH (units) 0824 7.5 0828 7.5	Specific Cor (µmhos) 7 16 7 5	inductance s/cm)	Temp (°C) (observed) S. Z S. 1 S. 1	D.O. (mg/l)  (e   1  (e   0  Res)  1/h(21	Turbidity (NTU)	(mV) 192 192	(cumulative gal)
go Stabilization lest	Sample Description Observation  Time pH (units 0824 7.5 0828 7.5 0832 7.5 amples chilled immedia	Specific Cor (µmhos) 7 16 7 5	inductance s/cm)	Temp (°C) (observed) S. Z S. 1 S. 1	D.O. (mg/l)  (e   1  (e   0  R(2)	Turbidity (NTU)	(mV) 192 192	(cumulative gal)
Stabilization lest	Sample Description Observation  Time pH (units 0824 7.5 08 78 7.5 08 72 7.5	Specific Cor (µmhos) 7 19  Telly after collection	inductance s/cm)	Temp (°C) (observed) S. Z S.   S.   Yes Other	D.O. (mg/l)  (c   1  (c   0  (22)  1/(1/24)	Turbidity (NTU)	(mV) 192 192	(cumulative gal)
Stabilization lest	Sample Description Observation  Time pH (units 0824 7.5 0828 7.5 0832 7.5 amples chilled immedia	Specific Cor (µmhos) 7 19  Telly after collection	inductance s/cm)	Temp (°C) (observed) S. Z S.   S.   Yes Other	D.O. (mg/l)  (e   1  (e   0  Res)  1/h(21	Turbidity (NTU)	(mV) 192 192	(cumulative gal)
Sign	Sample Description Observation  Time pH (units 0824 7.5 08 78 7.5 08 72 7.5	Specific Cor (µmhos 7 46 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7	inductance s/cm)	Temp (°C) (observed) S. Z S.   S.   Yes Other	D.O. (mg/l)  (c   1  (c   0  (22)  1/(1/24)	Turbidity (NTU)	(mV) 192 192	(cumulative gal)



Well Description and Presampling Information		-0.1						1-05223			
	Monitoring Point	ID P-1	56			La	abeled ?	-156			
ıtor	Inside Diame	er 2	(inches)	Key # 2	106	X Locke	d [	Not Locked			
= 6	Casing Materi	al: 🔀 PVC	☐ St	eel [	Stainless S	teel					
		Depth Meas	urement a	and Elevation	ons (from t	op of well	casing)				
200				Top of Cas	ing Elevation	NA		Feet ulih			
É					al Well Depth			Feet www.u/h			
		water level meas						_Feet J			
5	Static water	er level measurer						_Feet			
i i	Dunna Mathaul			l Elevation Be	efore Purging			_Feet			
Š	Purge Method Date Purged	Bladder Pum	P	-	\/\/a	ter Column	BPL-1				
1	Time Purged	0905-09	20	1,5		ing Volume		Gallons			
	Pump Rate	0.2		GPM/LPM		me Purged		Gallons			
Ŋ	Date Sample	ed NIZIZI		Field	Paramete	r Measure	ments of	f Sample			
	Time Sample				H 7.4			7 - 8 (mg/l)			
	Sampling Equ	***	_	Spec. Con-		(µmhos/cm)	Turbidity				
		ID MPS-7/TM	.5 Te	emp. Observe		(°C)		188 (mV)			
5 7		by RUD		Temp. Corrected 7. ( °C) Other 4							
	0 1 1 0										
Lield		on: ever no.	g: 30+ Su	to 1 °C	Yes	□ No	⊠ NA				
S Dial J	Te Weather Condition Sample Description Observation	mperature Corrects During Samplin on: ever no a s: ever	g: 30f, Sc	Temp (°C)	D.O.	Turbidity	Eh	Volume Purged			
	Te Weather Condition Sample Description Observation Time pH (units)	mperature Corrects During Samplin on: every re- as: every re- Specifc Cor (µmhos	g: 30f, Scales	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)			
	Time pH (units	Specifc Core (µmhos)	g: 30f Sc g: dev	Temp (°C) (observed)	D.O. (mg/l) 7 - 8	Turbidity	Eh (mV)	4 44 46			
	Time pH (units	Specific Corrections:	g: 30f, Sc g: 30f, Sc aday	Temp (°C) (observed)	D.O. (mg/l) 7.8 7.8	Turbidity (NTU)	Eh (mV)				
	Time pH (units)	Specific Corrections:	g: 30f, Sc g: 30f, Sc aday	Temp (°C) (observed)  8.9	D.O. (mg/l) 7 - 8	Turbidity (NTU)  MA	Eh (mV)	(cumulative gal)			
	Time pH (units)	Specific Corrections:	g: 30f, Sc g: 30f, Sc aday	Temp (°C) (observed)  8.9	D.O. (mg/l) 7.8 7.8 7.8	Turbidity (NTU)  MA	Eh (mV)	(cumulative gal)			
	Time pH (units)	Specific Corrections:	g: 30f, Sc g: 30f, Sc aday	Temp (°C) (observed)  8.9	D.O. (mg/l) 7.8 7.8	Turbidity (NTU)  MA	Eh (mV)	(cumulative gal)			
Stabilization lest	Time pH (units of 10 7 . 7 of 15 7 . C	Specifc Core (µmhos  (e 4 4 0	etion Factor: g: 30f, Sc aday	Temp (°C) (observed) 8.9 9.0	D.O. (mg/l) 7.8 7.8 7.8 7.8 (lill)	Turbidity (NTU)  MA	Eh (mV)	(cumulative gal)			
orm	Tele Weather Conditions Sample Description Observation  Time pH (units) 0910 7.7 0915 7.0 0920 7.0  amples chilled immedian Revised 01/25/2021	Specific Correction  Specific Correction  Specific Correction  Correctio	etion Factor: g: 30f, Sc  aday  Inductance s/cm)	Temp (°C) (observed)  \$ 9 0  9.0	D.O. (mg/l) 7 · 8 7 · 8 7 · 8 4 · 8 0 · 60) (lilly	Turbidity (NTU)  MA  M4	Eh (mV)	(cumulative gal)			
Stabilization lest	Time pH (units)	Specific Correction  Specific Correction  Specific Correction  Correctio	etion Factor: g: 30f, Sc aday	Temp (°C) (observed)  \$ 9 0  9.0	D.O. (mg/l) 7.8 7.8 7.8 7.8 (lill)	Turbidity (NTU)  MA  M4	Eh (mV)	(cumulative gal)			



uo	Client Xcel	Energy	Project	Sheo Pords	Fall 2021	Projec	t No. 21	05223
Well Description and Presampling Information	Monitoring Poir	nt ID 7-15	7			Lal	beled P	-157
nfor	Inside Diam	eter 2	(inches)	Key # 210	6	X Locked		Not Locked
ng lı	Casing Mate	erial: 🛛 PVC	☐ Ste	el	Stainless St	eel		
nplii		Depth Meas	urement a	nd Elevation	ns (from to	p of well	casing)	
esar				Top of Casin	g Elevation	NA		Feet
I Pr						49.0	5	Feet ] mesund
anc		ic water level mea					35	Feet Julia CSP
tion	Static wa	ater level measure						Feet
ripi	Purge Method			Elevation Befo	ore Purging	Pump ID		Feet
Sec	Date Purged	Bladder Pu	np		Wat	er Column		Feet
ell 🛭	Time Purged	1215 - 122	7			ng Volume		
3	Pump Rate			GPM / LPM		ne Purged _	2.4	Gallons
	Data Cam	plad /a/a		Field F	Parameter	Measure	ments of	Sample
Y		pled 1230			THE RESERVE OF THE PERSON NAMED IN	(units)	ACCORD OF A ST	1 10
		quip. Ruy	_	Spec. Cond.				
ia i		erID MPS-7/78		mp. Observed			Turbidity	7.7 (NTU) 700 (mV)
Data		d by $\mathcal{L}(\mathcal{L})$		mp. Corrected				ma
ling					Yes	□ No		
Sampling		easurements Temp Soluble Metals Filte			Yes Yes	☐ No	☐ NA  ✓ NA	
Sa		emperature Corre			),,,,,,			- 1
Field		ons During Samplir			@ SHPF	1		
	Sample Descrip	tion: clear no	oder	1 /				
	Observati	ons: nene						
	Time pl			Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
est	1219 71	1		12.5	6.5	ma .	199	0.8
Tue	1223 7.		)	12.6	6.5	M	200	1.6
Stabilization Test	1227 7.		10	17.6	6.5	MA	200	2.4
illiq.					0 - 1			
Sta					11/2/21			
					la .			
	amples chilled immed	liately after collection	×	Yes Oth	ner			
		71	Visit of	Para	Analytical			
vam	e/Affiliation of Sample	er(s): Liley De	acebsar	I WILL	, many real		/	_
1	ead Technician Signa	ature: Rlux	2			Date:	1/21	71
		17	11				4/11	



Monito							-05223
	oring Point ID_				7.27		-158
Ins	ide Diameter _	2 (inches)	Key #210	06	X Locked	1 🗆	Not Locked
Cas	sing Material:	▼ PVC	eel	Stainless St	eel		
Purge Monate For Time For Purge For	De	epth Measurement a	and Elevatio	ns (from to	p of well	casing)	
				ng Elevation			Feet
l)	A. W			Well Depth			Feet Justin esp
		er level measurement be el measurement at time				94	Feet J "
	Static water lev	Static Water Leve				19	Feet
Purge N	Method Bla	ulder Punap	, Liovalion Bo	oro r arging.	Pump ID	BPC-1	→ 1779 ESP
Date F		12121		Wat	er Column		
Time F	ourged 17	45-1303	- ^	One Casin	ng Volume	1.01	Gallons
Pum	p Rate	0.2	GPM/LPM	Volur	me Purged_	3. Ce	Gallons
D	ate Sampled	11/2/21	Field I	Parameter	Measure	ments of	Sample
Ti	me Sampled _	1305	рН	7.4	(units)	D.O	8.2 (mg/l)
San	npling Equip. <u></u>		Spec. Cond	780	(µmhos/cm)	Turbidity	1,4 (NTU)
			emp. Observed			Eh	201 (mV)
100	Analyzed by	RUS TE	emp. Corrected	10.2	(°C)	Other	mt
San	nple for Soluble	Motale Filtered in Field					
Sample	Temper Conditions Dur Description:	Metals Filtered in Field ature Correction Factor ring Sampling: 40 <sup>-F</sup> , 5,	: <u>to 1</u> °C		□ No	∑ NA	
Sample	Temper Conditions Dur Description:	ature Correction Factor ring Sampling: <u>40 <sup>F</sup>, S</u> ever no odv	: <u>to 1</u> °C	, 8MPH			Volume Purged
Sample	Temper Conditions Dur Description: Dbservations:  pH (units)	sture Correction Factor ring Sampling: 40 , 5, creer no oder  Specifc Conductance (µmhos/cm)	: <u>to 1</u> °C	D.O. (mg/l)		Eh (mV)	Volume Purged (cumulative gal)
Sample	Temper Conditions Dur Description: Dbservations:  pH (units)	Specific Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh	
Sample	Temper Conditions Dur Description: Descriptions: PH (units) PH (units)	sture Correction Factor ring Sampling: 40°, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	(cumulative gal)
Sample	Temper Conditions Dur Description: Descriptions: PH (units) PH (units)	Specific Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV) ZOJ	(cumulative gal)
Sample	Temper Conditions Dur Description: Descriptions: PH (units) PH (units)	sture Correction Factor ring Sampling: 40°, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	Temp (°C) (observed)	D.O. (mg/l) 8, 1	Turbidity (NTU) M	Eh (mV) 701	(cumulative gal)  1. Z  2 - 4
Time	Temper Conditions Dur Description: Descriptions: PH (units) PH (units)	sture Correction Factor ring Sampling: 40°, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	Temp (°C) (observed)	D.O. (mg/l) 8, 1 8, 7	Turbidity (NTU) M	Eh (mV) 701	(cumulative gal)  1 · Z  2 - 4
Sample	Temper Conditions Dur Description: Descriptions: PH (units)  T. (	sture Correction Factor ring Sampling: 40°, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	Temp (°C) (observed)	D.O. (mg/l) 8, 1 8, 7	Turbidity (NTU) M	Eh (mV) 701	(cumulative gal)  1 · Z  2 - 4
Time 125) 1253	Temper Conditions Dur Description: Descriptions: PH (units)  T. (	sture Correction Factor ring Sampling: 40°, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	Temp (°C) (observed)	D.O. (mg/l) 8, 1 8, 7	Turbidity (NTU) M	Eh (mV) 701	1.2
Time 125) 1253 1303 Samples chillent Revised 01/2	Temper Conditions Dur Description:  ph (units)  T. (	sture Correction Factor ring Sampling: 40°, 5, 5, 64eer as a decrease of the second se	Temp (°C) (observed)	D.O. (mg/l) 8. ( 8. 7 8. 7 11/2/21	Turbidity (NTU)  M  M  M	Eh (mV) 701	(cumulative gal)  1 · Z  2 - 4
Time 125) 1253 1303 Samples chillent Revised 01/2	Temper Conditions Dure Description:  pH (units)  The ph (units)  ph (units)  ph (units)  ph (units)  ph (units)	sture Correction Factor ring Sampling: 40°, 5, 5, 64eer as a decrease of the second se	Temp (°C) (observed)	D.O. (mg/l) 8, 1 8, 2 8, 7	Turbidity (NTU)  M  M  M	Eh (mV) 701	(cumulative gal)  1. Z  2. 4
Time 125) 1253 1303  camples chillent Revised 01/25	Temper Conditions Dur Description:  ph (units)  T. (	sture Correction Factor ring Sampling: 40°, 5, 5, 64eer as a decrease of the second se	Temp (°C) (observed)	D.O. (mg/l) 8. ( 8. 7 8. 7 11/2/21	Turbidity (NTU)	Eh (mV) 701	(cumulative gal)  1. Z  2. 4  3. Le





03 December 2021

Eric Ealy

**Environmental Services-Water Minneapolis** 

250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco BAP CCR

Enclosed are the results of analyses for samples received by the laboratory on 11/03/2021 07:20-11/05/2021 09:00. 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 BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

#### **ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-17		MGK0016-03	Water	11/02/2021 15:20	11/03/2021 7:20
P-22		MGK0016-04	Water	11/01/2021 15:15	11/03/2021 7:20
P-23		MGK0016-05	Water	11/02/2021 12:00	11/03/2021 7:20
P-155		MGK0016-27	Water	11/02/2021 8:35	11/03/2021 7:20
P-156		MGK0016-28	Water	11/02/2021 9:25	11/03/2021 7:20
P-157		MGK0016-29	Water	11/02/2021 12:33	11/03/2021 7:20
P-158		MGK0016-30	Water	11/02/2021 13:05	11/03/2021 7:20
Duplicate CCR-BAP		MGK0016-37	Water	11/01/2021 15:15	11/03/2021 7:20
Rinse CCR-BAP		MGK0016-38	Water	11/01/2021 15:20	11/03/2021 7:20



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

# P-17 MGK0016-03 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	15.1	1.00	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 12:59	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 12:59	EPA 300.0	CRL
Sulfate	18.9	1.00	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 12:59	EPA 300.0	CRL
Wet Chemistry										
pH	7.78		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 10:03	SM 4500-H+ B	CRL
Total Dissolved Solids	290	25.0	mg/L		1	BGK0082	11/4/21 9:13	11/4/21 9:13	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0081	11/4/21 6:45	11/4/21 6:45	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.562	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 7:56	EPA 200.8	CRL
Barium	37.3	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 7:56	EPA 200.8	CRL
Chromium	1.57	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 7:56	EPA 200.8	CRL
Selenium	0.596	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 7:56	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 13:48	EPA 200.7	HRD
Calcium	64.0	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 13:45	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 13:45	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

P-22
MGK0016-04 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	n Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	14.8	1.00	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 13:20	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 13:20	EPA 300.0	CRL
Sulfate	148	1.00	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 13:20	EPA 300.0	CRL
Wet Chemistry										
pH	7.70		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 10:10	SM 4500-H+ B	CRL
Total Dissolved Solids	450	25.0	mg/L		1	BGK0082	11/4/21 9:13	11/4/21 9:13	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0081	11/4/21 6:45	11/4/21 6:45	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:00	EPA 200.8	CRL
Barium	57.8	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:00	EPA 200.8	CRL
Chromium	1.22	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:00	EPA 200.8	CRL
Selenium	6.45	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:00	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.759	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 13:53	EPA 200.7	HRD
Calcium	86.1	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 13:51	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 13:51	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

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Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

P-23
MGK0016-05 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	n Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	30.9	1.00	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 13:41	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 13:41	EPA 300.0	CRL
Sulfate	57.2	1.00	mg/L		1	BGK0080	11/3/21 8:59	11/3/21 13:41	EPA 300.0	CRL
Wet Chemistry										
pH	7.69		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 10:16	SM 4500-H+ B	CRL
Total Dissolved Solids	384	25.0	mg/L		1	BGK0082	11/4/21 9:13	11/4/21 9:13	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0081	11/4/21 6:45	11/4/21 6:45	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.618	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:12	EPA 200.8	CRL
Barium	59.3	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:12	EPA 200.8	CRL
Chromium	1.35	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:12	EPA 200.8	CRL
Selenium	0.718	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:12	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.247	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:47	EPA 200.7	HRD
Calcium	77.2	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:44	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:44	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

# P-155 MGK0016-27 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	17.0	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 11:56	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 11:56	EPA 300.0	CRL
Sulfate	144	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 11:56	EPA 300.0	CRL
Wet Chemistry										
рН	7.77		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 12:59	SM 4500-H+ B	CRL
Total Dissolved Solids	470	25.0	mg/L		1	BGK0134	11/6/21 8:45	11/6/21 8:45	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0133	11/6/21 6:43	11/6/21 6:43	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:16	EPA 200.8	CRL
Barium	56.3	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:16	EPA 200.8	CRL
Chromium	1.45	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:16	EPA 200.8	CRL
Selenium	3.76	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:16	EPA 200.8	CRL
Total Metals by ICP										
Boron	1.06	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:52	EPA 200.7	HRD
Calcium	74.0	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:50	EPA 200.7	HRD
Lithium	0.0269	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:50	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

# P-156 MGK0016-28 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	n Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	4.91	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 12:17	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 12:17	EPA 300.0	CRL
Sulfate	103	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 12:17	EPA 300.0	CRL
Wet Chemistry										
pH	7.80		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 13:02	SM 4500-H+ B	CRL
Total Dissolved Solids	408	25.0	mg/L		1	BGK0134	11/6/21 8:45	11/6/21 8:45	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0133	11/6/21 6:43	11/6/21 6:43	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.532	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:20	EPA 200.8	CRL
Barium	70.1	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:20	EPA 200.8	CRL
Chromium	2.44	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:20	EPA 200.8	CRL
Selenium	21.5	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:20	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.224	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:59	EPA 200.7	HRD
Calcium	87.8	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:56	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:56	EPA 200.7	HRD



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

# P-157 MGK0016-29 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	17.0	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 12:37	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 12:37	EPA 300.0	CRL
Sulfate	52.3	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 12:37	EPA 300.0	CRL
Wet Chemistry										
pH	7.71		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 13:06	SM 4500-H+ B	CRL
Total Dissolved Solids	338	25.0	mg/L		1	BGK0134	11/6/21 8:45	11/6/21 8:45	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0133	11/6/21 6:43	11/6/21 6:43	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.583	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:24	EPA 200.8	CRL
Barium	49.6	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:24	EPA 200.8	CRL
Chromium	0.823	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:24	EPA 200.8	CRL
Selenium	1.05	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:24	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.125	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:05	EPA 200.7	HRD
Calcium	71.2	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:02	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:02	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

# P-158 MGK0016-30 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	9.04	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 14:41	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 14:41	EPA 300.0	CRL
Sulfate	120	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 14:41	EPA 300.0	CRL
Wet Chemistry										
pH	7.71		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 13:10	SM 4500-H+ B	CRL
Total Dissolved Solids	488	25.0	mg/L		1	BGK0134	11/6/21 8:45	11/6/21 8:45	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0133	11/6/21 6:43	11/6/21 6:43	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.567	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:28	EPA 200.8	CRL
Barium	80.4	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:28	EPA 200.8	CRL
Chromium	1.14	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:28	EPA 200.8	CRL
Selenium	2.66	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:28	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.853	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:10	EPA 200.7	HRD
Calcium	103	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:08	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:08	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 CCR-BAP MGK0016-37 (Water) - Chain of Custody Number: Pace

		Reporting		Analyte						
Analyte	Result	Limit	Units	Qualifier	Dilution	n Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	14.9	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 17:06	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 17:06	EPA 300.0	CRL
Sulfate	149	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 17:06	EPA 300.0	CRL
Wet Chemistry										
pH	7.83		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 13:57	SM 4500-H+ B	CRL
Total Dissolved Solids	446	25.0	mg/L		1	BGK0160	11/7/21 8:39	11/7/21 8:39	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0159	11/7/21 6:30	11/7/21 6:30	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:32	EPA 200.8	CRL
Barium	58.0	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:32	EPA 200.8	CRL
Chromium	1.05	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:32	EPA 200.8	CRL
Selenium	5.95	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:32	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.706	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:45	EPA 200.7	HRD
Calcium	84.1	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:43	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 15:43	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

12/03/2021 09:13

# Rinse CCR-BAP MGK0016-38 (Water) - Chain of Custody Number: Pace

Analyte	Danult	Reporting	Units	Analyte Qualifier	Dilution	Datak	Decreased	Analyzed	Madaad	Analyst
Ariaryte	Result	Limit	Ullis	Qualifier	Dilution	Batch	Prepared	Allalyzeu	Method	Allalyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 17:27	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 17:27	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BGK0089	11/3/21 12:20	11/4/21 17:27	EPA 300.0	CRL
Wet Chemistry										
pH	6.29		pH Units	M_TTT	1	BGK0079	11/3/21 8:57	11/3/21 14:01	SM 4500-H+ B	CRL
Total Dissolved Solids	< 25.0	25.0	mg/L	M_K-06	1	BGK0160	11/7/21 8:39	11/7/21 8:39	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BGK0159	11/7/21 6:30	11/7/21 6:30	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:36	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:36	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:36	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BGK0136	11/5/21 7:38	11/9/21 8:36	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:34	EPA 200.7	HRD
Calcium	< 1.50	1.50	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:32	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BGK0135	11/5/21 7:36	11/8/21 14:32	EPA 200.7	HRD



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco BAP CCR

Reported:

12/03/2021 09:13

A1.4-	Danist.	Reporting	l leite	Spike	Source	0/ DEC	%REC	DDD	RPD	Nata -
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0080 - Wet Prep										
Blank (BGK0080-BLK1)				Prepared	& Analyze	d: 11/03/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGK0080-BLK2)				Prepared	& Analyze	d: 11/03/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGK0080-BS1)				Prepared	& Analyze	d: 11/03/2	021			
Chloride	24.494	1.00	mg/L	25.000		98.0	90-110			
Fluoride	2.3360	0.750	mg/L	2.5000		93.4	90-110			
Sulfate	24.425	1.00	mg/L	25.000		97.7	90-110			
LCS (BGK0080-BS2)				Prepared	& Analyze	d: 11/03/2	021			
Chloride	24.618	1.00	mg/L	25.000		98.5	90-110			
Fluoride	2.3750	0.750	mg/L	2.5000		95.0	90-110			
Sulfate	24.609	1.00	mg/L	25.000		98.4	90-110			
LCS (BGK0080-BS3)				Prepared	& Analyze	d: 11/03/2	021			
Chloride	24.719	1.00	mg/L	25.000		98.9	90-110	<u> </u>		
Fluoride	2.3860	0.750	mg/L	2.5000		95.4	90-110			
Sulfate	24.721	1.00	mg/L	25.000		98.9	90-110			
Duplicate (BGK0080-DUP1)	So	urce: MGK00	16-06	Prepared	& Analyze	d: 11/03/2	021			
Chloride	6.8730	1.00	mg/L		6.8860			0.189	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	40.562	1.00	mg/L		40.609			0.116	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
,	rtodit	Liiiik		20101	rtocan	701120	Liiiito	- 111 5	Liiiik	110100
Batch BGK0080 - Wet Prep										
Duplicate (BGK0080-DUP2)	Sou	rce: MGK00	16-07	Prepared	& Analyze	d: 11/03/2	021			
Chloride	12.976	1.00	mg/L		12.969			0.0540	20	
Fluoride	< 0.750	0.750	mg/L		<0.750				20	
Sulfate	61.723	1.00	mg/L		61.596			0.206	20	
Matrix Spike (BGK0080-MS1)	Sou	rce: MGK00	16-06	Prepared	& Analyze	d: 11/03/2	021			
Chloride	37.686	1.25	mg/L	31.250	6.8860	98.6	90-110			
Fluoride	3.0350	0.938	mg/L	3.1250	<0.938	97.1	90-110			
Sulfate	71.719	1.25	mg/L	31.250	40.609	99.6	90-110			
Matrix Spike (BGK0080-MS2)	Sou	rce: MGK00°	16-07	Prepared	& Analyze	d: 11/03/2	021			
Chloride	44.711	1.25	mg/L	31.250	12.969	102	90-110			
Fluoride	3.1325	0.938	mg/L	3.1250	<0.938	100	90-110			
Sulfate	93.064	1.25	mg/L	31.250	61.596	101	90-110			
Matrix Spike Dup (BGK0080-MSD1)	Sou	rce: MGK00	16-06	Prepared	& Analyze	d: 11/03/2	021			
Chloride	37.923	1.25	mg/L	31.250	6.8860	99.3	90-110	0.625	20	
Fluoride	3.0713	0.938	mg/L	3.1250	< 0.938	98.3	90-110	1.19	20	
Sulfate	71.918	1.25	mg/L	31.250	40.609	100	90-110	0.277	20	
Matrix Spike Dup (BGK0080-MSD2)	Sou	rce: MGK00	16-07	Prepared	& Analyze	d: 11/03/2	021			
Chloride	44.060	1.25	mg/L	31.250	12.969	99.5	90-110	1.47	20	
Fluoride	3.0600	0.938	mg/L	3.1250	<0.938	97.9	90-110	2.34	20	
Sulfate	92.738	1.25	mg/L	31.250	61.596	99.7	90-110	0.351	20	
Batch BGK0089 - Wet Prep										
Blank (BGK0089-BLK1)				Prepared:	11/03/202	21 Analyze	d: 11/04/2	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 Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0089 - Wet Prep										
Blank (BGK0089-BLK2)				Prepared:	11/03/202	1 Analyze	d: 11/04/2	021		
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGK0089-BS1)				Prepared:	11/03/202	1 Analyze	d: 11/04/2	021		
Chloride	24.659	1.00	mg/L	25.000		98.6	90-110			
Fluoride	2.4170	0.750	mg/L	2.5000		96.7	90-110			
Sulfate	24.681	1.00	mg/L	25.000		98.7	90-110			
LCS (BGK0089-BS2)				Prepared:	11/03/202	1 Analyze	ed: 11/04/2	021		
Chloride	24.534	1.00	mg/L	25.000		98.1	90-110			
Fluoride	2.3760	0.750	mg/L	2.5000		95.0	90-110			
Sulfate	24.578	1.00	mg/L	25.000		98.3	90-110			
_CS (BGK0089-BS3)				Prepared:	11/03/202	1 Analyze	d: 11/04/2	021		
Chloride	23.532	1.00	mg/L	25.000		94.1	90-110			
Fluoride	2.2740	0.750	mg/L	2.5000		91.0	90-110			
Sulfate	23.548	1.00	mg/L	25.000		94.2	90-110			
Duplicate (BGK0089-DUP1)	Sou	rce: MGK00	16-22	Prepared:	11/03/202	1 Analyze	ed: 11/04/2	021		
Chloride	12.567	1.00	mg/L		12.555			0.0955	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	26.057	1.00	mg/L		26.019			0.146	20	
Duplicate (BGK0089-DUP2)	Sou	rce: MGK00	16-23	Prepared:	11/03/202	1 Analyze	ed: 11/04/2	021		
Chloride	22.513	1.00	mg/L		22.488			0.111	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	90.341	1.00	mg/L		90.155			0.206	20	



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 BGK0089 - Wet Prep										
Matrix Spike (BGK0089-MS1)	Sour	ce: MGK00	16-22	Prepared:	11/03/202	21 Analyze	ed: 11/04/2	.021		
Chloride	44.318	1.25	mg/L	31.250	12.555	102	90-110			
Fluoride	3.1450	0.938	mg/L	3.1250	<0.938	101	90-110			
Sulfate	58.079	1.25	mg/L	31.250	26.019	103	90-110			
Matrix Spike (BGK0089-MS2)	Sour	ce: MGK00	16-23	Prepared:	11/03/202	21 Analyze	ed: 11/04/2	.021		
Chloride	54.025	1.25	mg/L	31.250	22.488	101	90-110			
Fluoride	3.1238	0.938	mg/L	3.1250	<0.938	100	90-110			
Sulfate	121.31	1.25	mg/L	31.250	90.155	99.7	90-110			
Matrix Spike Dup (BGK0089-MSD1)	Sour	ce: MGK00	16-22	Prepared:	11/03/202	21 Analyze	ed: 11/04/2	.021		
Chloride	44.059	1.25	mg/L	31.250	12.555	101	90-110	0.586	20	
Fluoride	3.1113	0.938	mg/L	3.1250	<0.938	99.6	90-110	1.08	20	
Sulfate	57.816	1.25	mg/L	31.250	26.019	102	90-110	0.453	20	
Matrix Spike Dup (BGK0089-MSD2)	Sour	ce: MGK00	16-23	Prepared:	11/03/202	21 Analyze	ed: 11/04/2	2021		
Chloride	54.206	1.25	mg/L	31.250	22.488	101	90-110	0.335	20	
Fluoride	3.1463	0.938	mg/L	3.1250	<0.938	101	90-110	0.718	20	
Sulfate	121.39	1.25	mg/L	31.250	90.155	99.9	90-110	0.0659	20	
Batch BGK0142 - Wet Prep										
Blank (BGK0142-BLK1)				Prepared	& Analyze	d: 11/05/2	021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BGK0142-BLK2)				Prepared	& Analyze	d: 11/05/2	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 BAP CCR

Reported:

12/03/2021 09:13

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0142 - Wet Prep										
LCS (BGK0142-BS1)				Prepared	& Analyze	d: 11/05/2	021			
Chloride	24.496	1.00	mg/L	25.000		98.0	90-110			
Fluoride	2.3720	0.750	mg/L	2.5000		94.9	90-110			
Sulfate	24.509	1.00	mg/L	25.000		98.0	90-110			
LCS (BGK0142-BS2)				Prepared	& Analyze	d: 11/05/2	021			
Chloride	24.658	1.00	mg/L	25.000		98.6	90-110			
Fluoride	2.3930	0.750	mg/L	2.5000		95.7	90-110			
Sulfate	24.707	1.00	mg/L	25.000		98.8	90-110			
LCS (BGK0142-BS3)				Prepared	& Analyze	d: 11/05/2	021			
Chloride	24.673	1.00	mg/L	25.000		98.7	90-110			
Fluoride	2.3930	0.750	mg/L	2.5000		95.7	90-110			
Sulfate	24.684	1.00	mg/L	25.000		98.7	90-110			
Duplicate (BGK0142-DUP1)	Sou	rce: MGK00	33-08	Prepared	& Analyze	d: 11/05/2	021			
Chloride	0.34800	1.00	mg/L		0.34600			0.576	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	3.3870	1.00	mg/L		3.3980			0.324	20	
Duplicate (BGK0142-DUP2)	Sou	rce: MGK00	33-09	Prepared	& Analyze	d: 11/05/2	021			
Chloride	22.770	1.00	mg/L		22.752			0.0791	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	29.822	1.00	mg/L		29.786			0.121	20	
Matrix Spike (BGK0142-MS1)	Sou	rce: MGK00	33-08	Prepared	& Analyze	d: 11/05/2	021			
Chloride	30.926	1.25	mg/L	31.250	0.34600	97.9	90-110			
Fluoride	3.0913	0.938	mg/L	3.1250	<0.938	98.9	90-110			
Sulfate	34.288	1.25	mg/L	31.250	3.3980	98.8	90-110			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0142 - Wet Prep										
Matrix Spike (BGK0142-MS2)	Sou	ırce: MGK00	33-09	Prepared	& Analyze	d: 11/05/2	2021			
Chloride	54.444	1.25	mg/L	31.250	22.752	101	90-110			
Fluoride	3.1475	0.938	mg/L	3.1250	<0.938	101	90-110			
Sulfate	61.706	1.25	mg/L	31.250	29.786	102	90-110			
Matrix Spike Dup (BGK0142-MSD1)	Sou	ırce: MGK00	33-08	Prepared	& Analyze	d: 11/05/2	.021			
Chloride	31.178	1.25	mg/L	31.250	0.34600	98.7	90-110	0.809	20	
Fluoride	3.1225	0.938	mg/L	3.1250	<0.938	99.9	90-110	1.01	20	
Sulfate	34.545	1.25	mg/L	31.250	3.3980	99.7	90-110	0.748	20	
Matrix Spike Dup (BGK0142-MSD2)	Sou	rce: MGK00	33-09	Prepared	& Analyze	d: 11/05/2				
Chloride	53.918	1.25	mg/L	31.250	22.752	99.7	90-110	0.971	20	
Fluoride	3.0600	0.938	mg/L	3.1250	<0.938	97.9	90-110	2.82	20	
Sulfate	61.215	1.25	mg/L	31.250	29.786	101	90-110	0.799	20	
Batch BGK0172 - Wet Prep										
Blank (BGK0172-BLK1)				Prepared	& Analyze	d: 11/08/2	2021			
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BGK0172-BS1)				Prepared	& Analyze	d: 11/08/2	2021			
Chloride	24.347	1.00	mg/L	25.000		97.4	90-110			
Fluoride	2.3490	0.750	mg/L	2.5000		94.0	90-110			
Sulfate	24.329	1.00	mg/L	25.000		97.3	90-110			
LCS (BGK0172-BS2)				Prepared	& Analyze	d: 11/08/2	2021			
Chloride	24.466	1.00	mg/L	25.000		97.9	90-110			
Fluoride	2.3650	0.750	mg/L	2.5000		94.6	90-110			
Sulfate	24.481	1.00	mg/L	25.000		97.9	90-110			



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 BGK0172 - Wet Prep										
Duplicate (BGK0172-DUP1)	Sour	ce: MGK003	33-20	Prepared	& Analyze	d: 11/08/2	021			
Chloride	2.0720	1.00	mg/L		2.0750			0.145	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	28.118	1.00	mg/L		28.136			0.0640	20	
Matrix Spike (BGK0172-MS1)	Sour	ce: MGK003	33-20	Prepared	& Analyze	d: 11/08/2	021			
Chloride	33.515	1.25	mg/L	31.250	2.0750	101	90-110			
Fluoride	3.1338	0.938	mg/L	3.1250	<0.938	100	90-110			
Sulfate	60.000	1.25	mg/L	31.250	28.136	102	90-110			
Matrix Spike Dup (BGK0172-MSD1)	Sour	ce: MGK003	33-20	Prepared	& Analyze	d: 11/08/2	021			
Chloride	33.269	1.25	mg/L	31.250	2.0750	99.8	90-110	0.737	20	
Fluoride	3.1063	0.938	mg/L	3.1250	<0.938	99.4	90-110	0.881	20	
Sulfate	59.785	1.25	mg/L	31.250	28.136	101	90-110	0.359	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0079 - Wet Prep										
LCS (BGK0079-BS1)				Prepared	& Analyze	d: 11/03/2	021			
рН	7.0900		pH Units	7.0000		101	90-110			
LCS (BGK0079-BS2)				Prepared	& Analyze	d: 11/03/2	021			
рН	7.1000		pH Units	7.0000		101	90-110			
Duplicate (BGK0079-DUP1)	Source	e: MGK00°	16-01	Prepared	& Analyze	d: 11/03/2	021			
pH	7.3700		pH Units		7.4100			0.541	20	
Duplicate (BGK0079-DUP2)	Source	e: MGK00°	16-11	Prepared	& Analyze	d: 11/03/2	021			
pH	7.5400		pH Units		7.5400			0.00	20	
Duplicate (BGK0079-DUP3)	Source	e: MGK00°	16-21	Prepared	& Analyze	d: 11/03/2	021			
рН	7.6800		pH Units		7.6700			0.130	20	
Duplicate (BGK0079-DUP4)	Source	e: MGK00°	16-31	Prepared	& Analyze	d: 11/03/2	021			
рН	7.7900		pH Units		7.7800			0.128	20	
Batch BGK0081 - Wet Prep										
Blank (BGK0081-BLK1)				Prepared	& Analyze	d: 11/04/2	021			
Total Suspended Solids	<5.00	5.00	mg/L	·	<u> </u>					
LCS (BGK0081-BS1)				Prepared	& Analyze	d: 11/04/2	021			
Total Suspended Solids	92.000	5.00	mg/L	101.00		91.1	70-130			
Duplicate (BGK0081-DUP1)	Sourc	e: MGK00°	16-02	Prepared	& Analyze	d: 11/04/2	021			



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

	Reporting		Spike	Source		%REC		RPD	
Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
			Prepared	& Analyze	d: 11/04/2	021			
<25.0	25.0	mg/L							
			Prepared	& Analyze	d: 11/04/2	021			
94.000	25.0	mg/L	100.80		93.3	70-130			
Sour	ce: MGK00	16-02	Prepared	& Analyze	021				
1174.0	25.0	mg/L		1194.0			1.69	20	
			Prepared						
<5.00	5.00	mg/L							
			Prepared	& Analyze	d: 11/05/2	021			
96.000	5.00	mg/L	101.00		95.0	70-130			
Sour	ce: MGK00	16-12	Prepared	& Analyze	d: 11/05/2	021			
313.33	16.7	mg/L		313.33			0.00	20	
			Prepared						
<25.0	25.0	mg/L							
			Prepared	& Analyze	d: 11/05/2	021			
104.00	25.0	mg/L	100.80		103	70-130			
	<25.0  94.000  Sour  1174.0  <5.00  96.000  Sour  313.33	Color   Colo	Result   Limit   Units	Prepared   Prepared	Prepared & Analyze	Result   Limit   Units   Level   Result   %REC	Result   Limit   Units   Level   Result   %REC   Limits	Prepared & Analyzed: 11/04/2021	Prepared & Analyzed: 11/04/2021



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Name/Location: Sherco BAP CCR

Reported:

12/03/2021 09:13

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0107 - Wet Prep										
Duplicate (BGK0107-DUP1)	Soi	urce: MGK00	16-12	Prepared	& Analyze	d: 11/05/2	021			
Total Dissolved Solids	598.00	25.0	mg/L		602.00			0.667	20	
Batch BGK0133 - Wet Prep										
Blank (BGK0133-BLK1)				Prepared	& Analyze	d: 11/06/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0133-BS1)				Prepared	& Analyze	d: 11/06/2	021			
Total Suspended Solids	96.000	5.00	mg/L	101.00		95.0	70-130			
Duplicate (BGK0133-DUP1)	Sou	ırce: MGK00	16-22	Prepared	& Analyze	d: 11/06/2	021			
Total Suspended Solids	4.5000	12.5	mg/L		3.6000			22.2	20	M_D-RL, M_K-06
Batch BGK0134 - Wet Prep										
Blank (BGK0134-BLK1)				Prepared	& Analyze	d: 11/06/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0134-BS1)				Prepared	& Analyze	d: 11/06/2	021			
Total Dissolved Solids	106.00	25.0	mg/L	100.80		105	70-130			
Duplicate (BGK0134-DUP1)	Sou	urce: MGK00	16-22	Prepared	& Analyze	d: 11/06/2	021			
Total Dissolved Solids	304.00	25.0	mg/L		306.00			0.656	20	
Batch BGK0141 - Wet Prep										
LCS (BGK0141-BS1)				Prepared	& Analyze	d: 11/05/2	021			
pH	7.0900		pH Units	7.0000		101	90-110			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Resuit	LITTIL	Units	Level	Result	%REC	Limits	KPD	LIMIL	Notes
Batch BGK0141 - Wet Prep										
LCS (BGK0141-BS2)				Prepared	& Analyze	ed: 11/05/2	021			
pH	7.1000		pH Units	7.0000		101	90-110			
Duplicate (BGK0141-DUP1)	Sou	rce: MGK00	33-01	Prepared	& Analyze	ed: 11/05/2	021			
pH	7.5000		pH Units		7.5600			0.797	20	
Duplicate (BGK0141-DUP2)	Sou	rce: MGK00	33-11	Prepared	& Analyze	ed: 11/05/2	021			
pH	7.8200		pH Units		7.8200			0.00	20	
Duplicate (BGK0141-DUP3)	Sou	rce: MGK00	33-21	Prepared	& Analyze	ed: 11/05/2	021			
pH	7.6600		pH Units		7.6700			0.130	20	
Batch BGK0159 - Wet Prep										
Blank (BGK0159-BLK1)				Prepared	& Analyze	ed: 11/07/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0159-BS1)				Prepared	& Analyze	ed: 11/07/2	021			
Total Suspended Solids	100.00	5.00	mg/L	101.00		99.0	70-130			
Duplicate (BGK0159-DUP1)	Sou	rce: MGK00	16-31	Prepared	& Analyze	ed: 11/07/2	021			
Total Suspended Solids	2.5000	12.5	mg/L	-	1.8000			32.6	20	M_D-RL, M_K-06
Batch BGK0160 - Wet Prep										
Blank (BGK0160-BLK1)				Prepared	& Analyze	ed: 11/07/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L	-	-					



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

## **Wet Chemistry - Quality Control**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0160 - Wet Prep										
LCS (BGK0160-BS1)				Prepared	& Analyze	d: 11/07/2	021			
Total Dissolved Solids	90.000	25.0	mg/L	100.80		89.3	70-130			
Duplicate (BGK0160-DUP1)	Source	e: MGK00	16-31	Prepared	& Analyze	d: 11/07/2	021			
Total Dissolved Solids	292.00	25.0	mg/L		288.00			1.38	20	
Batch BGK0168 - Wet Prep										
Blank (BGK0168-BLK1)				Prepared	& Analyze	d: 11/08/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0168-BS1)				Prepared	& Analyze	d: 11/08/2	021			
Total Suspended Solids	96.000	5.00	mg/L	102.60		93.6	70-130			
Duplicate (BGK0168-DUP1)	Source	e: MGK00	33-01	Prepared	& Analyze	d: 11/08/2	021			
Total Suspended Solids	6.0000	12.5	mg/L		8.6000			35.6	20	M_K-06
Duplicate (BGK0168-DUP2)	Source	e: MGK00	33-02	Prepared	& Analyze	d: 11/08/2	021			
Total Suspended Solids	12.500	12.5	mg/L		12.400			0.803	20	
Batch BGK0169 - Wet Prep										
Blank (BGK0169-BLK1)				Prepared	& Analyze	d: 11/08/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0169-BS1)				Prepared	& Analyze	d: 11/08/2	021			
Total Dissolved Solids	100.00	25.0	mg/L	102.20		97.8	70-130			



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

## **Wet Chemistry - Quality Control**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0169 - Wet Prep										
Duplicate (BGK0169-DUP1)	Sou	rce: MGK00	33-01	Prepared	& Analyze	d: 11/08/2	021			
Total Dissolved Solids	636.00	25.0	mg/L		632.00			0.631	20	
Duplicate (BGK0169-DUP2)	Sou	rce: MGK003	33-02	Prepared	& Analyze	d: 11/08/2	021			
Total Dissolved Solids	560.00	25.0	mg/L		556.00			0.717	20	
Batch BGK0173 - Wet Prep										
Blank (BGK0173-BLK1)				Prepared	& Analyze	d: 11/09/2	021			
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0173-BS1)				Prepared	& Analyze	d: 11/09/2	021			
Total Suspended Solids	92.000	5.00	mg/L	102.60		89.7	70-130			
Duplicate (BGK0173-DUP1)	Sou	rce: MGK003	33-13	Prepared	& Analyze	d: 11/09/2	021			
Total Suspended Solids	<12.5	12.5	mg/L		<12.5				20	M_K-06
Duplicate (BGK0173-DUP2)	Sou	rce: MGK003	33-14	Prepared	& Analyze	d: 11/09/2	021			
Total Suspended Solids	16.000	12.5	mg/L		14.600			9.15	20	
Batch BGK0174 - Wet Prep										
Blank (BGK0174-BLK1)				Prepared	& Analyze	d: 11/09/2	021			
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0174-BS1)				Prepared	& Analyze	d: 11/09/2	021			
Total Dissolved Solids	110.00	25.0	mg/L	102.20		108	70-130			



Environmental Services-Water Minneapolis	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/03/2021 09:13

## **Wet Chemistry - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0174 - Wet Prep  Duplicate (BGK0174-DUP1)	Source	ce: MGK003	3-13	Prepared	& Analyze	d: 11/09/20	)21			
Total Dissolved Solids	250.00	25.0	mg/L		246.00			1.61	20	
Duplicate (BGK0174-DUP2)	Source	ce: MGK003	3-14	Prepared	& Analyze	d: 11/09/20	)21			
Total Dissolved Solids	550.00	25.0	mg/L		560.00			1.80	20	



RPD

%REC

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

## **Total Metals by ICPMS - Quality Control**

Snika

Source

Reporting

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0136 - EPA 200.2, EPA 3005										
Blank (BGK0136-BLK1)				Prepared:	11/05/202	1 Analyze	ed: 11/09/20	)21		
Selenium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
_CS (BGK0136-BS1)				Prepared:	11/05/202	1 Analyze	ed: 11/09/20	)21		
Barium	99.674	0.500	ug/L	100.00		99.7	85-115			
Chromium	104.90	0.500	ug/L	100.00		105	85-115			
Arsenic	100.85	0.500	ug/L	100.00		101	85-115			
Selenium	96.807	0.500	ug/L	100.00		96.8	85-115			
Duplicate (BGK0136-DUP1)	Soi	urce: MGK00	16-05	Prepared:	11/05/202	1 Analyze	ed: 11/09/20	021		
Selenium	0.62158	0.500	ug/L		0.71833			14.4	20	
Chromium	1.2945	0.500	ug/L		1.3546			4.54	20	
Barium	61.602	0.500	ug/L		59.332			3.75	20	
Arsenic	0.54385	0.500	ug/L		0.61758			12.7	20	
Duplicate (BGK0136-DUP2)	Soi	urce: MGK00	16-27	Prepared:	11/05/202	1 Analyze	ed: 11/09/20	021		
Arsenic	0.40184	0.500	ug/L		0.44639			10.5	20	
Barium	52.156	0.500	ug/L		56.303			7.65	20	
Chromium	1.4399	0.500	ug/L		1.4521			0.846	20	
Selenium	3.6621	0.500	ug/L		3.7629			2.72	20	
Matrix Spike (BGK0136-MS1)	Soi	urce: MGK00	16-05	Prepared:	11/05/202	1 Analyze	ed: 11/09/20	021		
Chromium	108.53	0.500	ug/L	100.00	1.3546	107	75-125			
Arsenic	106.59	0.500	ug/L	100.00	0.61758	106	75-125			
Barium	164.74	0.500	ug/L	100.00	59.332	105	75-125			
Sanam										



RPD

%REC

Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

## **Total Metals by ICPMS - Quality Control**

Snika

Source

Reporting

	5 "	Reporting	11.2	Spike	Source	0/856	%REC	222	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0136 - EPA 200.2, EPA 3005										
Matrix Spike (BGK0136-MS2)	So	urce: MGK00	16-27	Prepared:	11/05/202	1 Analyze	d: 11/09/2	021		
Arsenic	106.83	0.500	ug/L	100.00	0.44639	106	75-125			
Selenium	111.29	0.500	ug/L	100.00	3.7629	108	75-125			
Chromium	110.27	0.500	ug/L	100.00	1.4521	109	75-125			
Barium	155.75	0.500	ug/L	100.00	56.303	99.5	75-125			
Matrix Spike Dup (BGK0136-MSD1)	So	urce: MGK00	16-05	Prepared:	11/05/202	1 Analyze	d: 11/09/2	021		
Chromium	106.73	0.500	ug/L	100.00	1.3546	105	75-125	1.67	20	
Selenium	108.11	0.500	ug/L	100.00	0.71833	107	75-125	2.11	20	
Arsenic	106.38	0.500	ug/L	100.00	0.61758	106	75-125	0.195	20	
Barium	168.49	0.500	ug/L	100.00	59.332	109	75-125	2.25	20	
Matrix Spike Dup (BGK0136-MSD2)	So	urce: MGK00	16-27	Prepared:	11/05/202	1 Analyze	d: 11/09/2	021		
Arsenic	106.92	0.500	ug/L	100.00	0.44639	106	75-125	0.0811	20	
Selenium	114.97	0.500	ug/L	100.00	3.7629	111	75-125	3.25	20	
Chromium	106.58	0.500	ug/L	100.00	1.4521	105	75-125	3.40	20	
Barium	162.00	0.500	ug/L	100.00	56.303	106	75-125	3.93	20	
Batch BGK0163 - EPA 200.2, EPA 3005										
Blank (BGK0163-BLK1)				Prepared:	11/06/202	1 Analyze	d: 11/09/2	021		
Chromium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
LCS (BGK0163-BS1)				Prepared:	11/06/202	1 Analyze	d: 11/09/2	021		
Barium	99.709	0.500	ug/L	100.00		99.7	85-115			
Selenium	100.34	0.500	ug/L	100.00		100	85-115			
Arsenic	100.06	0.500	ug/L	100.00		100	85-115			
Chromium	103.68	0.500	ug/L	100.00		104	85-115			



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 BGK0163 - EPA 200.2, EPA 300	5									
Duplicate (BGK0163-DUP1)	Sour	rce: MGK00	33-15	Prepared:	: 11/06/202	21 Analyze	ed: 11/09/2	021		
Arsenic	0.58809	0.500	ug/L		0.57158			2.85	20	
Selenium	5.7895	0.500	ug/L		5.6235			2.91	20	
Chromium	9.2204	0.500	ug/L		7.8323			16.3	20	
Barium	33.414	0.500	ug/L		32.949			1.40	20	
Matrix Spike (BGK0163-MS1)	Sour	rce: MGK00	33-15	Prepared:	: 11/06/202	21 Analyze	ed: 11/09/2	021		
Chromium	121.27	0.500	ug/L	100.00	7.8323	113	75-125			
Arsenic	104.26	0.500	ug/L	100.00	0.57158	104	75-125			
Selenium	111.07	0.500	ug/L	100.00	5.6235	105	75-125			
Barium	134.74	0.500	ug/L	100.00	32.949	102	75-125			
Matrix Spike Dup (BGK0163-MSD1)	Sour	rce: MGK00	33-15	Prepared:	: 11/06/202	21 Analyze	ed: 11/09/2	021		
Chromium	110.41	0.500	ug/L	100.00	7.8323	103	75-125	9.37	20	
Arsenic	103.39	0.500	ug/L	100.00	0.57158	103	75-125	0.840	20	
Selenium	107.68	0.500	ug/L	100.00	5.6235	102	75-125	3.10	20	
Barium	135.16	0.500	ug/L	100.00	32.949	102	75-125	0.304	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

## **Total Metals by ICP - Quality Control**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BGK0135 - EPA 200.2, EPA 3	8005									
Blank (BGK0135-BLK1)				Prepared:	11/05/202	1 Analyze	d: 11/08/20	021		
_ithium	<0.0150	0.0150	mg/L							
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BGK0135-BS1)				Prepared:	11/05/202	1 Analyze	d: 11/08/20	021		
Lithium	0.96654	0.0150	mg/L	1.0000		96.7	85-115			
Calcium	96.865	1.50	mg/L	100.00		96.9	85-115			
Boron	0.93498	0.0500	mg/L	1.0000		93.5	85-115			
Ouplicate (BGK0135-DUP1)	Sou	ırce: MGK001	16-03	Prepared:	11/05/202	1 Analyze	d: 11/08/20	021		
Lithium	0.0068777	0.0150	mg/L		0.0059996			13.6	20	
Calcium	64.547	1.50	mg/L		64.030			0.804	20	
Boron	0.042945	0.0500	mg/L		0.048149			11.4	20	
Duplicate (BGK0135-DUP2)	Sou	ırce: MGK001	16-04	Prepared:	11/05/202	1 Analyze	d: 11/08/20	021		
Boron	0.72949	0.0500	mg/L		0.75939			4.02	20	
Calcium	86.849	1.50	mg/L		86.069			0.903	20	
Lithium	0.0024588	0.0150	mg/L		0.0039014			45.4	20	M_D-RL
Matrix Spike (BGK0135-MS1)	Sou	ırce: MGK001	16-03	Prepared:	11/05/202	1 Analyze	d: 11/08/20	021		
Boron	0.99431	0.0500	mg/L	1.0000	0.048149	94.6	70-130			
Calcium	163.82	1.50	mg/L	100.00	64.030	99.8	70-130			
Lithium	0.98158	0.0150	mg/L	1.0000	0.0059996	97.6	70-130			
Matrix Spike (BGK0135-MS2)	Sou	ırce: MGK001	16-04	Prepared:	11/05/202	1 Analyze	d: 11/08/20	021		
Boron	1.6833	0.0500	mg/L	1.0000	0.75939	92.4	70-130			
Calcium	190.02	1.50	mg/L	100.00	86.069	104	70-130			
		0.0150					70-130			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

## **Total Metals by ICP - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0135 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BGK0135-MSD1)	So	urce: MGK001	16-03	Prepared	: 11/05/202	1 Analyze	ed: 11/08/2	021		
Lithium	0.96632	0.0150	mg/L	1.0000	0.0059996	96.0	70-130	1.57	20	
Calcium	160.07	1.50	mg/L	100.00	64.030	96.0	70-130	2.32	20	
Boron	0.97416	0.0500	mg/L	1.0000	0.048149	92.6	70-130	2.05	20	
Matrix Spike Dup (BGK0135-MSD2)	So	urce: MGK001	16-04	Prepared	: 11/05/202	1 Analyze	ed: 11/08/2	021		
Lithium	0.98790	0.0150	mg/L	1.0000	0.0039014	98.4	70-130	0.844	20	
Calcium	187.03	1.50	mg/L	100.00	86.069	101	70-130	1.59	20	
Boron	1.6886	0.0500	mg/L	1.0000	0.75939	92.9	70-130	0.311	20	
Batch BGK0162 - EPA 200.2, EPA 3005										
Blank (BGK0162-BLK1)				Prepared	: 11/06/202	1 Analyze	ed: 11/08/2	021		
Calcium	<1.50	1.50	mg/L							
Boron	<0.0500	0.0500	mg/L							
LCS (BGK0162-BS1)				Prepared	: 11/06/202	1 Analyze	ed: 11/08/2	021		
Calcium	93.896	1.50	mg/L	100.00		93.9	85-115			
Boron	0.89721	0.0500	mg/L	1.0000		89.7	85-115			
Duplicate (BGK0162-DUP1)	So	urce: MGK003	33-14	Prepared	: 11/06/202	1 Analyze	ed: 11/08/2	021		
Boron	0.22634	0.0500	mg/L		0.22873			1.05	20	
Calcium	85.896	1.50	mg/L		86.759			0.999	20	
Matrix Spike (BGK0162-MS1)	So	urce: MGK003	33-14	Prepared	: 11/06/202	1 Analyze	ed: 11/08/2	021		
Calcium	184.53	1.50	mg/L	100.00	86.759	97.8	70-130			
Boron	1.1404	0.0500	mg/L	1.0000	0.22873	91.2	70-130			



Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis MN, 55401

Project Manager: Eric Ealy

Project Manager: Eric Ealy

## **Total Metals by ICP - Quality Control**

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

Matrix Spike Dup (BGK0162-MSD1)	Sour	ce: MGK003	33-14	Prepared: 11/06/2021 Analyzed: 11/08/2021						
Calcium	181.16	1.50	mg/L	100.00	86.759	94.4	70-130	1.84	20	
Boron	1.1009	0.0500	mg/L	1.0000	0.22873	87.2	70-130	3.53	20	



Environmental Services-Water Minneapolis Project Name/Location: Sherco BAP CCR

250 Marquette Plaza Reported:

Minneapolis MN, 55401 Project Manager: Eric Ealy 12/03/2021 09:13

## **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

## Face Analytical "www.pacelebs.com

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

Company: XO	mormation: Xcel Fnerav	Report To: Chris Pe	Chris Pelosi	iso	= <	Attention:	Hance			Steve	Steve Davis						REGIL	REGULATORY AGENCY	AGEN	<u>}</u>
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Face Analytical

DRINKING WATE N/A Samples Intact N/A OTHER OTHER MCES SAMPLE CONDITIONS of Sealed Cooler N/A N/A N/A Custody REGULATORY AGENCY L MIN Page: 3 eo| ON N/A Received on SCL ▼ GROUND WATER 

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Face Analytical"

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WASTE WATER
SOIL/SOLD
OIL Copy To: DUPLICATE NPDES Required Client Information WELL #6A WELL #4 P-164 P-173 P-175 P-178A P-178B P-165 P-174 P-176 P-177 Environmental Services 2 Weeks One Character per box. (A-Z, 0-91, -.)
Sample IDs MUST BE UNIQUE SAMPLEID Chris Pelosi Xcel Energy Required Client Information: Fax: Requested Due Date/TAT: Section D hone; (612) 597-7254 Section A Company: # METI

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

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AMPLERINANDE AND SIGNATURE Chris Pelesi + Rilly Jacobson

SIGNATURE OF SAMPLER THE MONTH

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

Face Analytical"

DRINKING WATER Samples Intact N/A N/A OTHER SAMPLE CONDITIONS OTHER MCES of Sealed Cooler e-File(ALLQ020rev.3,31Mar05))22Jun2005 N/A N/A N/A N/A Apoisno. L REGULATORY AGENCY N N Page: 6 901 BN N/A Received on 1 SCL ☐ NPDES F GROUND WATER ☐ O° ni qmaT L NW L × × HOL 0210 NCT × L RCRA × iltered (Y/N) 11/3/24 T UST × Other loneria EO5Sz6 Chns Peles + Rily Jacobson HOE Chris Pelosi/ Riley Jacobson CI EONH OSZhpreserved 3 Steve Davis 2 N 2 # OF CONTAINERS 2 СОГГЕСТІОИ 720 TA 9MBT BJ9MAS 1520 910 1515 1000 1005 Xcel Energy Sherco Ponds Fall 2021 Pace Prome #: n 13/21 12/1/11 12/1/11 11/1/21 RELINQUISHED BY / AFFILIATION | DATE DATE Hilzizi 11/2/21 COLLECTED ace Quote Reference: Pace Project Manager: TIME Invoice Information. 1 1 1 Company Name: COMPOSITE START Section C DATE Address: 1 1 1 1 1 E SAMPLE TYPE G=GRAB C=COMP O O O O O O O TW TW TW TW Project Number 21-05223 M M Riley Jacobson M MATRIX CODE Chris Pelosi Required Project Information: PHStrps. Moutuz Purchase Order No.: Project Name: Section B Valid Matrix Coc MATRIX DERINING WATER WATER WASTE WATER PRODUCT SOLUSOLID OIL Report To: Copy To: \*, sumplier delivered to the links 11/3/21 DUPLICATE BAP2 **DUPLICATE BAP** DUPLICATE P3 RINSE NPDES Section D Required Client Information RINSE BAP2 RINSE BAP RINSE P3 Environmental Services 2 Weeks One Character per box. (A-Z, 0-91, ;-) Sample IDs MUST BE UNIQUE SAMPLEID Chris Pelosi Xcel Energy MP-7 Fax: Section A Required Client Information: Requested Due Date/TAT: Phone: (612) 597-7254 S mail.To: Address: # Mati \* \*