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.

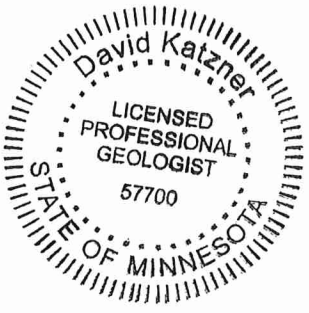
Additionally, I certify that this report has been prepared to meet the requirements of § 257.90(e), Annual groundwater monitoring and corrective action report, as included in 40 CFR Part 257, Subpart D, Disposal of Coal Combustion Residuals from Electric Utilities.

Signature of Preparer:

David Katzner

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).

- Recorded Concentrations: 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
Appendix III Parameters	Boron, total (mg/L)	<0.050 to 1.37	NA
	Calcium, total (mg/L)	48.6 to 145	NA
	Chloride, total (mg/L)	<1.0 to 27.5	NA
	Fluoride, total (mg/L)	<0.750	NA
	pH (lab) (pH)	7.57 to 8.01	NA
	Sulfate, total (mg/L)	6.12 to 269	NA
	Total Dissolved Solids (mg/L)	168 to 688	NA
Appendix IV Parameters	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
	Chromium, total (mg/L)	0.0005 to 0.004	0.1
	Cobalt, total (mg/L)	<0.0005	0.006
	Fluoride, total (mg/L)	<0.750	4
	Lead, total (mg/L)	<0.0005	0.015
	Lithium Total (mg/L)	<0.015 to <0.05[1]	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

[1] All §257.94(b) required background samples for lithium were obtained prior to amendment of §257.95(h)(2) on July 30, 2018, which implemented a groundwater protection standard of 0.04 mg/L for lithium. The analytical laboratory lowered the reporting limit for lithium from 0.05 mg/L to 0.015 mg/L in response to the rule amendment.

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

Well ID	Minnesota Unique Well ID	Date Installed	Location Site Coordinates (ft)		Elevation Top of Riser Pipe	Screen Length (ft)	Elevation Top of Screen	Elevation Bottom of Screen	Monitoring Status	Hydrologic Location
			Easting	Northing						
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[1]	Fall 2021[2]
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[3]
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[1]	Fall 2021[2]
P-01A-1	1	5/5/2021 and 6/10/2021	NS[3]
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

[1] 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.

[2] 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).

[3] 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								
	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

Appendix IV Parameters									
Parameter	Well ID and Number of Samples								
	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										
Parameter	Units	GWPS	Well ID and Sample Date							
			P-01A-1 5/5/2021	P-17 5/4/2021	P-22 5/5/2021	P-23 5/5/2021	P-152A 5/4/2021	P-155 5/5/2021	P-156 5/5/2021	P-157 5/5/2021	P-158 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	pH	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

Appendix IV Parameters										
Parameter	Units	GWPS	Well ID and Sample Date							
			P-01A-1 5/5/2021	P-17 5/4/2021	P-22 5/5/2021	P-23 5/5/2021	P-152A 5/4/2021	P-155 5/5/2021	P-156 5/5/2021	P-157 5/5/2021	P-158 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	<1.2[1]	<1.5[1]	<1.7[1]	<1.0[1]	<0.84	<1.4[1]	<1.9[1]	<1.6[1]	<1.8[1]

[1] Sample was obtained for radium analysis on June 10, 2021.

Field Parameters										
Parameter	Units	GWPS	Well ID and Sample Date							
			P-01A-1 5/5/2021	P-17 5/4/2021	P-22 5/5/2021	P-23 5/5/2021	P-152A 5/4/2021	P-155 5/5/2021	P-156 5/5/2021	P-157 5/5/2021	P-158 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	pH	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

Appendix III Parameters										
Parameter	Units	GWPS	Well ID and Sample Date							
			P-01A-1[1] 11/1/2021	P-17 11/2/2021	P-22 11/1/2021	P-23 11/2/2021	P-152A[1] 11/2/2021	P-155 11/2/2021	P-156 11/2/2021	P-157 11/2/2021	P-158 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	pH	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

Appendix IV Parameters										
Parameter	Units	GWPS	Well ID and Sample Date							
			P-01A-1[1] 11/1/2021	P-17 11/2/2021	P-22 11/1/2021	P-23 11/2/2021	P-152A[1] 11/2/2021	P-155 11/2/2021	P-156 11/2/2021	P-157 11/2/2021	P-158 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	--	--	--	--	--	--	--	--	--

Field Parameters										
Parameter	Units	GWPS	Well ID and Sample Date							
			P-01A-1[1] 11/1/2021	P-17 11/2/2021	P-22 11/1/2021	P-23 11/2/2021	P-152A[1] 11/2/2021	P-155 11/2/2021	P-156 11/2/2021	P-157 11/2/2021	P-158 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	pH	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

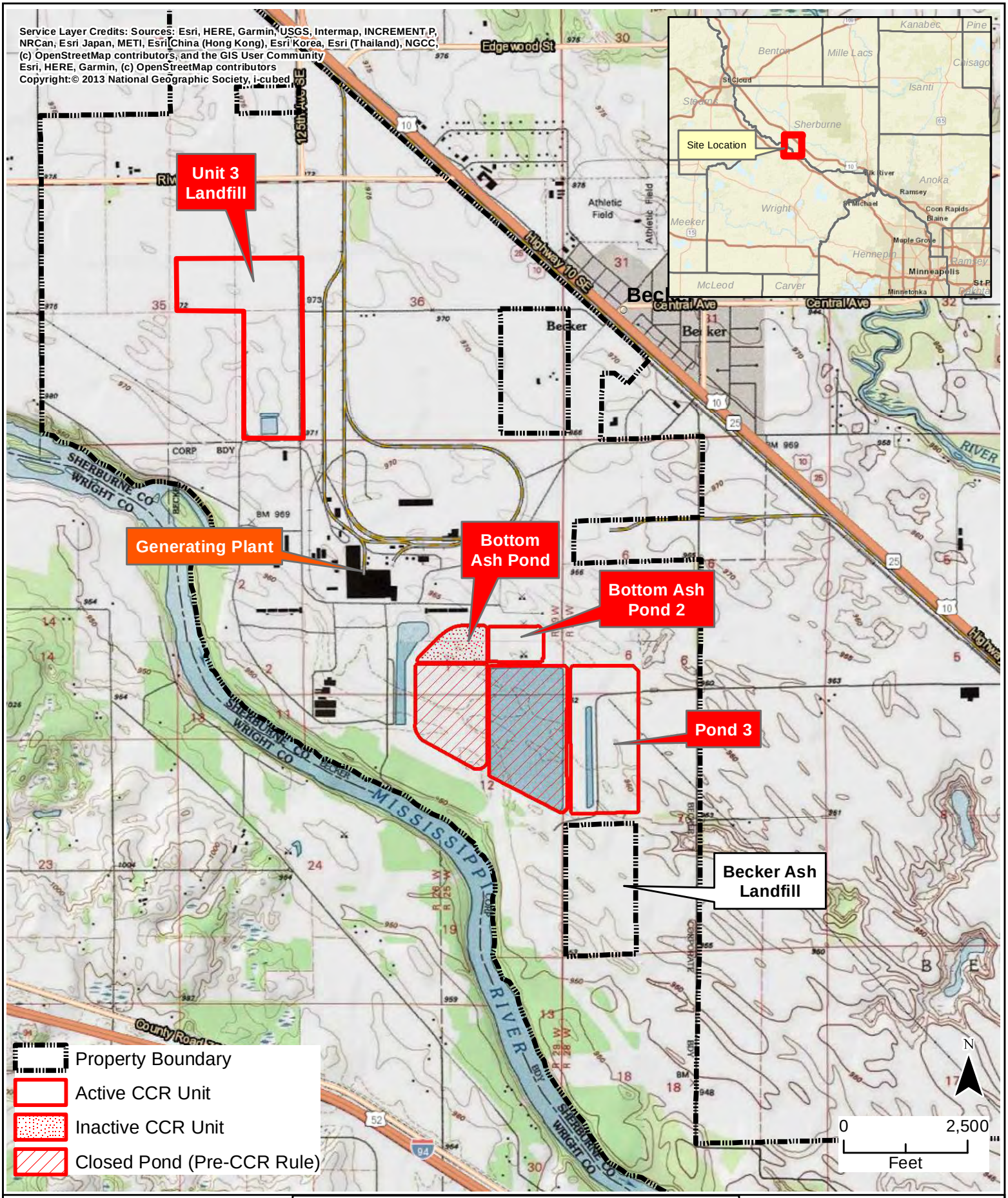
NA = Not Applicable

Two dashed lines = Not Analyzed

Downgradient Well

[1] Low groundwater levels prevented a sample from being collected from the well on the specified date.

Figures



CARLSON McCAIN

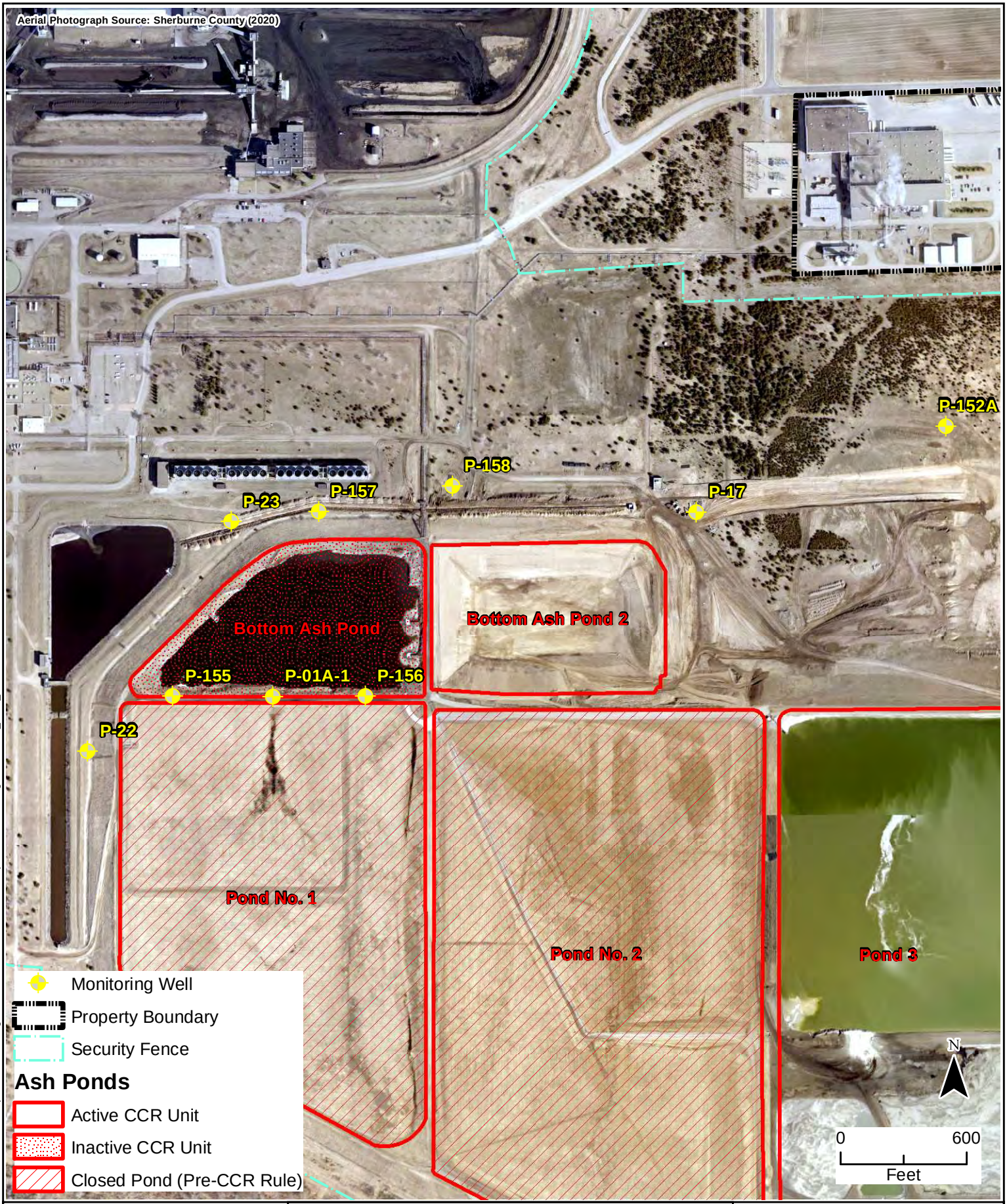
2021 CCR ANNUAL GROUNDWATER MONITORING REPORT

Bottom Ash Pond

Sherburne County Generating Plant
Becker, Minnesota

FIGURE 1

SITE LOCATION MAP



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

FIGURE 2

CCR GROUNDWATER MONITORING SYSTEM

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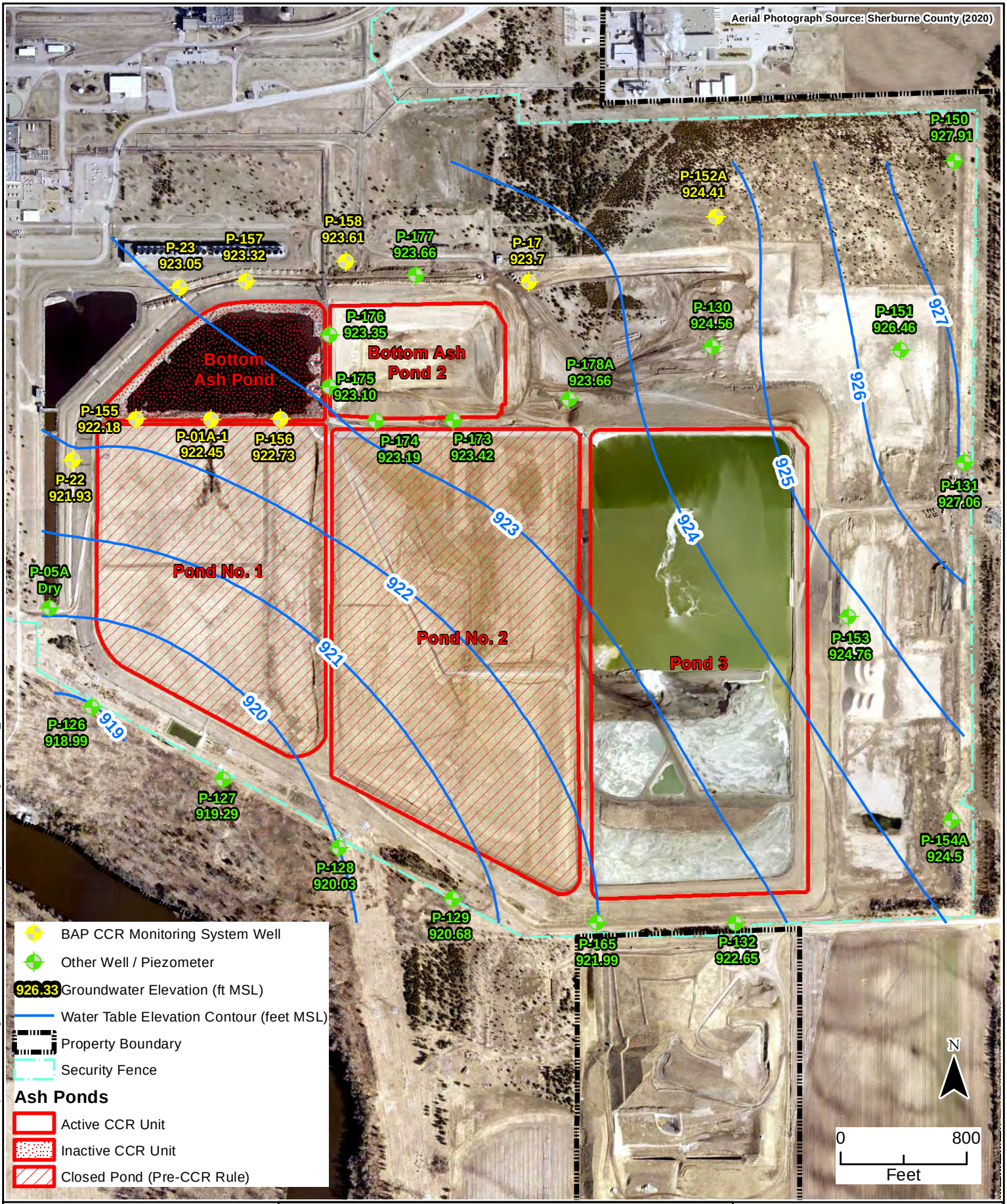
2021 CCR ANNUAL GROUNDWATER MONITORING REPORT
Bottom Ash Pond
Sherburne County Generating Plant
Becker, Minnesota

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



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CARLSON McCAIN

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

FIGURE 4
WATER TABLE ELEVATION CONTOUR MAP (11/01/2021)

Appendix A

Spring 2021 Assessment Monitoring Event
Field Datasheets and Laboratory Reports

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Sherco Project Sherco Ponds, Spring 2021 Project No. 21-04548

Monitoring Point ID P-01A-1 Labeled P-01A-1

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☒ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	80.98	Feet
Static water level measurement before purging (Start Depth)	78.19	Feet (measured 5/3/21 by DK)
Static water level measurement at time of sampling (Final Depth)	78.21	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 5/5/21 Water Column 2.79 Feet

Time Purged 1305 - 1320 One Casing Volume 0.45 Gallons

Pump Rate 0.10 (GPM) / LPM Volume Purged 0.5 Gallons

Field Sampling Data

Date Sampled 5/5/21

Time Sampled 1325

Sampling Equip. Pump + filter

Meter ID MPS-7 TM-6

Analyzed by CSP

Field Parameter Measurements of Sample

pH	7.8	(units)	D.O	10.0	(mg/l)
Spec. Cond.	710	(µmhos/cm)	Turbidity	1.2	(NTU)
Temp. Observed	9.6	(°C)	Eh	186	(mV)
Temp. Corrected	9.7	(°C)	Other	NM	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☒ Yes ☐ No ☐ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 50°F overcast and NE @ 5 mph

Sample Description: clear no odor

Observations: Well does not have locking cap. Well covered w/ plastic bag to protect from elements.

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1310	7.8	710	9.6	10.0	1.6	189	0.5
1315	7.8	710	9.6	10.0	1.2	188	1.0
1320	7.8	710	9.6	10.0	1.2	186	1.5
			(W) 5/5/21				

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Chris Pelosi Pace Analytical

Lead Technician Signature: Chris Pelosi Date: 5/5/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel | Project: Sherco 3/Ponds Resample | Project No.: 21-04714

Monitoring Point ID: P-01A-1 | Labeled: P01A-1

Inside Diameter: 2 (inches) | Key #: 2106 | ☐ Locked | ☒ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	78.89	Feet * Depth to pump ① RDS 6/10/21
Static water level measurement before purging (Start Depth)	78.28	Feet
Static water level measurement at time of sampling (Final Depth)	78.28	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Bladder Pump | Pump ID: BPC-1

Date Purged: 6/10/21 | Water Column: 0.61 Feet

Time Purged: 1235-1250 | One Casing Volume: 0.09 Gallons

Pump Rate: 0.2 (GPM) / LPM | Volume Purged: 3.0 Gallons

Field Sampling Data

Date Sampled: 6/10/21

Time Sampled: 1255

Sampling Equip.: Pump

Meter ID: MS-8 TMS

Analyzed by: KAJ/RDS

Field Parameter Measurements of Sample

pH	7.1 (units)	D.O	6.1 (mg/l)
Spec. Cond.	360 (µmhos/cm)	Turbidity	3.7 (NTU)
Temp. Observed	15.7 (°C)	Eh	244 (mV)
Temp. Corrected	16.0 (°C)	Other	NA

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 97°F, sunny, SW wind @ 3 mph

Sample Description: clear & odorless

Observations: NA

* radium only

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1240	7.1	360	15.6	6.3	NA	250	1.0
1245	7.1	360	15.7	6.1	NA	246	2.0
1250	7.1	360	15.7	6.1	NA	244	3.0
			KAJ 6/10/21				

Samples chilled immediately after collection: ☒ Yes ☒ Other preserved

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendall Johnson & Riley Jacobson

Lead Technician Signature: [signature] Date: 6/10/21

① Did not have past Data for total Depth, Purged a bit extra incase - RDS 6/10/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Sherco Project Sherco Ponds, Spring 2021 Project No. 21-04548

Monitoring Point ID P-17 Labeled P17

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	58.76	Feet
Static water level measurement before purging (Start Depth)	38.44	Feet
Static water level measurement at time of sampling (Final Depth)	38.44	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 5/4/21 Water Column 20.32 Feet

Time Purged 1258 - 1358 One Casing Volume 3.31 Gallons

Pump Rate 0.2 (GPM) LPM Volume Purged 12 Gallons

Field Sampling Data

Date Sampled 5/4/21

Time Sampled 1400

Sampling Equip. Pump

Meter ID MPS-7 TM-6

Analyzed by CSP

Field Parameter Measurements of Sample

pH	8.0	(units)	D.O	9.3	(mg/l)
Spec. Cond.	480	(µmhos/cm)	Turbidity	1.0	(NTU)
Temp. Observed	8.4	(°C)	Eh	173	(mV)
Temp. Corrected	8.5	(°C)	Other	NA	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☒ Yes (@ final) ☐ No ☒ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 54°F sunny wind NW @ 15 mph

Sample Description: clear no odor

Observations: N/A

B-5

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1318	8.0	480	8.4	9.4	1.2	174	4
1338	8.0	480	8.4	9.3	1.0	173	8
1358	8.0	480	8.4	9.3	1.0	173	12
			@ 5/4/21				

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Chris Pelosi Pace Analytical

Lead Technician Signature: Chris Pelosi Date: 5/4/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco ponds resamp Project No. 21-24716

Monitoring Point ID P-17 Labeled P17

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	45.26	Feet * Depth to pump ①
Static water level measurement before purging (Start Depth)	38.45	Feet
Static water level measurement at time of sampling (Final Depth)	38.45	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BSP-1

Date Purged 6/10/21 Water Column 6.81 Feet

Time Purged 1640 - 1658 One Casing Volume 1.11 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 6/10/21

Time Sampled 1705

Sampling Equip. Pump

Meter ID MPS-8 / TM5

Analyzed by KAS

Field Parameter Measurements of Sample

pH	8.1 (units)	D.O	9.1 (mg/l)
Spec. Cond.	240 (µmhos/cm)	Turbidity	4.1 (NTU)
Temp. Observed	12.5 (°C)	Eh	249 (mV)
Temp. Corrected	12.8 (°C)	Other	NA

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 97.F, sunny, SW wind @ 3mph

Sample Description: clear & odorless

Observations: NA

*radium only

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1646	8.2	240	12.5	9.1	NA	250	1.2
1652	8.1	240	12.5	9.1	NA	249	2.4
1658	8.1	240	12.5	9.1	NA	249	3.6
			KAS 6/10/21				

Samples chilled immediately after collection: ☐ Yes ☒ Other preserved

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendall Johnson & Chris Pelosi

Lead Technician Signature: [signature] Date: 6/10/21

① did not have past data for total depth - used depth to pump for calculations -KAS 6/10/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy Project: Sherco Lands, Spring 2021 Project No.: 21-04548

Monitoring Point ID: P-22 Labeled: P-22

Inside Diameter: 2 (inches) Key #: 2106 [X] Locked [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	57.85	Feet * David K. 5/03/21
Static water level measurement before purging (Start Depth)	40.08	Feet * David K. 5/03/21
Static water level measurement at time of sampling (Final Depth)	40.08	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Dedicated Bladder Pump Pump ID: BPC-1

Date Purged: 5/5/21 Water Column: 17.77 Feet

Time Purged: 1405 - 1441 One Casing Volume: 2.90 Gallons

Pump Rate: 0.25 (GPM) / LPM Volume Purged: 9.0 Gallons

Field Sampling Data

Date Sampled: 5/5/21

Time Sampled: 1445

Sampling Equip.: Pump + Filtered

Meter ID: MPS-8 TM-5

Analyzed by: RDJ

Field Parameter Measurements of Sample

pH	7.5 (units)	D.O	7.4 (mg/l)
Spec. Cond.	720 (µmhos/cm)	Turbidity	0.62 (NTU)
Temp. Observed	9.8 (°C)	Eh	205 (mV)
Temp. Corrected	10.1 (°C)	Other	NA

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: [X] Yes [ ] No [ ] NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 49°F, cloudy, SW @ 5MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1417	7.5	720	9.8	7.1	NA	197	3
1429	7.5	720	9.8	7.3	NA	201	6
1441	7.5	720	9.8	7.4	NA	205	9
			RDJ 5/5/21				

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: Riley Jacobson Date: 5/5/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco 3/ponds resample Project No. 21-04714

Monitoring Point ID P-22 Labeled PZ-2

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	49.62	Feet *Depth to Pump (1)
Static water level measurement before purging (Start Depth)	40.29	Feet
Static water level measurement at time of sampling (Final Depth)	40.29	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 6/10/21 Water Column 9.33 Feet

Time Purged 1430 – 1454 One Casing Volume 1.52 Gallons

Pump Rate 0.2 (GPM / LPM) Volume Purged 4.8 Gallons

Field Sampling Data

Date Sampled 6/10/21

Time Sampled 1500

Sampling Equip. Pump

Meter ID MPS-8/TM5

Analyzed by KAJ

Field Parameter Measurements of Sample

pH	8.3 (units)	D.O	9.3 (mg/l)
Spec. Cond.	310 (µmhos/cm)	Turbidity	2.5 (NTU)
Temp. Observed	11.0 (°C)	Eh	251 (mV)
Temp. Corrected	11.3 (°C)	Other	NA

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 97°F, sunny, SW wind @ 3 mph

Sample Description: clear + odorless

Observations: NA

*radium only

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1438	8.3	320	11.0	9.3	NA	250	1.6
1446	8.3	310	11.0	9.3	NA	251	3.2
1454	8.3	310	11.0	9.3	NA	251	4.8
			KAJ 6/10/21				

Samples chilled immediately after collection: ☐ Yes ☒ Other preserved

Form Revised 01/25/2021

Name/Affiliation of Sampler(s): Kendall Johnson + Chris Pelosi

Lead Technician Signature: [signature] Date: 6/18/21

(1) did not have past data - for total depth - depth to pump for calculations -KAJ 6/10/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Sherco Project Sherco Ponds, Spring 2021 Project No. 21-04548

Monitoring Point ID P-23 Labeled P23

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	67.34	Feet
Static water level measurement before purging (Start Depth)	42.30	Feet (measured 5/3/21 by DK)
Static water level measurement at time of sampling (Final Depth)	42.30	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 5/5/21 Water Column 25.04 Feet

Time Purged 1145 - 1206 One Casing Volume 4.08 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged ~~4.80~~ @ 4.2 Gallons

Field Sampling Data

Date Sampled 5/5/21

Time Sampled 1210

Sampling Equip. Pump + filter

Meter ID MPS-1 TM6

Analyzed by CSP

Field Parameter Measurements of Sample

pH	7.9	(units)	D.O	8.0	(mg/l)
Spec. Cond.	800	(µmhos/cm)	Turbidity	1.0	(NTU)
Temp. Observed	10.8	(°C)	Eh	187	(mV)
Temp. Corrected	10.9	(°C)	Other	M	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☒ Yes ☐ No ☐ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 50°F overcast wind NE@ 5 mph

Sample Description: clear no odor

Observations: NA

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1152	7.9	800	10.8	8.1	3.3	190	1.4
1159	7.9	800	10.8	8.0	1.0	187	2.8
1206	7.9	800	10.8	8.0	1.0	187	4.2
				(NA)	5/5/21		

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Chris Pelosi Pace Analytical

Lead Technician Signature: Chris Pelosi Date: 5/5/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Project: Sherco 3 pond resample Project No.: 21-04714

Monitoring Point ID: P-23 Labeled: P23

Inside Diameter: 2 (inches) Key #: 2106 [X] Locked [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	48.70	Feet *Depth to Pump (1)
Static water level measurement before purging (Start Depth)	42.33	Feet
Static water level measurement at time of sampling (Final Depth)	42.33	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Bladder Pump Pump ID: BPC-1

Date Purged: 6/10/21 Water Column: 6.37 Feet

Time Purged: 1510 - 1528 One Casing Volume: 1.04 Gallons

Pump Rate: 0.2 GPM / LPM Volume Purged: 1.2 Gallons

Field Sampling Data

Date Sampled: 6/10/21

Time Sampled: 1530

Sampling Equip.: Pump

Meter ID: MPS-8/TMS

Analyzed by: KAJ

Field Parameter Measurements of Sample

pH	8.0 (units)	D.O	9.5 (mg/l)
Spec. Cond.	330 (µmhos/cm)	Turbidity	2.7 (NTU)
Temp. Observed	13.5 (°C)	Eh	253 (mV)
Temp. Corrected	13.8 (°C)	Other	NA

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: [ ] Yes [ ] No [X] NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 97°F, sunny, SW wind @ 3 mph

Sample Description: clear + odorless

Observations: NA

* radium only

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1516	8.0	340	13.5	9.5	NA	253	1.2
1522	8.0	330	13.5	9.5	NA	253	2.4
1528	8.0	330	13.5	9.5	NA	253	3.6
		KAJ 6/10/21					

Samples chilled immediately after collection: KAJ 6/10/21 [X] Yes [X] Other preserved

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendall Johnson + Chris Pepsi

Lead Technician Signature: [signature] Date: 6/10/21

(1) did not have past data for total depth - used depth to pump for calculations KAJ 6/10/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Sherco Project Sherco Ponds, Spring 2021 Project No. 21-04548

Monitoring Point ID P-152A Labeled P152A

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	~~42.18~~ 42.35	Feet
Static water level measurement before purging (Start Depth)	39.21	Feet
Static water level measurement at time of sampling (Final Depth)	39.21	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 5/4/21 Water Column 3.14 Feet

Time Purged 1215 - 1245 One Casing Volume 1.61 Gallons

Pump Rate ~~15~~ 0.2 GPM / LPM Volume Purged 6 Gallons

Field Sampling Data

Date Sampled 5/4/21

Time Sampled 1250

Sampling Equip. Pump

Meter ID MPS-7 TM-6

Analyzed by CSF

Field Parameter Measurements of Sample

pH	7.9	(units)	D.O	9.3	(mg/l)
Spec. Cond.	370	(µmhos/cm)	Turbidity	1.0	(NTU)
Temp. Observed	9.5	(°C)	Eh	154	(mV)
Temp. Corrected	9.6	(°C)	Other	NA	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 54°F overcast wind NW @ 15mph

Sample Description: Clear no odor

Observations: NA

B-4 * Radium Collected

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1225	7.9	370	9.5	9.3	1.0	156	2
1235	7.9	370	9.5	9.3	1.0	155	4
1245	7.9	370	9.5	9.3	1.0	154	6

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Chris Pelesi Pace Analytical

Lead Technician Signature: CJPe Date: 5/4/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy | Project: Sherco Ponds, Spring 2021 | Project No.: 21-04548

Monitoring Point ID: P-155 | Labeled: P-155

Inside Diameter: 4 (inches) | Key #: 2106 | [X] Locked | [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	85.47	Feet
Static water level measurement before purging (Start Depth)	78.33	Feet
Static water level measurement at time of sampling (Final Depth)	78.33	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Dedicated Bladder Pump | Pump ID: BPC-1

Date Purged: 5/5/21 | Water Column: 7.14 Feet

Time Purged: 1325 - 1343 | One Casing Volume: 1.1 Gallons

Pump Rate: ~~0.15~~ 0.2 GPM / LPM | Volume Purged: 3.6 Gallons

Field Sampling Data

Date Sampled: 5/5/21

Time Sampled: 1345

Sampling Equip.: Pump

Meter ID: MPS-8 TM-5

Analyzed by: RGJ

Field Parameter Measurements of Sample

pH	7.5 (units)	D.O	6.6 (mg/l)
Spec. Cond.	720 (µmhos/cm)	Turbidity	2.2 (NTU)
Temp. Observed	10.6 (°C)	Eh	195 (mV)
Temp. Corrected	10.9 (°C)	Other	NA

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: ~~[X] Yes~~ [ ] No [X] NA (RGJ 5/5/21)

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 54°F cloudy

Sample Description: clear no odor

Observations: *DUPLICATE BAP *RINSE BAP Collected @ 1350 5/5/21 RGJ

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1331	7.4	750	10.6	6.2	NA	194	1.2
1337	7.5	720	10.6	6.6	NA	195	2.4
1343	7.5	720	10.6	6.6	NA	195	3.6
			RGJ 5/5/21				

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: Riley Jacobson Date: 5/5/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco 3/ponds resample Project No. 21-047160

Monitoring Point ID P-155 Labeled P155

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	83.16	Feet * depth to pump (1)
Static water level measurement before purging (Start Depth)	78.45	Feet
Static water level measurement at time of sampling (Final Depth)	78.45	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method dedicated bladder pump Pump ID BPC-1

Date Purged 6/10/21 Water Column 5.21 Feet

Time Purged 1340 - 1355 One Casing Volume 0.85 Gallons

Pump Rate 0.2 (GPM) LPM Volume Purged 3.0 Gallons

Field Sampling Data

Date Sampled 6/10/21

Time Sampled 1400

Sampling Equip. pump

Meter ID MPS-B TM 5

Analyzed by KAJ / RGJ

Field Parameter Measurements of Sample

pH	7.4	(units)	D.O	8.3	(mg/l)
Spec. Cond.	320	(µmhos/cm)	Turbidity	2.9	(NTU)
Temp. Observed	14.3	(°C)	Eh	240	(mV)
Temp. Corrected	14.9	(°C)	Other	NA	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☒ No ☐ NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 95° F, sunny, SW wind @ 5 mph

Sample Description: clear + odorless

Observations: @1400

* radium only * duplicate rinse @ 1345

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1345	7.4	320	14.2	8.3	NA	241	1.0
1350	7.4	320	14.3	8.3	NA	240	2.0
1355	7.4	320	14.3	8.3	NA	240	3.0
			KAJ 6/10/21				

Samples chilled immediately after collection: ☐ Yes ☒ Other preserved

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendall Jonson + Riley Jacobson

Lead Technician Signature: Kendall Q Date: 6/10/21

(1) did not have past data for total depth - depth to pump used for calculating - KAJ 6/10/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Sherco Project Sherco Ponds Spring 2021 Project No. 21-045548

Monitoring Point ID P-156 Labeled 812965

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	85.53	Feet
Static water level measurement before purging (Start Depth)	77.53	Feet (measured 5/15/21 by DK)
Static water level measurement at time of sampling (Final Depth)	77.56	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 5/15/21 Water Column 8.00 Feet

Time Purged 1230 - 1251 One Casing Volume 1.30 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged 4.2 Gallons

Field Sampling Data

Date Sampled 5/15/21

Time Sampled 1255

Sampling Equip. Pump

Meter ID MPS-? TM-6

Analyzed by CSP

Field Parameter Measurements of Sample

pH	8.0	(units)	D.O	9.9	(mg/l)
Spec. Cond.	460	(µmhos/cm)	Turbidity	2.6	(NTU)
Temp. Observed	9.4	(°C)	Eh	181	(mV)
Temp. Corrected	9.5	(°C)	Other	N/A	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 50°F overcast wind NE @ 5mph

Sample Description: clear no odor

Observations: NA

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1237	8.0	460	9.4	9.5	3.0	182	1.4
1244	8.0	460	9.4	9.4	3.0	181	2.8
1251	8.0	460	9.4	9.9	2.6	181	4.2
			(N)m. 5/15				

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Chris Pelesi Pace Analytical

Lead Technician Signature: [signature] Date: 5/15/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel | Project: Sherco 31 panels resampl | Project No.: 21-04714

Monitoring Point ID: P-156 | Labeled: P156

Inside Diameter: 2 (inches) | Key #: 2106 | [X] Locked | [ ] Not Locked

Casing Material: [X] PVC | [ ] Steel | [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	83.35	Feet
Static water level measurement before purging (Start Depth)	77.55	Feet
Static water level measurement at time of sampling (Final Depth)	77.55	Feet
Static Water Level Elevation Before Purging	NA	Feet

*Depth to Pump (1) - RGJ 6/10/21

Purge Method: dedicated bladder pump | Pump ID: BPC-1

Date Purged: 6/10/21 | Water Column: 5.8 Feet

Time Purged: 1145 - 1200 | One Casing Volume: 0.95 Gallons

Pump Rate: 0.2 GPM / LPM | Volume Purged: 3 Gallons

Field Sampling Data

Date Sampled: 6/10/21 | Time Sampled: 1205 | Sampling Equip.: pump + filter | Meter ID: MPS-B ; TM-B | Analyzed by: KAJ - RGJ

Field Parameter Measurements of Sample

pH	8.5 (units)	D.O	9.5 (mg/l)
Spec. Cond.	230 (µmhos/cm)	Turbidity	2.8 (NTU)
Temp. Observed	13.3 (°C)	Eh	252 (mV)
Temp. Corrected	13.6 (°C)	Other	NA

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: ~~[X] Yes~~ (RGJ 6/10/21) [ ] No [X] NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 91°F, sunny, SW winds @ 3 mph

Sample Description: clear & odorless

Observations: *Radium Only

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1150	8.4	240	13.4	9.7	NA	253	1
1155	8.5	230	13.3	9.6	NA	252	2
1200	8.5	230	13.3	9.5	NA	252	3

KAJ 6/10/21

Samples chilled immediately after collection: ~~[X] Yes~~ [X] Other preserved

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendan Johnson + Riley Jacobson

Lead Technician Signature: [signature] Date: 6/10/21

(1) Did not have past data for Total Depth - Depth to pump for calculations - RGJ 6/10/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Sherco **Project** Sherco Ponds, Spring 2021 **Project No.** 21-04548

Monitoring Point ID P-157 Labeled 812966

Inside Diameter 2 (inches) Key # 2106 [X] Locked [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 49.06 Feet

Static water level measurement before purging (Start Depth) 42.99 Feet (Measure 5/3/21 by DK)

Static water level measurement at time of sampling (Final Depth) 43.01 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 5/5/21 Water Column 6.07 Feet

Time Purged 1120 - 1135 One Casing Volume 0.99 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged 3 Gallons

Field Sampling Data

Date Sampled 5/5/21

Time Sampled 1140

Sampling Equip. Pump

Meter ID MPS-7 TM-6

Analyzed by CJP

Field Parameter Measurements of Sample

pH 8.1 (units) D.O 9.4 (mg/l)

Spec. Cond. 610 (μmhos/cm) Turbidity 4.0 (NTU)

Temp. Observed 9.7 (°C) Eh 184 (mV)

Temp. Corrected 9.8 (°C) Other NA

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: [ ] Yes [ ] No [X] NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 50°F overcast wind NE@5mph

Sample Description: clear no odor

Observations: NA

Stabilization Test

Time	pH (units)	Specifc Conductance (μmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1125	8.1	610	9.7	9.7	10	185	1
1130	8.1	610	9.7	9.4	6.2	184	2
1135	8.1	610	9.7	9.4	4.0	184	3
					~~4.0~~		
			NA CJP 5/5/21				

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Chris Pelosi Pace Analytical

Lead Technician Signature: [signature] Date: 5/5/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel | Project: Sherco 3/pond resample | Project No.: 21-04714

Monitoring Point ID: P-157 | Labeled: P157

Inside Diameter: 2 (inches) | Key #: 2106 | ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	46.23	Feet * Depth to pump (1)
Static water level measurement before purging (Start Depth)	42.94	Feet
Static water level measurement at time of sampling (Final Depth)	42.94	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Bladder Pump | Pump ID: BPC-1

Date Purged: 6/10/21 | Water Column: 3.29 Feet

Time Purged: 1540-1555 | One Casing Volume: 0.54 Gallons

Pump Rate: 0.2 (GPM) / LPM | Volume Purged: 3.0 Gallons

Field Sampling Data

Date Sampled: 6/10/21

Time Sampled: 1600

Sampling Equip.: Pump

Meter ID: MPS-8 / TMS

Analyzed by: KAJ

Field Parameter Measurements of Sample

pH	7.9 (units)	D.O	9.1 (mg/l)
Spec. Cond.	280 (µmhos/cm)	Turbidity	31 (NTU)
Temp. Observed	13.1 (°C)	Eh	251 (mV)
Temp. Corrected	13.4 (°C)	Other	NA

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 91°F, sunny, SW wind @ 3mph

Sample Description: clear & odorless

Observations: NA

* radium only

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1545	7.9	280	13.0	9.1	NA	251	1.0
1550	7.9	280	13.1	9.1	NA	251	2.0
~~1555~~ 1555	7.9	280	13.1	9.1	NA	251	3.0
		KAJ 6/10/21					

Volume Purged

Samples chilled immediately after collection: ☐ Yes ☒ Other preserved

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendall Jonson + Chris Belosi

Lead Technician Signature: [signature] Date: 6/10/21

(1) did not have past data for calculations - depth to pump was used KAJ 6/10/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Sherco Project Sherco Ponds, Spring 2021 Project No. 21-04548

Monitoring Point ID P-158 Labeled 812967

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	49.16	Feet
Static water level measurement before purging (Start Depth)	40.97	Feet
Static water level measurement at time of sampling (Final Depth)	40.97	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 5/4/21 Water Column 8.19 Feet

Time Purged 1550 - 1611 One Casing Volume 1.33 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged 4.2 Gallons

Field Sampling Data

Date Sampled 5/4/21

Time Sampled 1615

Sampling Equip. Pump

Meter ID MPS-7 TM-6

Analyzed by CSF

Field Parameter Measurements of Sample

pH	7.8	(units)	D.O	9.8	(mg/l)
Spec. Cond.	860	(µmhos/cm)	Turbidity	0.9	(NTU)
Temp. Observed	9.5	(°C)	Eh	153	(mV)
Temp. Corrected	9.6	(°C)	Other	NA	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 54°F sunny and NW@ 15mph

Sample Description: clear no odor

Observations: N/A

B-5 BAP2 DUPLICATE COLLECTED AT THIS WELL BAP2 RINSE COLLECTED 1620

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1557	7.8	860	@ weir 5/4/21 ~~10.5~~ 9.5	9.9	1.0	153	1.4
1604	7.8	860	9.5	9.9	1.0	152	2.8
1611	7.8	860	9.5	9.8	0.9	153	@ weir 5/4/21 ~~3.64~~ 4.2
			@ weir 5/4/21				

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Chris Pelosi Pace Analytical

Lead Technician Signature: [signature] Date: 5/4/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Project: Sherco ponds resample Project No.: 21-04716

Monitoring Point ID: P-158 Labeled: P158

Inside Diameter: 2 (inches) Key #: 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	46.05	Feet * Depth to pump (1)
Static water level measurement before purging (Start Depth)	40.88	Feet
Static water level measurement at time of sampling (Final Depth)	40.88	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Bladder Pump Pump ID: BPC-1

Date Purged: 6/10/21 Water Column: 5.17 Feet

Time Purged: 1610 - 1625 One Casing Volume: 0.84 Gallons

Pump Rate: 0.2 (GPM) / LPM Volume Purged: 3.0 Gallons

Field Sampling Data

Date Sampled: 6/10/21

Time Sampled: ~~1630~~ ~~KAJ~~ 1630

Sampling Equip.: Pump

Meter ID: MPS-8 / TMS

Analyzed by: KAJ

Field Parameter Measurements of Sample

pH	7.6 (units)	D.O	11.1 (mg/l)
Spec. Cond.	290 (µmhos/cm)	Turbidity	2.2 (NTU)
Temp. Observed	14.9 (°C)	Eh	252 (mV)
Temp. Corrected	15.2 (°C)	Other	NA

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 97°F, sunny, SW wind @ 3mph

Sample Description: clear & odorless

Observations: NA

* radium only

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1615	7.6	290	14.9	11.2	NA	252	1.0
~~1620~~ 1620	7.6	290	14.9	11.1	NA	252	2.0
1625	7.6	290	14.9	11.1	NA	252	3.0
			KAJ 6/10/21				

Samples chilled immediately after collection: ☐ Yes ☒ Other preserved

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendall Johnson + Chris Peloso

Lead Technician Signature: [signature] Date: 6/10/21

(1) did not have past data for total depth - used depth to pump for calculations

Minneapolis Testing Laboratory
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Certification #MN-027-053-197
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Christine Keefe, Supervisor (612) 630-4506

25 May 2021

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

cc:

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.

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

Minneapolis Testing Laboratory
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Certification # MN-027-053-197
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Christine Keefe, Supervisor (612) 630-4506

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

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

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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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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										
pH	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

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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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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										
pH	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

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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	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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	Result	Reporting Limit	Units	Analyte 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										
pH	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

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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	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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-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 Chromatography										
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										
pH	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

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Christine Keefe, Supervisor (612) 630-4506

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-01A-1

MGE0077-01 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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

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MGE0077-04 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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										
pH	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

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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

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MGE0077-04 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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

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

Analyte	Result	Reporting Limit	Units	Analyte 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

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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

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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										
pH	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

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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

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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										
pH	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

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Christine Keefe, Supervisor (612) 630-4506

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

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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										
pH	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

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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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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

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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	Result	Reporting 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

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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

Rinse CCR-BAP

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
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

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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

Rinse CCR-BAP

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

Analyte	Result	Reporting 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 20:05	EPA 245.1/7470A	HRD

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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 BGE0084 - Wet Prep										
Blank (BGE0084-BLK1)				Prepared: 05/05/2021 Analyzed: 05/10/2021						
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: 05/05/2021 Analyzed: 05/10/2021						
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: 05/05/2021 Analyzed: 05/10/2021						
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: 05/05/2021 Analyzed: 05/10/2021						
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: 05/05/2021 Analyzed: 05/11/2021						
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)		**Source: MGE0027-01**		Prepared: 05/05/2021 Analyzed: 05/10/2021						
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	

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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 BGE0084 - Wet Prep										
Duplicate (BGE0084-DUP2)		**Source: MGE0050-01**		Prepared: 05/05/2021 Analyzed: 05/10/2021						
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)		**Source: MGE0027-01**		Prepared: 05/05/2021 Analyzed: 05/10/2021						
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)		**Source: MGE0050-01**		Prepared: 05/05/2021 Analyzed: 05/10/2021						
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)		**Source: MGE0027-01**		Prepared: 05/05/2021 Analyzed: 05/10/2021						
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)		**Source: MGE0050-01**		Prepared: 05/05/2021 Analyzed: 05/10/2021						
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: 05/05/2021 Analyzed: 05/11/2021						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

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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 BGE0090 - Wet Prep										
Blank (BGE0090-BLK2)				Prepared: 05/05/2021 Analyzed: 05/11/2021						
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: 05/05/2021 Analyzed: 05/11/2021						
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: 05/05/2021 Analyzed: 05/11/2021						
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: 05/05/2021 Analyzed: 05/11/2021						
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)		**Source: MGE0052-19**		Prepared: 05/05/2021 Analyzed: 05/11/2021						
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)		**Source: MGE0052-20**		Prepared: 05/05/2021 Analyzed: 05/11/2021						
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	

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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 BGE0090 - Wet Prep										
Matrix Spike (BGE0090-MS1)		**Source: MGE0052-19**		Prepared: 05/05/2021 Analyzed: 05/11/2021						
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)		**Source: MGE0052-20**		Prepared: 05/05/2021 Analyzed: 05/11/2021						
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)		**Source: MGE0052-19**		Prepared: 05/05/2021 Analyzed: 05/11/2021						
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)		**Source: MGE0052-20**		Prepared: 05/05/2021 Analyzed: 05/11/2021						
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: 05/11/2021 Analyzed: 05/12/2021						
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: 05/11/2021 Analyzed: 05/12/2021						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

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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 BGE0219 - Wet Prep										
LCS (BGE0219-BS1)				Prepared: 05/11/2021 Analyzed: 05/12/2021						
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: 05/11/2021 Analyzed: 05/12/2021						
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: 05/11/2021 Analyzed: 05/12/2021						
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)		**Source: MGE0077-04**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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)		**Source: MGE0077-05**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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)		**Source: MGE0077-04**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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			

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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 BGE0219 - Wet Prep										
Matrix Spike (BGE0219-MS2)		**Source: MGE0077-05**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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)		**Source: MGE0077-04**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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)		**Source: MGE0077-05**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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: 05/12/2021 Analyzed: 05/13/2021						
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: 05/12/2021 Analyzed: 05/13/2021						
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: 05/12/2021 Analyzed: 05/13/2021						
Chloride	25.516	1.00	mg/L	25.000		102	90-110			
Fluoride	2.5640	0.750	mg/L	2.5000		103	90-110			
Sulfate	25.621	1.00	mg/L	25.000		102	90-110			

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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										
LCS (BGE0276-BS2)				Prepared: 05/12/2021 Analyzed: 05/13/2021						
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: 05/12/2021 Analyzed: 05/13/2021						
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)		**Source: MGE0077-18**		Prepared: 05/12/2021 Analyzed: 05/13/2021						
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)		**Source: MGE0077-19**		Prepared: 05/12/2021 Analyzed: 05/13/2021						
Chloride	4.6080	1.00	mg/L		4.6800			1.55	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	60.342	1.00	mg/L		60.783			0.728	20	
Matrix Spike (BGE0276-MS1)		**Source: MGE0077-18**		Prepared: 05/12/2021 Analyzed: 05/13/2021						
Chloride	34.561	1.25	mg/L	31.250	3.9370	98.0	90-110			
Fluoride	2.9413	0.938	mg/L	3.1250	<0.938	94.1	90-110			
Sulfate	69.708	1.25	mg/L	31.250	38.597	99.6	90-110			
Matrix Spike (BGE0276-MS2)		**Source: MGE0077-19**		Prepared: 05/12/2021 Analyzed: 05/13/2021						
Chloride	36.119	1.25	mg/L	31.250	4.6800	101	90-110			
Fluoride	3.2013	0.938	mg/L	3.1250	<0.938	102	90-110			
Sulfate	91.926	1.25	mg/L	31.250	60.783	99.7	90-110			

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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)		**Source: MGE0077-18**		Prepared: 05/12/2021 Analyzed: 05/13/2021						
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)		**Source: MGE0077-19**		Prepared: 05/12/2021 Analyzed: 05/13/2021						
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	

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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

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0082 - Wet Prep										
LCS (BGE0082-BS1)				Prepared & Analyzed: 05/05/2021						
pH	7.0800		pH Units	7.0000		101	90-110			
LCS (BGE0082-BS2)				Prepared & Analyzed: 05/05/2021						
pH	7.0700		pH Units	7.0000		101	90-110			
Duplicate (BGE0082-DUP1)		**Source: MGE0052-01**		Prepared & Analyzed: 05/05/2021						
pH	7.7300		pH Units		7.7400			0.129	20	
Duplicate (BGE0082-DUP2)		**Source: MGE0052-11**		Prepared & Analyzed: 05/05/2021						
pH	7.7000		pH Units		7.7200			0.259	20	
Duplicate (BGE0082-DUP3)		**Source: MGE0052-21**		Prepared & Analyzed: 05/05/2021						
pH	7.8900		pH Units		7.8900			0.00	20	
Duplicate (BGE0082-DUP4)		**Source: MGE0052-31**		Prepared & Analyzed: 05/05/2021						
pH	7.8300		pH Units		7.7800			0.641	20	
Batch BGE0085 - Wet Prep										
Blank (BGE0085-BLK1)				Prepared & Analyzed: 05/05/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0085-BS1)				Prepared & Analyzed: 05/05/2021						
Total Suspended Solids	90.000	5.00	mg/L	104.10		86.5	70-130			
Duplicate (BGE0085-DUP1)		**Source: MGE0029-04**		Prepared & Analyzed: 05/05/2021						
Total Suspended Solids	5.6471	5.88	mg/L		4.8000			16.2	20	M_K-06

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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

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0085 - Wet Prep										
Duplicate (BGE0085-DUP2)		**Source: MGE0052-01**		Prepared & Analyzed: 05/05/2021						
Total Suspended Solids	31.600	10.0	mg/L		31.400			0.635	20	
Batch BGE0086 - Wet Prep										
Blank (BGE0086-BLK1)				Prepared & Analyzed: 05/05/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0086-BS1)				Prepared & Analyzed: 05/05/2021						
Total Dissolved Solids	108.00	25.0	mg/L	100.10		108	70-130			
Duplicate (BGE0086-DUP1)		**Source: MGE0050-01**		Prepared & Analyzed: 05/05/2021						
Total Dissolved Solids	170.00	25.0	mg/L		172.00			1.17	20	
Duplicate (BGE0086-DUP2)		**Source: MGE0052-01**		Prepared & Analyzed: 05/05/2021						
Total Dissolved Solids	214.00	25.0	mg/L		214.00			0.00	20	
Batch BGE0101 - Wet Prep										
Blank (BGE0101-BLK1)				Prepared & Analyzed: 05/06/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0101-BS1)				Prepared & Analyzed: 05/06/2021						
Total Suspended Solids	94.000	5.00	mg/L	104.10		90.3	70-130			
Duplicate (BGE0101-DUP1)		**Source: MGE0052-04**		Prepared & Analyzed: 05/06/2021						
Total Suspended Solids	344.00	25.0	mg/L		345.00			0.290	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco BAP CCR	
250 Marquette Plaza		**Reported:**
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Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0102 - Wet Prep										
Blank (BGE0102-BLK1)				Prepared & Analyzed: 05/06/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0102-BS1)				Prepared & Analyzed: 05/06/2021						
Total Dissolved Solids	90.000	25.0	mg/L	100.10		89.9	70-130			
Duplicate (BGE0102-DUP1)		**Source: MGE0052-04**		Prepared & Analyzed: 05/06/2021						
Total Dissolved Solids	246.00	25.0	mg/L		252.00			2.41	20	
Batch BGE0135 - Wet Prep										
Blank (BGE0135-BLK1)				Prepared & Analyzed: 05/07/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0135-BS1)				Prepared & Analyzed: 05/07/2021						
Total Suspended Solids	92.000	5.00	mg/L	104.10		88.4	70-130			
Duplicate (BGE0135-DUP1)		**Source: MGE0052-14**		Prepared & Analyzed: 05/07/2021						
Total Suspended Solids	10.400	10.0	mg/L		10.800			3.77	20	
Batch BGE0136 - Wet Prep										
Blank (BGE0136-BLK1)				Prepared & Analyzed: 05/07/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0136-BS1)				Prepared & Analyzed: 05/07/2021						
Total Dissolved Solids	96.000	25.0	mg/L	100.10		95.9	70-130			

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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

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0136 - Wet Prep										
Duplicate (BGE0136-DUP1)		**Source: MGE0052-14**		Prepared & Analyzed: 05/07/2021						
Total Dissolved Solids	358.00	25.0	mg/L		372.00			3.84	20	
Batch BGE0159 - Wet Prep										
Blank (BGE0159-BLK1)				Prepared & Analyzed: 05/09/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0159-BS1)				Prepared & Analyzed: 05/09/2021						
Total Suspended Solids	90.000	5.00	mg/L	104.10		86.5	70-130			
Duplicate (BGE0159-DUP1)		**Source: MGE0052-29**		Prepared & Analyzed: 05/09/2021						
Total Suspended Solids	<9.62	9.62	mg/L		<9.62				20	M_K-06
Duplicate (BGE0159-DUP2)		**Source: MGE0052-30**		Prepared & Analyzed: 05/09/2021						
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 & Analyzed: 05/09/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0160-BS1)				Prepared & Analyzed: 05/09/2021						
Total Dissolved Solids	86.000	25.0	mg/L	100.10		85.9	70-130			
Duplicate (BGE0160-DUP1)		**Source: MGE0052-29**		Prepared & Analyzed: 05/09/2021						
Total Dissolved Solids	240.00	25.0	mg/L		240.00			0.00	20	

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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

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0160 - Wet Prep										
Duplicate (BGE0160-DUP2)		**Source: MGE0052-30**		Prepared & Analyzed: 05/09/2021						
Total Dissolved Solids	26456	25.0	mg/L		26410			0.174	20	M_E
Batch BGE0166 - Wet Prep										
LCS (BGE0166-BS1)				Prepared & Analyzed: 05/07/2021						
pH	7.1700		pH Units	7.0000		102	90-110			
LCS (BGE0166-BS2)				Prepared & Analyzed: 05/07/2021						
pH	7.1900		pH Units	7.0000		103	90-110			
Duplicate (BGE0166-DUP1)		**Source: MGE0077-01**		Prepared & Analyzed: 05/07/2021						
pH	7.7800		pH Units		7.7400			0.515	20	
Duplicate (BGE0166-DUP2)		**Source: MGE0077-11**		Prepared & Analyzed: 05/07/2021						
pH	7.8000		pH Units		7.8000			0.00	20	
Duplicate (BGE0166-DUP3)		**Source: MGE0077-21**		Prepared & Analyzed: 05/07/2021						
pH	8.1400		pH Units		8.1200			0.246	20	
Duplicate (BGE0166-DUP4)		**Source: MGE0077-30**		Prepared & Analyzed: 05/07/2021						
pH	7.9900		pH Units		8.0000			0.125	20	
Batch BGE0176 - Wet Prep										
Blank (BGE0176-BLK1)				Prepared & Analyzed: 05/10/2021						
Total Suspended Solids	<5.00	5.00	mg/L							

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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

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0176 - Wet Prep										
LCS (BGE0176-BS1)				Prepared & Analyzed: 05/10/2021						
Total Suspended Solids	94.000	5.00	mg/L	104.10		90.3	70-130			
Duplicate (BGE0176-DUP1)		**Source: MGE0077-07**		Prepared & Analyzed: 05/10/2021						
Total Suspended Solids	17.600	10.0	mg/L		15.600			12.0	20	
Batch BGE0177 - Wet Prep										
Blank (BGE0177-BLK1)				Prepared & Analyzed: 05/10/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0177-BS1)				Prepared & Analyzed: 05/10/2021						
Total Dissolved Solids	94.000	25.0	mg/L	100.10		93.9	70-130			
Duplicate (BGE0177-DUP1)		**Source: MGE0077-07**		Prepared & Analyzed: 05/10/2021						
Total Dissolved Solids	480.00	25.0	mg/L		480.00			0.00	20	
Batch BGE0198 - Wet Prep										
Blank (BGE0198-BLK1)				Prepared & Analyzed: 05/11/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0198-BS1)				Prepared & Analyzed: 05/11/2021						
Total Suspended Solids	92.000	5.00	mg/L	104.10		88.4	70-130			
Duplicate (BGE0198-DUP1)		**Source: MGE0077-17**		Prepared & Analyzed: 05/11/2021						
Total Suspended Solids	1.2000	10.0	mg/L		<10.0				20	M_K-06

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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

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0199 - Wet Prep										
Blank (BGE0199-BLK1)				Prepared & Analyzed: 05/11/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0199-BS1)				Prepared & Analyzed: 05/11/2021						
Total Dissolved Solids	86.000	25.0	mg/L	100.10		85.9	70-130			
Duplicate (BGE0199-DUP1)		**Source: MGE0077-17**		Prepared & Analyzed: 05/11/2021						
Total Dissolved Solids	446.00	25.0	mg/L		446.00			0.00	20	
Batch BGE0226 - Wet Prep										
Blank (BGE0226-BLK1)				Prepared & Analyzed: 05/12/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGE0226-BS1)				Prepared & Analyzed: 05/12/2021						
Total Suspended Solids	94.000	5.00	mg/L	104.10		90.3	70-130			
Duplicate (BGE0226-DUP1)		**Source: MGE0077-27**		Prepared & Analyzed: 05/12/2021						
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 & Analyzed: 05/12/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGE0227-BS1)				Prepared & Analyzed: 05/12/2021						
Total Dissolved Solids	102.00	25.0	mg/L	100.10		102	70-130			

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Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGE0227 - Wet Prep										
Duplicate (BGE0227-DUP1)		**Source: MGE0077-27**		Prepared & Analyzed: 05/12/2021						
Total Dissolved Solids	336.00	25.0	mg/L		348.00			3.51	20	

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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

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										
Blank (BGE0183-BLK1)				Prepared: 05/10/2021 Analyzed: 05/11/2021						
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							
Thallium	<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							
LCS (BGE0183-BS1)				Prepared: 05/10/2021 Analyzed: 05/11/2021						
Selenium	101.57	0.500	ug/L	100.00		102	85-115			
Thallium	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			
Lead	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			
Beryllium	94.948	0.500	ug/L	100.00		94.9	85-115			
Duplicate (BGE0183-DUP1)		**Source: MGE0052-23**		Prepared: 05/10/2021 Analyzed: 05/11/2021						
Selenium	<0.500	0.500	ug/L		0.52809				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	0.26078	0.500	ug/L		0.18410			34.5	20	M_D-RL
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	
Thallium	<0.500	0.500	ug/L		<0.500				20	

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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

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)		**Source: MGE0052-24**		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	
Thallium	<0.500	0.500	ug/L		<0.500				20	
Matrix Spike (BGE0183-MS1)		**Source: MGE0052-23**		Prepared: 05/10/2021 Analyzed: 05/11/2021						
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			
Barium	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			
Thallium	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)		**Source: MGE0052-24**		Prepared: 05/10/2021 Analyzed: 05/11/2021						
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			
Lead	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			

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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

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										
Matrix Spike Dup (BGE0183-MSD1)		**Source: MGE0052-23**		Prepared: 05/10/2021 Analyzed: 05/11/2021						
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)		**Source: MGE0052-24**		Prepared: 05/10/2021 Analyzed: 05/11/2021						
Lead	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	
Thallium	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	
Barium	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: 05/11/2021 Analyzed: 05/12/2021						
Lead	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Thallium	<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							

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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

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: 05/11/2021 Analyzed: 05/12/2021						
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			
Lead	99.059	0.500	ug/L	100.00		99.1	85-115			
Molybdenum	98.237	0.500	ug/L	100.00		98.2	85-115			
Selenium	100.52	0.500	ug/L	100.00		101	85-115			
Thallium	100.25	0.500	ug/L	100.00		100	85-115			
Duplicate (BGE0217-DUP1)		**Source: MGE0077-20**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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	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	
Lead	0.27296	0.500	ug/L		0.26012			4.82	20	
Matrix Spike (BGE0217-MS1)		**Source: MGE0077-20**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
Lead	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			

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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

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										
Matrix Spike Dup (BGE0217-MSD1)		**Source: MGE0077-20**		Prepared: 05/11/2021 Analyzed: 05/12/2021						
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	
Arsenic	103.39	0.500	ug/L	100.00	0.67141	103	75-125	1.01	20	

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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

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: 05/10/2021 Analyzed: 05/14/2021						
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: 05/10/2021 Analyzed: 05/14/2021						
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)		**Source: MGE0052-21**		Prepared: 05/10/2021 Analyzed: 05/14/2021						
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)		**Source: MGE0052-22**		Prepared: 05/10/2021 Analyzed: 05/14/2021						
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)		**Source: MGE0052-21**		Prepared: 05/10/2021 Analyzed: 05/14/2021						
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)		**Source: MGE0052-22**		Prepared: 05/10/2021 Analyzed: 05/14/2021						
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			

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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

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)		**Source: MGE0052-21**		Prepared: 05/10/2021 Analyzed: 05/14/2021						
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)		**Source: MGE0052-22**		Prepared: 05/10/2021 Analyzed: 05/15/2021						
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: 05/11/2021 Analyzed: 05/16/2021						
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: 05/11/2021 Analyzed: 05/16/2021						
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)		**Source: MGE0077-18**		Prepared: 05/11/2021 Analyzed: 05/16/2021						
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)		**Source: MGE0077-19**		Prepared: 05/11/2021 Analyzed: 05/16/2021						
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	

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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		**Reported:**
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 BGE0216 - EPA 200.2, EPA 3005										
Matrix Spike (BGE0216-MS1)		**Source: MGE0077-18**		Prepared: 05/11/2021 Analyzed: 05/16/2021						
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)		**Source: MGE0077-19**		Prepared: 05/11/2021 Analyzed: 05/16/2021						
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)		**Source: MGE0077-18**		Prepared: 05/11/2021 Analyzed: 05/16/2021						
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)		**Source: MGE0077-19**		Prepared: 05/11/2021 Analyzed: 05/16/2021						
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	

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Christine Keefe, Supervisor (612) 630-4506

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

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: 05/11/2021						
Mercury	<0.200	0.200	ug/L							
LCS (BGE0230-BS1)				Prepared & Analyzed: 05/11/2021						
Mercury	2.6906	0.200	ug/L	3.0000		89.7	85-115			
Duplicate (BGE0230-DUP1)		**Source: MGE0052-25**		Prepared & Analyzed: 05/11/2021						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Duplicate (BGE0230-DUP2)		**Source: MGE0052-26**		Prepared & Analyzed: 05/11/2021						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BGE0230-MS1)		**Source: MGE0052-25**		Prepared & Analyzed: 05/11/2021						
Mercury	2.7511	0.200	ug/L	3.0000	<0.200	91.7	70-130			
Matrix Spike (BGE0230-MS2)		**Source: MGE0052-26**		Prepared & Analyzed: 05/11/2021						
Mercury	2.8204	0.200	ug/L	3.0000	<0.200	94.0	70-130			
Matrix Spike Dup (BGE0230-MSD1)		**Source: MGE0052-25**		Prepared & Analyzed: 05/11/2021						
Mercury	2.7737	0.200	ug/L	3.0000	<0.200	92.5	70-130	0.818	20	
Matrix Spike Dup (BGE0230-MSD2)		**Source: MGE0052-26**		Prepared & Analyzed: 05/11/2021						
Mercury	2.6792	0.200	ug/L	3.0000	<0.200	89.3	70-130	5.13	20	
Batch BGE0404 - EPA 245.1, EPA 7470A										
Blank (BGE0404-BLK1)				Prepared: 05/17/2021 Analyzed: 05/18/2021						
Mercury	<0.200	0.200	ug/L							

Minneapolis Testing Laboratory
1518 Chestnut Ave N
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WI-999071150
Christine Keefe, Supervisor (612) 630-4506

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

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: 05/17/2021 Analyzed: 05/18/2021						
Mercury	2.8760	0.200	ug/L	3.0000		95.9	85-115			
Duplicate (BGE0404-DUP1)		**Source: MGE0077-21**		Prepared: 05/17/2021 Analyzed: 05/18/2021						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BGE0404-MS1)		**Source: MGE0077-21**		Prepared: 05/17/2021 Analyzed: 05/18/2021						
Mercury	2.8111	0.200	ug/L	3.0000	<0.200	93.7	70-130			
Matrix Spike Dup (BGE0404-MSD1)		**Source: MGE0077-21**		Prepared: 05/17/2021 Analyzed: 05/18/2021						
Mercury	2.8174	0.200	ug/L	3.0000	<0.200	93.9	70-130	0.224	20	

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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.
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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A — **Required** Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B — **Required** Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number:	21-04548
Project Name:	Xcel Energy Sherco Ponds Spring

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER ____

Filtered (Y/N)

Section D Required Client Information — SAMPLE ID. One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WP, AR, OT, TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR	GW-CCR-BAP2		(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~P-01A~~	~~WT~~	~~G~~						~~4~~	~~1~~	~~1~~	~~2~~						~~X~~	~~X~~			~~X~~	~~X~~				
2	P-03A	WT	G			5/4/21	1555		3	1	1	1						X				X					
3	P-03B	WT	G			5/4/21	1525		3	1	1	1						X				X					
4	~~P-04A~~	~~WT~~	~~G~~						~~3~~	~~1~~	~~1~~	~~1~~						~~X~~				~~X~~					
5	~~P-05A~~	~~WT~~	~~G~~						~~3~~	~~1~~	~~1~~	~~1~~						~~X~~				~~X~~					
6	P-17	WT	G			5/4/21	1400		2	1		1							X	X			X	X			
7	~~P-22~~	~~WT~~	~~G~~						~~4~~	~~1~~	~~1~~	~~2~~						~~X~~	~~X~~			~~X~~	~~X~~				
8	~~P-23~~	~~WT~~	~~G~~						~~4~~	~~1~~	~~1~~	~~2~~						~~X~~	~~X~~			~~X~~	~~X~~				
9	P-42	WT	G			5/4/21	1155		3	1	1	1						X				X					
10	P-43	WT	G			5/4/21	1345		3	1	1	1						X				X					
11	~~P-50~~	~~WT~~	~~G~~						~~3~~	~~1~~	~~1~~	~~1~~						~~X~~				~~X~~					
12	~~P-50B~~	~~WT~~	~~G~~						~~3~~	~~1~~	~~1~~	~~1~~						~~X~~				~~X~~					

Additional Comments:

*Submitting 30 samples + 3 Dup + 3 RINSE - Rus 5/4/21

Temp M400811: pH strips: M000402 : 3.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	5/4/21	1800	[signature] Pace	5/4/21	1800
[signature] Pace	5/5/21	800	[signature] Xcel	5/5/21	0800

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N (N circled)	Y/N (N circled)	Y/N (Y circled)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 5/5/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-04548
Project Name:	Xcel Energy Sherco Ponds Spring

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-D	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-01A	WT	G			5/5/21	1325		4	1	1	2							X	X		X	X				
2	P-03A	WT	G			5/4/21	1555		3	1	1	1							X			X					
3	P-03B	WT	G			5/4/21	1525		3	1	1	1							X			X					
4	P-04A	WT	G			5/5/21	1520		3	1	1	1							X			X					
5	P-05A	WT	G			5/5/21	1310		3	1	1	1							X			X					
6	P-17	WT	G			5/4/21	1400		2	1		1								X	X		X	X			
7	P-22	WT	G			5/5/21	1445		4	1	1	2							X	X		X	X				
8	P-23	WT	G			5/5/21	1210		4	1	1	2							X	X		X	X				
9	P-42	WT	G			5/4/21	1155		3	1	1	1							X			X					
10	P-43	WT	G			5/4/21	1345		3	1	1	1							X			X					
11	P-50	WT	G			5/6/21	0950		3	1	1	1							X			X					
12	P-50B	WT	G			5/6/21	0845		3	1	1	1							X			X					

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson	5/7/21	0650	HDI/Xcel	5/7/21	0650

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
2.1	Y	Y	Y
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] [signature] [signature]

DATE Signed (MM / DD / YY): 5/7/21

pH strips: M0004102
Temp M400841: 2.1°C

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A — Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B — Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number:	21-04549
Project Name:	Xcel Energy Sherco Ponds Spring

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER ___

Filtered (Y/N)

Section D Required Client Information

SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WP, AR, OT, TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~P-50D~~	~~WT~~	~~G~~						~~3~~	~~1~~	~~1~~	~~1~~						~~X~~			~~X~~					
2	P-56	WT	G			5/4/21	1125		3	1	1	1						X			X					
3	P-60	WT	G			5/4/21	0920		3	1	1	1						X			X					
4	P-62	WT	G			5/4/21	0845		3	1	1	1						X			X					
5	P-66	WT	G			5/4/21	1435		3	1	1	1						X			X					
6	P-88	WT	G			5/4/21	1150		3	1	1	1						X			X					
7	~~P-89-1~~	~~WT~~	~~G~~						~~3~~	~~1~~	~~1~~	~~1~~						~~X~~			~~X~~					
8	P-90	WT	G			5/4/21	1235		3	1	1	1						X			X					
9	P-90A	WT	G			5/4/21	1300		3	1	1	1						X			X					
10	P-92A	WT	G			5/4/21	0940		3	1	1	1						X			X					
11	P-92B	WT	G			5/4/21	0910		3	1	1	1						X			X					
12	P-92D	WT	G			5/4/21	0840		3	1	1	1						X			X					

Additional Comments:

*Submitting 30 Samples + 3 DUP + 3 RINSE
-RGJ 5/4/21

HStrys: MDOO1.2
Trip M400841: 3.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] Pace	5/4/21	1800	[signature] Pace	5/4/21	1800
[signature] Pace	5/5/21	800	[signature] Xcel	5/5/21	0800

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N (circled)	Y/N	Y/N (circled)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] [signature]

DATE Signed (MM/DD/YY): 5/5/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	21-04548	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Spring	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE C=COMP G=GRAB	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-D	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-50D	WT	G			5/6/21	1045		3	1	1	1							X			X					
2	P-56	WT	G			5/4/21	1125		3	1	1	1							X			X					
3	P-60	WT	G			5/4/21	0920		3	1	1	1							X			X					
4	P-62	WT	G			5/4/21	0845		3	1	1	1							X			X					
5	P-66	WT	G			5/4/21	1435		3	1	1	1							X			X					
6	P-88	WT	G			5/4/21	1150		3	1	1	1							X			X					
7	P-89-1	WT	G			5/5/21	1415		3	1	1	1							X			X					
8	P-90	WT	G			5/4/21	1235		3	1	1	1							X			X					
9	P-90A	WT	G			5/4/21	1300		3	1	1	1							X			X					
10	P-92A	WT	G			5/4/21	0940		3	1	1	1							X			X					
11	P-92B	WT	G			5/4/21	0910		3	1	1	1							X			X					
12	P-92D	WT	G			5/4/21	0840		3	1	1	1							X			X					

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Riley Jacobson	5/7/21	0650	[illegible] / Xcel	5/7/21	0650	2.1

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER:	Riley Jacobson + Chris Pelosi + Kendall Johnson					
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): 5/7/21				

pH strips: MD00402
Temp M400841: 2.1°C

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Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-04548
Project Name:	Xcel Energy Sherco Ponds Spring

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION ☑ MN ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-ID	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-93A	WT	G			5/4/21	1115		3	1	1	1							X			X					
2	P-93B	WT	G			5/4/21	1045		3	1	1	1							X			X					
3	P-93D	WT	G			5/4/21	1020		3	1	1	1							X			X					
4	~~P-94A~~	WT	G						3	1	1	1							X			X					
5	P-101A	WT	G			5/4/21	1020		3	1	1	1							X			X					
6	P-101B	WT	G			5/4/21	1050		3	1	1	1							X			X					
7	~~P-126~~	WT	G						3	1	1	1							X			X					
8	~~P-127~~	WT	G						3	1	1	1							X			X					
9	~~P-128~~	WT	G						3	1	1	1							X			X					
10	~~P-129~~	WT	G						3	1	1	1							X			X					
11	~~P-130~~	WT	G						4	1	1	2							X	X		X			X		
12	P-131	WT	G			5/3/21	1035		4	1	1	2							X	X		X			X		

Additional Comments:

*Submitting 30 samples + 3 Dup + 3 RINSE -RLJ 5/4/21

pHstrps: M000402
Temp M400841: 3.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Pace	5/4/21	1800	Pace	5/4/21	1800
Pace	5/5/21	800	Xcel	5/5/21	0800

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: Pace Pace

DATE Signed (MM / DD / YY): 5/5/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-04548
Project Name:	Xcel Energy Sherco Ponds Spring

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER / DW; WATER / WT; WASTE WATER / WW; PRODUCT / P; SOIL/SOLID / SL; OIL / OL; WIPE / WP; AIR / AR; TISSUE / TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-D	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-93A	WT	G			5/4/21	1115		3	1	1	1							X			X						
2	P-93B	WT	G			5/4/21	1045		3	1	1	1							X			X						
3	P-93D	WT	G			5/4/21	1020		3	1	1	1							X			X						
4	P-94A	WT	G			5/5/21	1505		3	1	1	1							X			X						
5	P-101A	WT	G			5/4/21	1020		3	1	1	1							X			X						
6	P-101B	WT	G			5/4/21	1050		3	1	1	1							X			X						
7	P-126	WT	G			5/5/21	1235		3	1	1	1							X			X						
8	P-127	WT	G			5/5/21	1120		3	1	1	1							X			X						
9	P-128	WT	G			5/5/21	1200		3	1	1	1							X			X						
10	P-129	WT	G			5/5/21	1040		3	1	1	1							X			X						
11	P-130	WT	G			5/5/21	0855		4	1	1	2							X	X		X			X			
12	P-131	WT	G			5/3/21	1035		4	1	1	2							X	X		X			X			

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	5/7/21	0050	[signature] Xcel	5/7/21	0650

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
2.1	Ø Y/N	Y/N	Ø Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson
SIGNATURE of SAMPLER: [signature] [signature]
DATE Signed (MM/DD/YY): 5/7/21

pH strips: MD00402
Temp M400841: 2.1°C

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services MP-7	Copy To:	Riley Jacobson	Company Name:	
				Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	21-04548	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Spring	Pace Profile #:	

REGULATORY AGENCY

NPDES ☑ GROUND WATER ☐ DRINKING WATER
UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION NC ☑ MN ☐ IL ☐ IN ☐ MI ☐
☐ OH ☐ SC ☐ WI ☑ OTHER

Filtered (Y/N)

Requested Analysis:

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER / WATER / WASTE WATER / PRODUCT / SOIL/SOLID / OIL

ITEM #	Section D Required Client Information SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-132	WT	G			5/3/21	1305		4	1	1	2						X	X		X			X		
2	P-150	WT	G			5/3/21	0910		2	1		1							X					X			
3	~~P-151~~	WT	G						2	1		1							X					X			
4	P-152A	WT	G			5/4/21	1250		2	1		1							X	X		X	X	X			
5	P-153	WT	G			5/3/21	1435		2	1		1							X					X			
6	P-154A	WT	G			5/3/21	1400		2	1		1							X					X			
7	~~P-155~~	WT	G						2	1		1							X					X			
8	~~P-156~~	WT	G						2	1		1							X					X			
9	~~P-157~~	WT	G						2	1		1							X					X			
10	P-158	WT	G			5/4/21	1615		2	1		1							X	X			X	X			
11	~~P-162~~	WT	G						2	1		1							X					X			
12	~~P-163~~	WT	G						2	1		1							X					X			

Additional Comments:

*Submitting 30 Samples + 3 Dup + 3 RINSE - RDS 5/4/21

pH Strips: M000402
Temp M400841: 3.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Pace	5/4/21	1800	Pace	5/4/21	1800
Pace	5/5/21	800	XCEL	5/5/21	0800

SAMPLE CONDITIONS

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 5/5/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	21-04548	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Spring	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: ☑ NC ☐ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Valid Matrix Codes: DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WIPE WP, AIR AR, OTHER OT, TISSUE TS

ITEM #	Section D Required Client Information SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-HD	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-132	WT	G			5/3/21	1305		4	1	1	2							X	X		X			X		
2	P-150	WT	G			5/3/21	0910		2	1		1								X					X		
3	P-151	WT	G			5/6/21	1550		2	1		1								X					X		
4	P-152A	WT	G			5/4/21	1250		2	1		1								X	X		X	X	X		
5	P-153	WT	G			5/3/21	1435		2	1		1								X					X		
6	P-154A	WT	G			5/3/21	1400		2	1		1								X					X		
7	P-155	WT	G			5/5/21	1345		2	1		1								X			X				
8	P-156	WT	G			5/5/21	1255		2	1		1								X			X				
9	P-157	WT	G			5/5/21	1140		2	1		1								X			X				
10	P-158	WT	G			5/4/21	1615		2	1		1								X	X		X	X			
11	P-162	WT	G			5/5/21	0845		2	1		1								X					X		
12	P-163	WT	G			5/5/21	0930		2	1		1								X					X		

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	5/7/21	0650		5/7/21	0650

SAMPLE CONDITIONS			
2.1	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

pH strips: MD00402
Temp M400841: 2.1°C

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobsen + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] [signature]

DATE Signed (MM / DD / YY): 5/7/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	21-04548	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Spring	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: ☐ NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Filtered (Y/N)

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WP, AR, OT, TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR	GW-CCR-BAP2		(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	~~P-164~~	WT	G						2	1		1							X						X		
2	~~P-165~~	WT	G						2	1		1							X						X		
3	~~P-173~~	WT	G						2	1		1								X				X			
4	~~P-174~~	WT	G						2	1		1								X				X			
5	~~P-175~~	WT	G						2	1		1								X				X			
6	~~P-176~~	WT	G						2	1		1								X				X			
7	P-177	WT	G			5/4/21	1540		2	1		1								X				X			
8	P-178A	WT	G			5/4/21	1440		4	1	1	2						X		X		X		X			
9	P-178B	WT	G			5/4/21	1505		3	1	1	1						X				X					
10	~~WELL #4~~	WT	G						3	1	1	1						X				X					
11	~~WELL #6~~	WT	G						3	1	1	1						X				X					
12	DUPLICATE NPDES (P-93D)	WT	G			5/4/21	1020		3	1	1	1						X				X					

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley J[signature] Pace	5/4/21	1800	[signature] Pace	5/4/21	1800
[signature] Pace	5/5/21	800	[signature] Xcel	5/5/21	0800

SAMPLE CONDITIONS			
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N (circled)	Y/N	Y/N (circled)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

Additional Comments:

*Submitting 30 samples + 3 Dup + 3 RINSE - RWJ 5/4/21

pH strips: MD004 DZ
Temp MY008 Y1 : 3.2°C

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] [signature]

DATE Signed (MM/DD/YY): 5/5/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-04548
Project Name:	Xcel Energy Sherco Ponds Spring

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; TISSUE TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW1-D	GW1-CCR	GW1-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-164	WT	G			5/5/21	1000		2	1		1								X						X	
2	P-165	WT	G			5/6/21	1500		2	1		1								X						X	
3	P-173	WT	G			5/5/21	0935		2	1		1									X				X		
4	P-174	WT	G			5/5/21	1005		2	1		1									X				X		
5	P-175	WT	G			5/5/21	1035		2	1		1									X				X		
6	P-176	WT	G			5/5/21	1105		2	1		1									X				X		
7	P-177	WT	G			5/4/21	1540		2	1		1									X				X		
8	P-178A	WT	G			5/4/21	1440		4	1	1	2								X		X		X		X	
9	P-178B	WT	G			5/4/21	1505		3	1	1	1								X				X			
10	WELL #4	WT	G			5/6/21	1355		3	1	1	1								X				X			
11	WELL #6	WT	G			5/6/21	1335		3	1	1	1								X				X			
12	DUPLICATE NPDES (P-93D)	WT	G			5/4/21	1020		3	1	1	1								X				X			

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	5/7/21	0650	[signature] / Xcel	5/7/21	0650

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
2.1	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] [signature]

DATE Signed (MM / DD / YY): 5/7/21

pH Strips: MD00402
Temp IR400841: 2.1°C

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A — Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B — Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number:	21-04548
Project Name:	Xcel Energy Sherco Ponds Spring

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER ___

Filtered (Y/N)

Section D Required Client Information — SAMPLE ID. One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WP, AR, OT, TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	RINSE NPDES	WT	G			5/4/21	1050		3	1	1	1						X			X					
2	~~DUPLICATE BAP~~	~~WT~~	~~G~~						~~2~~	~~1~~		~~1~~							~~X~~			~~X~~				
3	~~RINSE BAP~~	WT	G						~~2~~	~~1~~		~~1~~							~~X~~			~~X~~				
4	DUPLICATE BAP2 (P-158)	WT	G			5/4/21	1615		2	1		1								X			X			
5	RINSE BAP2	WT	G			5/4/21	1620		2	1		1								X			X			
6	DUPLICATE P3 (P-150)	WT	G			5/3/21	0910		2	1		1							X					X		
7	RINSE P3	WT	G			5/3/21	0920		2	1		1							X					X		
8																										
9																										
10			Rcs 5/4/21																							
11																										
12																										

Additional Comments:

*Submitting 30 Samples + 3 Dup + 3 RINSE - Rcs 5/4/21

pH strips: MPDW4.2

Temp M40084: 3.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] Pace	5/4/21	1800	[signature] Pace	5/4/21	1800
[signature] Pace	5/5/21	800	[signature] Xcel	5/5/21	0800

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y (circled)	Y/N	Y (circled)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 5/5/21

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 587-7254	Fax:	Project Number	21-04548	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Spring	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Filtered (Y/N)

Requested Analysis:

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE
DRINKING WATER / WATER / WASTE WATER / PRODUCT / SOIL/SOLID / OIL

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR	GW-CCR-BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	RINSE NPDES	WT	G			5/4/21	1050		3	1	1	1						X			X					
2	DUPLICATE BAP (P-155)	WT	G			5/5/21	1345		2	1		1							X			X					
3	RINSE BAP	WT	G			5/5/21	1350		2	1		1							X			X					
4	DUPLICATE BAP2 (P-158)	WT	G			5/4/21	1615		2	1		1								X			X				
5	RINSE BAP2	WT	G			5/4/21	1620		2	1		1								X			X				
6	DUPLICATE P3 (P-150)	WT	G			5/3/21	0910		2	1		1							X					X			
7	RINSE P3	WT	G			5/3/21	0920		2	1		1							X					X			
8																											
9																											
10		Rev																									
11																											
12																											

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Riley Jacobson	5/7/21	0650	Xcel	5/7/21	0650	2.1

SAMPLE CONDITIONS: Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: Riley Jacobson + Kendall Johnson

DATE Signed (MM / DD / YY): 5/7/21

pH Strips: MD 00402
Temp M400841: 2.1°C

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
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 A. Ferris

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

Enclosures

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

Pace Analytical Services, LLC
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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
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

Pace Analytical Services, LLC
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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
30420944007	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
30420944012	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
30420944015	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
30420944017	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

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Greensburg, PA 15601
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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	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944002	P-131	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944003	P-132	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944004	P-150	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944005	P-151	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	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	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944008	P-154A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944009	P-162	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944010	P-163	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944011	P-164	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944012	P-165	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944013	P-173	EPA 903.1	MK1	1	PASI-PA

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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	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944014	P-174	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944015	P-175	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944016	P-176	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944017	P-177	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944018	DUPLICATE	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
30420944019	RINSE P-3	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

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:

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

PROJECT NARRATIVE

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

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

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.

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Ponds Sprin
Pace Project No.: 30420944

Sample: P-130 **Lab ID: 30420944001** Collected: 05/05/21 08:55 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.485 ± 0.341 (0.164) C:NA T:96%**	pCi/L	06/08/21 16:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.396 ± 0.329 (0.654) C:71% T:82%**	pCi/L	06/08/21 11:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.881 ± 0.670 (0.818)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-131 **Lab ID: 30420944002** Collected: 05/03/21 10:35 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**-0.195 ± 0.297 (0.779) C:NA T:95%**	pCi/L	06/08/21 16:13	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.569 ± 0.356 (0.653) C:70% T:83%**	pCi/L	06/08/21 11:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.569 ± 0.653 (1.43)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-132 **Lab ID: 30420944003** 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	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0601 ± 0.312 (0.647) C:NA T:92%**	pCi/L	06/08/21 16:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.583 ± 0.397 (0.757) C:73% T:81%**	pCi/L	06/08/21 11:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.643 ± 0.709 (1.40)**	pCi/L	06/10/21 09:41	7440-14-4	

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Ponds Sprin
Pace Project No.: 30420944

Sample: P-150 **Lab ID: 30420944004** Collected: 05/03/21 09:10 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.376 ± 0.382 (0.577) C:NA T:98%**	pCi/L	06/08/21 16:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.966 ± 0.414 (0.653) C:72% T:84%**	pCi/L	06/08/21 11:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**1.34 ± 0.796 (1.23)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-151 **Lab ID: 30420944005** Collected: 05/06/21 15:50 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.207 ± 0.450 (0.829) C:NA T:96%**	pCi/L	06/08/21 16:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.497 ± 0.323 (0.597) C:71% T:83%**	pCi/L	06/08/21 11:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.704 ± 0.773 (1.43)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-152A **Lab ID: 30420944006** 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.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.405 ± 0.304 (0.157) C:NA T:94%**	pCi/L	06/08/21 16:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.325 ± 0.330 (0.679) C:74% T:82%**	pCi/L	06/08/21 11:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.730 ± 0.634 (0.836)**	pCi/L	06/10/21 09:41	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Ponds Sprin
Pace Project No.: 30420944

Sample: P-153 **Lab ID: 30420944007** Collected: 05/03/21 14:35 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.304 ± 0.492 (0.857) C:NA T:96%**	pCi/L	06/08/21 16:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.0530 ± 0.314 (0.745) C:72% T:83%**	pCi/L	06/08/21 11:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.304 ± 0.806 (1.60)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-154A **Lab ID: 30420944008** Collected: 05/03/21 14:00 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.178 ± 0.309 (0.551) C:NA T:94%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.507 ± 0.407 (0.801) C:72% T:72%**	pCi/L	06/08/21 14:50	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.685 ± 0.716 (1.35)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-162 **Lab ID: 30420944009** 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.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.203 ± 0.310 (0.183) C:NA T:89%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.299 ± 0.410 (0.876) C:72% T:63%**	pCi/L	06/08/21 14:50	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.502 ± 0.720 (1.06)**	pCi/L	06/10/21 09:41	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Ponds Sprin
Pace Project No.: 30420944

Sample: P-163 **Lab ID: 30420944010** Collected: 05/05/21 09:30 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.129 ± 0.295 (0.475) C:NA T:88%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.825 ± 0.489 (0.899) C:67% T:73%**	pCi/L	06/08/21 14:50	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.954 ± 0.784 (1.37)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-164 **Lab ID: 30420944011** Collected: 05/05/21 10:00 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**-0.134 ± 0.322 (0.804) C:NA T:81%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.647 ± 0.385 (0.701) C:76% T:75%**	pCi/L	06/08/21 14:50	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.647 ± 0.707 (1.51)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-165 **Lab ID: 30420944012** Collected: 05/06/21 15:00 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.245 ± 0.281 (0.166) C:NA T:96%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.903 ± 0.440 (0.730) C:68% T:78%**	pCi/L	06/08/21 14:50	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**1.15 ± 0.721 (0.896)**	pCi/L	06/10/21 09:41	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Ponds Sprin
Pace Project No.: 30420944

Sample: P-173 **Lab ID: 30420944013** Collected: 05/05/21 09:35 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.622 ± 0.536 (0.797) C:NA T:100%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.307 ± 0.345 (0.721) C:77% T:79%**	pCi/L	06/08/21 14:50	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.929 ± 0.881 (1.52)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-174 **Lab ID: 30420944014** Collected: 05/05/21 10:05 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.290 ± 0.441 (0.759) C:NA T:88%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.200 ± 0.384 (0.843) C:74% T:76%**	pCi/L	06/08/21 14:50	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.490 ± 0.825 (1.60)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-175 **Lab ID: 30420944015** Collected: 05/05/21 10:35 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**6.97 ± 2.39 (0.511) C:NA T:92%**	pCi/L	06/08/21 16:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**10.7 ± 3.48 (4.62) C:76% T:67%**	pCi/L	06/08/21 18:10	15262-20-1	1c
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**17.7 ± 5.87 (5.13)**	pCi/L	06/10/21 09:41	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Ponds Sprin
Pace Project No.: 30420944

Sample: P-176 **Lab ID: 30420944016** Collected: 05/05/21 11:05 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.294 ± 0.306 (0.432) C:NA T:91%**	pCi/L	06/08/21 16:37	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.319 ± 0.592 (1.30) C:72% T:73%**	pCi/L	06/08/21 18:10	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.613 ± 0.898 (1.73)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: P-177 **Lab ID: 30420944017** Collected: 05/04/21 15:40 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.219 ± 0.264 (0.403) C:NA T:95%**	pCi/L	06/08/21 16:37	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.287 ± 0.558 (1.23) C:71% T:79%**	pCi/L	06/08/21 18:10	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.506 ± 0.822 (1.63)**	pCi/L	06/10/21 09:41	7440-14-4	

Sample: DUPLICATE **Lab ID: 30420944018** Collected: 05/03/21 09:20 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.111 ± 0.254 (0.409) C:NA T:97%**	pCi/L	06/08/21 16:37	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.156 ± 0.517 (1.16) C:76% T:86%**	pCi/L	06/08/21 18:10	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.267 ± 0.771 (1.57)**	pCi/L	06/10/21 09:41	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy Sherco Ponds Sprin
Pace Project No.: 30420944

Sample: RINSE P-3 **Lab ID: 30420944019** Collected: 05/03/21 09:20 Received: 05/12/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

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%**~~	~~pCi/L~~	~~06/08/21 16:37~~	~~13982-63-3~~	
	~~Pace Analytical Services - Greensburg~~					
~~Radium-228~~	~~EPA 904.0~~	~~**0.836 ± 0.539 (1.02) C:77% T:88%**~~	~~pCi/L~~	~~06/08/21 18:10~~	~~15262-20-1~~	
	~~Pace Analytical Services - Greensburg~~					
~~Total Radium~~	~~Total Radium Calculation~~	~~**1.25 ± 0.925 (1.53)**~~	~~pCi/L~~	~~06/10/21 09:41~~	~~7440-14-4~~	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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: 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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All rele

WO# : 30420944

30420944

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Ciara Ruikkie
Address:	c/o Pace MN Field	Copy To:	Riley Jacobson	Company Name:	Pace MN Field Services
	RADIUM			Address:	1700 SE Elm St, Minneapolis, MN 55408
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	Tom Halverson
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Carin Ferris
Requested Due Date/TAT:	15 Days	Project Name:	Xcel Energy Sherco Ponds Spring	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Filtered (Y/N)

Requested Analysis:

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WP; AR; OT; TS

ITEM #	Section D Required Client Information: SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	RA-226 EPA 903.1	RA-228 EPA 904.0	Ra226 + Ra228 SUM	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-130	WT	G			5/5/21	855		2			2						X	X	X		001
2	P-131	WT	G			5/3/21	1035		2			2						X	X	X		002
3	P-132	WT	G			5/3/21	1305		2			2						X	X	X		003
4	P-150	WT	G			5/3/21	910		2			2						X	X	X		004
5	P-151	WT	G			5/6/21	1550		2			2						X	X	X		005
6	P-152A	WT	G			5/4/21	1250		2			2						X	X	X		006
7	P-153	WT	G			5/3/21	1435		2			2						X	X	X		007
8	P-154A	WT	G			5/3/21	1400		2			2						X	X	X		008
9	P-162	WT	G			5/5/21	0845		2			2						X	X	X		009
10	P-163	WT	G			5/5/21	0930		2			2						X	X	X		010
11	P-164	WT	G			5/5/21	1000		2			2						X	X	X		011
12	P-165	WT	G			5/6/21	1500		2			2						X	X	X		012

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	5/7/21	1330		5-12-21	1030

SAMPLE CONDITIONS

N/A	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Kendall Johnson

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

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

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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.

3042094 4

Section A Required Client Information:

Company:	Xcel Energy
Address:	c/o Pace MN Field
	RADIUM
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	15 Days

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Spring

Section C Invoice Information:

Attention:	Ciara Ruikkie
Company Name:	Pace MN Field Services
Address:	1700 SE Elm St, Minneapolis, MN 55408
Pace Quote Reference:	Tom Halverson
Pace Project Manager:	Carin Ferris
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	RA-226 EPA 903.1	RA-226 EPA 904.0	Ra226 + Ra228 SUM	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-173	WT	G			5/5/21	0935		2			2						X	X	X		013
2	P-174	WT	G			5/5/21	1005		2			2						X	X	X		014
3	P-175	WT	G			5/5/21	1035		2			2						X	X	X		015
4	P-176	WT	G			5/5/21	1105		2			2						X	X	X		016
5	P-177	WT	G			5/4/21	1540		2			2						X	X	X		017
6	DUPLICATE P3	WT	G			5/3/21	0910		2			2						X	X	X		018
7	RINSE P-3	WT	G			5/3/21	0920		2			2						X	X	X		019
8																						
9																						
10																						
11																						
12																						

Requested Analysis: Filtered (Y/N)

Rec'd 5/7/21

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	5/7/21	1330		5-12-21	1030

SAMPLE CONDITIONS

	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	NA	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson Kendall Johnson

SIGNATURE of SAMPLER: Riley Jacobson DATE Signed (MM/DD/YY)

Pace Analytical®

Pace Greensburg Lab -Sample Container Count

30420944

Client: Pace MN

Profile Number: 7484

Site: Xcel Energy Sherco Ponds Spring

Notes:

Sample Line Item	Matrix	AG1H	AG1S	AG1T	AG2U	AG3S	AG3U	AG5U	AG5T	BG1U	BG2U	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	GCUB	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC	
1	3											2																	
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Container Codes

19

Glass

GJN	1 Gallon Jug with HNO3	DG9S	40mL amber VOA vial H2SO4
AG5U	100mL amber glass unprserved	VG9U	40mL clear VOA vial
AG5T	100mL amber glass Na Thiosulfate	VG9T	40mL clear VOA vial Na Thiosul
GJN	1 Gallon Jug	VG9H	40mL clear VOA vial HCl
AG1S	1L amber glass H2SO4	JGFU	4oz amber wide jar
AG1H	1L amber glass HCl	WGFU	4oz wide jar unpreserved
AG1T	1L amber glass Na Thiosulfate	BG2U	500mL clear glass unpreserved
BG1U	1L clear glass unpreserved	AG2U	500mL amber glass unpreserve
AG3S	250mL amber glass H2SO4	WGKU	8oz wide jar unpreserved
AG3U	250mL amber glass unpreserved		

Plastic / Misc.

GCUB	1 Gallon Cubitainer
12GN	1/2 Gallon Cubitainer
SP5T	120mL Coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unpreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3C	250ml plastic NAOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved

EZI	5g Encore
VOAK	Kit for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag

WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Excel

Project # # 30420944

Label #

LIMS Login

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 9371 9929 6415

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Thermometer Used – Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp – °C Correction Factor: – °C Final Temp: – °C

Temp should be above freezing to 6°C

pH paper Lot# 160111 Date and Initials of person examining contents: S-14-21

Comments:	Yes	No	N/A	
Chain of Custody Present:	–			1.
Chain of Custody Filled Out:	–			2.
Chain of Custody Relinquished:	–			3.
Sampler Name & Signature on COC:	–			4.
Sample Labels match COC: -Includes date/time/ID Matrix: UT	–			5.
Samples Arrived within Hold Time:	–			6.
Short Hold Time Analysis (<72hr remaining):		–		7.
Rush Turn Around Time Requested:		–		8.
Sufficient Volume:	–			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			–	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	/			16.
All containers meet method preservation requirements.	/			Initial when completed: Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			–	17.
Trip Blank Present:			–	18.
Trip Blank Custody Seals Present			–	
Rad Samples Screened < 0.5 mrem/hr	–			Initial when completed: Date: S-14-21 Survey Meter SN: 1SC3

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

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.

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

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 A. Ferris

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

Enclosures

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

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

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

Pace Analytical Services, LLC
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Greensburg, PA 15601
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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

REPORT OF LABORATORY ANALYSIS

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

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

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

PROJECT NARRATIVE

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:

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

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:

Pace Analytical Services, LLC
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Greensburg, PA 15601
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PROJECT NARRATIVE

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.

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Sherco Spring '21 RAD RE
Pace Project No.: 30425692

Sample: P-01A-1 **Lab ID: 30425692001** Collected: 06/10/21 12:55 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical 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 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 Services - Greensburg					
Total Radium	Total Radium Calculation	**0.550 ± 0.667 (1.23)**	pCi/L	07/06/21 15:39	7440-14-4	

Sample: P-17 **Lab ID: 30425692002** Collected: 06/10/21 17:05 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical 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 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 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: 30425692003** Collected: 06/10/21 15:00 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical 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 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 Services - Greensburg					
Total Radium	Total Radium Calculation	**0.169 ± 0.808 (1.69)**	pCi/L	07/06/21 15:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Sherco Spring '21 RAD RE
Pace Project No.: 30425692

Sample: P-23 **Lab ID: 30425692004** Collected: 06/10/21 15:30 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - 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 Services - 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 Services - 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 **Lab ID: 30425692005** Collected: 06/10/21 14:00 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - 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 Services - 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 Services - 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 **Lab ID: 30425692006** Collected: 06/10/21 12:05 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - 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 Services - 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 Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.810 (1.89)**	pCi/L	07/06/21 15:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Sherco Spring '21 RAD RE
Pace Project No.: 30425692

Sample: P-157 **Lab ID: 30425692007** Collected: 06/10/21 16:00 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical 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 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 Services - Greensburg					
Total Radium	Total Radium Calculation	**0.890 ± 0.846 (1.60)**	pCi/L	07/06/21 15:39	7440-14-4	

Sample: P-158 **Lab ID: 30425692008** Collected: 06/10/21 16:30 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical 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 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 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: 30425692009** Collected: 06/10/21 14:00 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical 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 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 Services - Greensburg					
Total Radium	Total Radium Calculation	**0.494 ± 0.819 (1.59)**	pCi/L	07/06/21 15:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Sherco Spring '21 RAD RE
Pace Project No.: 30425692

Sample: RINSE **Lab ID: 30425692010** Collected: 06/10/21 13:45 Received: 06/12/21 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - 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 Services - Greensburg					
Radium-228	EPA 904.0	**0.142 ± 0.458 (1.03) C:74% T:81%**	pCi/L	07/01/21 14:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.142 ± 0.764 (1.73)**	pCi/L	07/06/21 15:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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
QC Batch Method: EPA 904.0
Analysis 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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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: 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

Pace Analytical Services, LLC
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.

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Anal

The Chain-of-Custody is a LEGAL DOCUMENT. All

WO# : 30425692

30425692

1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Ciara Ruikkie
Address:	c/o Pace MN Field	Copy To:	Riley Jacobson	Company Name:	Pace MN Field Services
	RADIUM			Address:	1700 SE Elm St, Minneapolis, MN 55408
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	Tom Halverson
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Carin Ferris
Requested Due Date/TAT:	15 Days	Project Name:	Xcel Sherco Spring '21 RAD RE	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER_MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☐ OTHER

Filtered (Y/N)

Requested Analysis:

Section D Required Client Information

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; TISSUE TS; OTHER OT

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	RA-226 EPA 903.1	RA-228 EPA 904.0	Ra226 + Ra228 SUM	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-01A-1	WT	G	–	–	6/10/21	1255		2			2						X	X	X		001
2	P-17	WT	G	–	–	6/10/21	1705		2			2						X	X	X		002
3	P-22	WT	G	–	–	6/10/21	1500		2			2						X	X	X		003
4	P-23	WT	G	–	–	6/10/21	1530		2			2						X	X	X		004
5	P-155	WT	G	–	–	6/10/21	1400		2			2						X	X	X		005
6	P-156	WT	G	–	–	6/10/21	1205		2			2						X	X	X		006
7	P-157	WT	G	–	–	6/10/21	1600		2			2						X	X	X		007
8	P-158	WT	G	–	–	6/10/21	1630		2			2						X	X	X		008
9	DUPLICATE	WT	G	–	–	6/10/21	1400		2			2						X	X	X		009
10	RINSE	WT	G	–	–	6/10/21	1345		2			2						X	X	X		010
11																						
12																						

CIR 6/11/21

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	6/11/21	910		6/11/21	910
	6/11/21	930	FEDEX	6/11/21	930
	6/11/21	950		6-12-21	1045

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
-	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Pelosi + Kendall Johnson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/10/21

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Xcel Project #

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Label

Tracking #: 9371 9293 3583

LIMS Login

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used Type of Ice: Wet Blue None

Cooler Temperature Observed Temp °C Correction Factor: °C Final Temp: °C

Temp should be above freezing to 6°C

WO#: 30425692

Due Date: 07/06/21

PM: CAF

CLIENT: PaceMN Field

Comments:	Yes	No	N/A	pH paper Lot# 160386	Date and Initials of person examining contents: 6-12-21
Chain of Custody Present:	–			1.	
Chain of Custody Filled Out:	–			2.	
Chain of Custody Relinquished:	–			3.	
Sampler Name & Signature on COC:	–			4.	
Sample Labels match COC: -Includes date/time/ID Matrix: WT	–			5.	
Samples Arrived within Hold Time:	–			6.	
Short Hold Time Analysis (<72hr remaining):		–		7.	
Rush Turn Around Time Requested:		–		8.	
Sufficient Volume:	–			9.	
Correct Containers Used: -Pace Containers Used:	– –			10.	
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			–	15.	
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	–			16. PH<2	
All containers meet method preservation requirements.	–			Initial when completed:	Date/time of preservation:
				Lot # of added preservative:	
Headspace in VOA Vials (>6mm):			–	17.	
Trip Blank Present:			–	18.	
Trip Blank Custody Seals Present			–		
Rad Samples Screened < 0.5 mrem/hr	–			Initial when completed:	Date: 6-12-21 Survey Meter SN: 15637

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

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.

Appendix B

Fall 2021 Assessment Monitoring Event
Field Datasheets and Laboratory Reports

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy | Project: Sherco Ponds Fall 2021 | Project No.: 21-05223

Monitoring Point ID: P-01A-1 | Labeled: P-01A-1

Inside Diameter: 2 (inches) | Key #: 2106 | [X] Locked | [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	80.98	Feet
Static water level measurement before purging (Start Depth)	80.35	Feet
Static water level measurement at time of sampling (Final Depth)	NA	Feet
Static Water Level Elevation Before Purging	NA	Feet

measured with CSP

Purge Method: Bladder Pump | Pump ID: BPL-1

Date Purged: 11/2/21 | Water Column: 0.63 Feet

Time Purged: NA | One Casing Volume: 0.10 Gallons

Pump Rate: ↓ GPM / LPM | Volume Purged: Ø Gallons

Field Sampling Data

Date Sampled: 11/2/21

Time Sampled: 0855

Sampling Equip.: Pump

Meter ID: NA

Analyzed by: RDS

Field Parameter Measurements of Sample

pH	(units)	D.O	(mg/l)
Spec. Cond.	(µmhos/cm)	Turbidity	(NTU)
Temp. Observed	(°C)	Eh	(mV)
Temp. Corrected	(°C)	Other	

RDS 11/2/21

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: [X] Yes [ ] No [ ] NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: NA

Sample Description: NA

Observations: * removed bladder pump to measure SWL - attempted to purge with submersible, unsuccessful

Top of pump: 79.12' * Attempted to Sample, could not purge - RDS 11/2/21

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
			RDS 11/2/21				

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: [signature] Date: 11/2/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy Project: Sherco Ponds Fall 2021 Project No.: 21-05223

Monitoring Point ID: P-17 Labeled: P-17

Inside Diameter: 2 (inches) Key #: 2106 [X] Locked [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	58.76	Feet (measured 11/1/21 CW)
Static water level measurement before purging (Start Depth)	40.64	Feet
Static water level measurement at time of sampling (Final Depth)	40.64	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Bladder Pump Pump ID: RPC-1

Date Purged: 11/2/21 Water Column: 18.12 Feet

Time Purged: 1440-1516 One Casing Volume: 2.95 Gallons

Pump Rate: 0.25 (GPM) / LPM Volume Purged: 9 Gallons

Field Sampling Data

Date Sampled: 11/2/21

Time Sampled: 1520

Sampling Equip.: Pump

Meter ID: MPS-7/YSI5

Analyzed by: RCJ

Field Parameter Measurements of Sample

pH	7.8	(units)	D.O	6.4	(mg/l)
Spec. Cond.	500	(µmhos/cm)	Turbidity	1.1	(NTU)
Temp. Observed	9.7	(°C)	Eh	183	(mV)
Temp. Corrected	9.8	(°C)	Other	clear no odor	

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: [X] Yes [ ] No [X] NA

Temperature Correction Factor: +0.1 °C within ±2°C

Weather Conditions During Sampling: 40°F, Mostly Cloudy, NW@4MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1452	7.8	510	9.8	6.3	NM	181	3
1504	7.8	510	9.7	6.4	NM	183	6
1516	7.8	500	9.7	6.4	NM	183	9
				RCJ 11/2/21			

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: [signature] Date: 11/2/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy **Project** Sherco Ponds Fall 2021 **Project No.** 21-05223

Monitoring Point ID P-22 Labeled P-22

Inside Diameter 2 (inches) Key # 2106 [X] Locked [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 57.85 Feet

Static water level measurement before purging (Start Depth) 42.40 Feet

Static water level measurement at time of sampling (Final Depth) 42.40 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 11/1/21 Water Column 15.45 Feet

Time Purged 1435-1511 One Casing Volume 2.52 Gallons

Pump Rate 0.25 (GPM circled) / LPM Volume Purged 9 Gallons

Field Sampling Data

Date Sampled 11/1/21

Time Sampled 1515

Sampling Equip. Pump + G

Meter ID MPS-7 TM-5

Analyzed by FGJ

Field Parameter Measurements of Sample

pH 7.5 (units) D.O 8.5 (mg/l)

Spec. Cond. 730 (µmhos/cm) Turbidity 2.0 (NTU)

Temp. Observed 9.9 (°C) Eh 177 (mV)

Temp. Corrected 10.0 (°C) Other clear no odor

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: [X] Yes [ ] No [ ] NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 40°F overcast and W@ 10 mph

Sample Description: clear no odor

Observations: * DUPLICATE ~~FOR~~ BAP (BROWN) Collected here @ 1515 by RCJ

* RINSE BAP collected @ 1520

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1447	7.6	720	10.0	8.5	NA	177	3
1459	7.6	730	9.9	8.5	NA	177	6
1511	7.5	730	9.9	8.5	NA	177	9
			RCJ 11/1/21				

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: [signature] Date: 11/1/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy **Project** Sherco Ponds Fall 2021 **Project No.** 21-05223

Monitoring Point ID P-23 Labeled P-23

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	67.34	Feet
Static water level measurement before purging (Start Depth)	44.21	Feet
Static water level measurement at time of sampling (Final Depth)	44.21	Feet
Static Water Level Elevation Before Purging	NA	Feet

measured 11/1/21 CP

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 11/2/21 Water Column 23.13 Feet

Time Purged 1135 - 1156 One Casing Volume 3.77 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 4.2 Gallons

Field Sampling Data

Date Sampled 11/2/21

Time Sampled 1200

Sampling Equip. Pump + Filter

Meter ID MPS-7 / TMS

Analyzed by RLS

Field Parameter Measurements of Sample

pH	7.6	(units)	D.O	7.6	(mg/l)
Spec. Cond.	680	(µmhos/cm)	Turbidity	1.5	(NTU)
Temp. Observed	11.7	(°C)	Eh	197	(mV)
Temp. Corrected	11.8	(°C)	Other	NA	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☒ Yes ☐ No ☐ NA

Temperature Correction Factor: ±0.1 °C

Weather Conditions During Sampling: 37°, Sunny, NW 7MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1142	7.6	680	11.8	7.7	NA	197	1.4
1149	7.6	680	11.7	7.7	NA	197	2.8
1156	7.6	680	11.7	7.6	NA	197	4.2
				RLS 11/2/21			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobsen Pace Analytical

Lead Technician Signature: [signature] Date: 11/2/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy Project: Sherco Ponds Fall 2021 Project No.: 21-05223

Monitoring Point ID: P-152A Labeled: P-152A

Inside Diameter: 2 (inches) Key #: 2106 [X] Locked [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation: NA Feet

Total Well Depth: 42.35 Feet

Static water level measurement before purging (Start Depth): 41.46 Feet

Static water level measurement at time of sampling (Final Depth): 41.46 Feet

Static Water Level Elevation Before Purging: NA Feet

(measured 11/1/21 CJP)

Purge Method: Bladder Pump Pump ID: BPC-1

Date Purged: 11/2/21 Water Column: 0.89 Feet

Time Purged: 1525-1534 One Casing Volume: 0.15 Gallons

Pump Rate: 0.05 (GPM) / LPM Volume Purged: 0.45 Gallons

Field Sampling Data

Date Sampled: 11/2/21

Time Sampled: 1535

Sampling Equip.: pump ~~+filter~~

Meter ID: MPS-7 TM-5

Analyzed by: RGJ

Field Parameter Measurements of Sample

~~pH ___ (units) D.O ___ (mg/l)~~
~~Spec. Cond. ___ (µmhos/cm) Turbidity ___ (NTU)~~
~~Temp. Observed ___ (°C) Eh ___ (mV)~~
~~Temp. Corrected ___ (°C) Other ___~~

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: ~~[X] Yes~~ [ ] No [X] NA

Temperature Correction Factor: +0.1

Weather Conditions During Sampling: 40°F overcast wind w @ 5 mph

Sample Description: clear no odor

Observations: bladder pump removed to measure SWL. Top of bladder pump @ 39.50'

* + Radium (REMOVED Bladder Pump + Sampled w/ Grundfos - Still NO SAMPLE COLLECTED 11/4/21)

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1528	8.0	430	8.5	6.8	NA	180	0.15
1531					↓		0.30
1534					↓		0.45

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: [signature] Date: 11/2/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy **Project** Sherco Ponds Fall 2021 **Project No.** 21-05223

Monitoring Point ID P-155 Labeled P-155

Inside Diameter 4 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	85.47	Feet (measured 11/1/21 CSP)
Static water level measurement before purging (Start Depth)	80.54	Feet
Static water level measurement at time of sampling (Final Depth)	80.54	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 11/2/21 Water Column 4.93 Feet

Time Purged 0820 - 0832 One Casing Volume 0.80 Gallons

Pump Rate 0.2 (GPM / LPM) Volume Purged 2.4 Gallons

Field Sampling Data

Date Sampled 11/2/21

Time Sampled 0835

Sampling Equip. Pump

Meter ID MPS-7/TM5

Analyzed by RLG

Field Parameter Measurements of Sample

pH	7.5	(units)	D.O	6.0	(mg/l)
Spec. Cond.	750	(µmhos/cm)	Turbidity	3.1	(NTU)
Temp. Observed	8.1	(°C)	Eh	191	(mV)
Temp. Corrected	8.2	(°C)	Other	NM	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☒ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 27°F, Sunny, NW @ 6MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0824	7.5	760	8.2	6.1	NM	192	0.8
0828	7.5	750	8.1	6.1	NM	192	1.6
0832	7.5	750	8.1	6.0	NM	191	2.4
				RLG 11/2/21			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobsen Pace Analytical

Lead Technician Signature: Riley Jacobsen Date: 11/2/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy | Project: Sherco Ponds Fall 2021 | Project No.: 21-05223

Monitoring Point ID: P-156 | Labeled: P-156

Inside Diameter: 2 (inches) | Key #: 2106 | [X] Locked | [ ] Not Locked

Casing Material: [X] PVC | [ ] Steel | [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	85.53	Feet (measured with cap)
Static water level measurement before purging (Start Depth)	79.66	Feet
Static water level measurement at time of sampling (Final Depth)	79.66	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Bladder Pump | Pump ID: BPL-1

Date Purged: 11/2/21 | Water Column: 5.87 Feet

Time Purged: 0905 - 0920 | One Casing Volume: 0.96 Gallons

Pump Rate: 0.2 (GPM / LPM) | Volume Purged: 3 Gallons

Field Sampling Data

Date Sampled: 11/2/21

Time Sampled: 0925

Sampling Equip.: Pump

Meter ID: MPS-7/TMS

Analyzed by: RDJ

Field Parameter Measurements of Sample

pH	7.6 (units)	D.O	7.8 (mg/l)
Spec. Cond.	640 (µmhos/cm)	Turbidity	7.8 (NTU)
Temp. Observed	9.0 (°C)	Eh	188 (mV)
Temp. Corrected	9.1 (°C)	Other	NA

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: [X] Yes [ ] No [X] NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 30°F, Sunny, NW @ 8MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0910	7.7	630	8.9	7.8	NA	187	1
0915	7.6	640	9.0	7.8	NA	187	2
0920	7.6	640	9.0	7.8	NA	188	3
				PDJ			
				11/2/21			

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: Riley Jacobson Date: 11/2/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sheco Ponds Fall 2021 Project No. 21-05223

Monitoring Point ID P-157 Labeled P-157

Inside Diameter 2 (inches) Key # 2106 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	49.05	Feet
Static water level measurement before purging (Start Depth)	44.85	Feet
Static water level measurement at time of sampling (Final Depth)	44.85	Feet
Static Water Level Elevation Before Purging	NA	Feet

measured 11/1/21 CSP

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 11/2/21 Water Column 4.20 Feet

Time Purged 1215 - 1227 One Casing Volume 0.68 Gallons

Pump Rate ____ GPM / LPM Volume Purged 2.4 Gallons

Field Sampling Data

Date Sampled 11/2/21

Time Sampled 1230

Sampling Equip. Pump

Meter ID MPS-7 / PMS

Analyzed by RCJ

Field Parameter Measurements of Sample

pH	7.4	(units)	D.O	6.5	(mg/l)
Spec. Cond.	590	(µmhos/cm)	Turbidity	2.2	(NTU)
Temp. Observed	12.6	(°C)	Eh	200	(mV)
Temp. Corrected	12.7	(°C)	Other	NA	

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA

Sample for Soluble Metals Filtered in Field: ☒ Yes ☐ No ☒ NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 38F, Sunny, NW 8MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1219	7.4	590	12.5	6.5	NA	199	0.8
1223	7.4	590	12.6	6.5	NA	200	1.6
1227	7.4	590	12.6	6.5	NA	200	2.4
				RCJ 11/2/21			

Samples chilled immediately after collection: ☒ Yes ☐ Other ____

Form Revised 01/25/2021

Name/Affiliation of Sampler(s): Riley Jackson Pace Analytical

Lead Technician Signature: Riley Jackson Date: 11/2/21

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy Project: Sherco Ponds Fall 2021 Project No. 21-05223

Monitoring Point ID: P-158 Labeled: P-158

Inside Diameter: 2 (inches) Key #: 2106 [X] Locked [ ] Not Locked

Casing Material: [X] PVC [ ] Steel [ ] Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation: NA Feet

Total Well Depth: 49.16 Feet

Static water level measurement before purging (Start Depth): 42.94 Feet (measured 11/1/21 csp)

Static water level measurement at time of sampling (Final Depth): 42.94 Feet

Static Water Level Elevation Before Purging: NA Feet

Purge Method: Bladder Pump Pump ID: BPC-1

Date Purged: 11/2/21 Water Column: 6.22 Feet

Time Purged: 1245-1303 One Casing Volume: 1.01 Gallons

Pump Rate: 0.2 (GPM) / LPM Volume Purged: 3.6 Gallons

Field Sampling Data

Date Sampled: 11/2/21

Time Sampled: 1305

Sampling Equip.: Pump

Meter ID: YPS-7/TMS

Analyzed by: RGJ

Field Parameter Measurements of Sample

pH: 7.4 (units) D.O: 8.2 (mg/l)

Spec. Cond.: 780 (µmhos/cm) Turbidity: 1.4 (NTU)

Temp. Observed: 10.1 (°C) Eh: 201 (mV)

Temp. Corrected: 10.2 (°C) Other: NA

Field Measurements Temp. Corrected: [X] Yes [ ] No [ ] NA

Sample for Soluble Metals Filtered in Field: ~~[X]~~ Yes [ ] No [X] NA

Temperature Correction Factor: +0.1 °C

Weather Conditions During Sampling: 40°F, Sunny, N@8MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1251	7.4	780	10.1	8.1	NA	201	1.2
1257	7.4	780	10.1	8.2	NA	201	2.4
1303	7.4	780	10.1	8.2	NA	201	3.6
				RGJ 11/2/21			

Samples chilled immediately after collection: [X] Yes [ ] Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson Pace Analytical

Lead Technician Signature: Riley J Date: 11/2/21

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

03 December 2021

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

cc:

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.

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

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		**Reported:**
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

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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-17

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

Analyte	Result	Reporting Limit	Units	Analyte 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

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Christine Keefe, Supervisor (612) 630-4506

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-22

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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-23

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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-155

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

Analyte	Result	Reporting Limit	Units	Analyte 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										
pH	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

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WI-999071150
Christine Keefe, Supervisor (612) 630-4506

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-156

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

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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Christine Keefe, Supervisor (612) 630-4506

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

Analyte	Result	Reporting Limit	Units	Analyte 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

Minneapolis Testing Laboratory
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Minneapolis, MN 55043
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WI-999071150
Christine Keefe, Supervisor (612) 630-4506

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-158

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

Analyte	Result	Reporting Limit	Units	Analyte 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

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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

Duplicate CCR-BAP

MGK0016-37 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	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

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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

Rinse CCR-BAP

MGK0016-38 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
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

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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

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0080 - Wet Prep										
Blank (BGK0080-BLK1)				Prepared & Analyzed: 11/03/2021						
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 & Analyzed: 11/03/2021						
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 & Analyzed: 11/03/2021						
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 & Analyzed: 11/03/2021						
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 & Analyzed: 11/03/2021						
Chloride	24.719	1.00	mg/L	25.000		98.9	90-110			
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)		**Source: MGK0016-06**		Prepared & Analyzed: 11/03/2021						
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	

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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

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0080 - Wet Prep										
Duplicate (BGK0080-DUP2)		**Source: MGK0016-07**		Prepared & Analyzed: 11/03/2021						
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)		**Source: MGK0016-06**		Prepared & Analyzed: 11/03/2021						
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)		**Source: MGK0016-07**		Prepared & Analyzed: 11/03/2021						
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)		**Source: MGK0016-06**		Prepared & Analyzed: 11/03/2021						
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)		**Source: MGK0016-07**		Prepared & Analyzed: 11/03/2021						
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: 11/03/2021 Analyzed: 11/04/2021						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

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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

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0089 - Wet Prep										
Blank (BGK0089-BLK2)				Prepared: 11/03/2021 Analyzed: 11/04/2021						
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: 11/03/2021 Analyzed: 11/04/2021						
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: 11/03/2021 Analyzed: 11/04/2021						
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			
LCS (BGK0089-BS3)				Prepared: 11/03/2021 Analyzed: 11/04/2021						
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)		**Source: MGK0016-22**		Prepared: 11/03/2021 Analyzed: 11/04/2021						
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)		**Source: MGK0016-23**		Prepared: 11/03/2021 Analyzed: 11/04/2021						
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	

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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

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0089 - Wet Prep										
Matrix Spike (BGK0089-MS1)		**Source: MGK0016-22**		Prepared: 11/03/2021 Analyzed: 11/04/2021						
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)		**Source: MGK0016-23**		Prepared: 11/03/2021 Analyzed: 11/04/2021						
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)		**Source: MGK0016-22**		Prepared: 11/03/2021 Analyzed: 11/04/2021						
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)		**Source: MGK0016-23**		Prepared: 11/03/2021 Analyzed: 11/04/2021						
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 & Analyzed: 11/05/2021						
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 & Analyzed: 11/05/2021						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

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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

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0142 - Wet Prep										
LCS (BGK0142-BS1)				Prepared & Analyzed: 11/05/2021						
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 & Analyzed: 11/05/2021						
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 & Analyzed: 11/05/2021						
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)		**Source: MGK0033-08**		Prepared & Analyzed: 11/05/2021						
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)		**Source: MGK0033-09**		Prepared & Analyzed: 11/05/2021						
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)		**Source: MGK0033-08**		Prepared & Analyzed: 11/05/2021						
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			

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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

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0142 - Wet Prep										
Matrix Spike (BGK0142-MS2)		**Source: MGK0033-09**		Prepared & Analyzed: 11/05/2021						
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)		**Source: MGK0033-08**		Prepared & Analyzed: 11/05/2021						
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)		**Source: MGK0033-09**		Prepared & Analyzed: 11/05/2021						
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 & Analyzed: 11/08/2021						
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 & Analyzed: 11/08/2021						
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 & Analyzed: 11/08/2021						
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			

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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

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0172 - Wet Prep										
Duplicate (BGK0172-DUP1)		**Source: MGK0033-20**		Prepared & Analyzed: 11/08/2021						
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)		**Source: MGK0033-20**		Prepared & Analyzed: 11/08/2021						
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)		**Source: MGK0033-20**		Prepared & Analyzed: 11/08/2021						
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	

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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 BGK0079 - Wet Prep										
LCS (BGK0079-BS1)				Prepared & Analyzed: 11/03/2021						
pH	7.0900		pH Units	7.0000		101	90-110			
LCS (BGK0079-BS2)				Prepared & Analyzed: 11/03/2021						
pH	7.1000		pH Units	7.0000		101	90-110			
Duplicate (BGK0079-DUP1)		**Source: MGK0016-01**		Prepared & Analyzed: 11/03/2021						
pH	7.3700		pH Units		7.4100			0.541	20	
Duplicate (BGK0079-DUP2)		**Source: MGK0016-11**		Prepared & Analyzed: 11/03/2021						
pH	7.5400		pH Units		7.5400			0.00	20	
Duplicate (BGK0079-DUP3)		**Source: MGK0016-21**		Prepared & Analyzed: 11/03/2021						
pH	7.6800		pH Units		7.6700			0.130	20	
Duplicate (BGK0079-DUP4)		**Source: MGK0016-31**		Prepared & Analyzed: 11/03/2021						
pH	7.7900		pH Units		7.7800			0.128	20	
Batch BGK0081 - Wet Prep										
Blank (BGK0081-BLK1)				Prepared & Analyzed: 11/04/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0081-BS1)				Prepared & Analyzed: 11/04/2021						
Total Suspended Solids	92.000	5.00	mg/L	101.00		91.1	70-130			
Duplicate (BGK0081-DUP1)		**Source: MGK0016-02**		Prepared & Analyzed: 11/04/2021						
Total Suspended Solids	<12.5	12.5	mg/L		0.80000				20	M_K-06

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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 BGK0082 - Wet Prep										
Blank (BGK0082-BLK1)				Prepared & Analyzed: 11/04/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0082-BS1)				Prepared & Analyzed: 11/04/2021						
Total Dissolved Solids	94.000	25.0	mg/L	100.80		93.3	70-130			
Duplicate (BGK0082-DUP1)		**Source: MGK0016-02**		Prepared & Analyzed: 11/04/2021						
Total Dissolved Solids	1174.0	25.0	mg/L		1194.0			1.69	20	
Batch BGK0106 - Wet Prep										
Blank (BGK0106-BLK1)				Prepared & Analyzed: 11/05/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0106-BS1)				Prepared & Analyzed: 11/05/2021						
Total Suspended Solids	96.000	5.00	mg/L	101.00		95.0	70-130			
Duplicate (BGK0106-DUP1)		**Source: MGK0016-12**		Prepared & Analyzed: 11/05/2021						
Total Suspended Solids	313.33	16.7	mg/L		313.33			0.00	20	
Batch BGK0107 - Wet Prep										
Blank (BGK0107-BLK1)				Prepared & Analyzed: 11/05/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0107-BS1)				Prepared & Analyzed: 11/05/2021						
Total Dissolved Solids	104.00	25.0	mg/L	100.80		103	70-130			

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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 BGK0107 - Wet Prep										
Duplicate (BGK0107-DUP1)		**Source: MGK0016-12**		Prepared & Analyzed: 11/05/2021						
Total Dissolved Solids	598.00	25.0	mg/L		602.00			0.667	20	
Batch BGK0133 - Wet Prep										
Blank (BGK0133-BLK1)				Prepared & Analyzed: 11/06/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0133-BS1)				Prepared & Analyzed: 11/06/2021						
Total Suspended Solids	96.000	5.00	mg/L	101.00		95.0	70-130			
Duplicate (BGK0133-DUP1)		**Source: MGK0016-22**		Prepared & Analyzed: 11/06/2021						
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 & Analyzed: 11/06/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0134-BS1)				Prepared & Analyzed: 11/06/2021						
Total Dissolved Solids	106.00	25.0	mg/L	100.80		105	70-130			
Duplicate (BGK0134-DUP1)		**Source: MGK0016-22**		Prepared & Analyzed: 11/06/2021						
Total Dissolved Solids	304.00	25.0	mg/L		306.00			0.656	20	
Batch BGK0141 - Wet Prep										
LCS (BGK0141-BS1)				Prepared & Analyzed: 11/05/2021						
pH	7.0900		pH Units	7.0000		101	90-110			

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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 BGK0141 - Wet Prep										
LCS (BGK0141-BS2)				Prepared & Analyzed: 11/05/2021						
pH	7.1000		pH Units	7.0000		101	90-110			
Duplicate (BGK0141-DUP1)		**Source: MGK0033-01**		Prepared & Analyzed: 11/05/2021						
pH	7.5000		pH Units		7.5600			0.797	20	
Duplicate (BGK0141-DUP2)		**Source: MGK0033-11**		Prepared & Analyzed: 11/05/2021						
pH	7.8200		pH Units		7.8200			0.00	20	
Duplicate (BGK0141-DUP3)		**Source: MGK0033-21**		Prepared & Analyzed: 11/05/2021						
pH	7.6600		pH Units		7.6700			0.130	20	
Batch BGK0159 - Wet Prep										
Blank (BGK0159-BLK1)				Prepared & Analyzed: 11/07/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0159-BS1)				Prepared & Analyzed: 11/07/2021						
Total Suspended Solids	100.00	5.00	mg/L	101.00		99.0	70-130			
Duplicate (BGK0159-DUP1)		**Source: MGK0016-31**		Prepared & Analyzed: 11/07/2021						
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 & Analyzed: 11/07/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							

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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 BGK0160 - Wet Prep										
LCS (BGK0160-BS1)				Prepared & Analyzed: 11/07/2021						
Total Dissolved Solids	90.000	25.0	mg/L	100.80		89.3	70-130			
Duplicate (BGK0160-DUP1)		**Source: MGK0016-31**		Prepared & Analyzed: 11/07/2021						
Total Dissolved Solids	292.00	25.0	mg/L		288.00			1.38	20	
Batch BGK0168 - Wet Prep										
Blank (BGK0168-BLK1)				Prepared & Analyzed: 11/08/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0168-BS1)				Prepared & Analyzed: 11/08/2021						
Total Suspended Solids	96.000	5.00	mg/L	102.60		93.6	70-130			
Duplicate (BGK0168-DUP1)		**Source: MGK0033-01**		Prepared & Analyzed: 11/08/2021						
Total Suspended Solids	6.0000	12.5	mg/L		8.6000			35.6	20	M_K-06
Duplicate (BGK0168-DUP2)		**Source: MGK0033-02**		Prepared & Analyzed: 11/08/2021						
Total Suspended Solids	12.500	12.5	mg/L		12.400			0.803	20	
Batch BGK0169 - Wet Prep										
Blank (BGK0169-BLK1)				Prepared & Analyzed: 11/08/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0169-BS1)				Prepared & Analyzed: 11/08/2021						
Total Dissolved Solids	100.00	25.0	mg/L	102.20		97.8	70-130			

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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 BGK0169 - Wet Prep										
Duplicate (BGK0169-DUP1)		**Source: MGK0033-01**		Prepared & Analyzed: 11/08/2021						
Total Dissolved Solids	636.00	25.0	mg/L		632.00			0.631	20	
Duplicate (BGK0169-DUP2)		**Source: MGK0033-02**		Prepared & Analyzed: 11/08/2021						
Total Dissolved Solids	560.00	25.0	mg/L		556.00			0.717	20	
Batch BGK0173 - Wet Prep										
Blank (BGK0173-BLK1)				Prepared & Analyzed: 11/09/2021						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BGK0173-BS1)				Prepared & Analyzed: 11/09/2021						
Total Suspended Solids	92.000	5.00	mg/L	102.60		89.7	70-130			
Duplicate (BGK0173-DUP1)		**Source: MGK0033-13**		Prepared & Analyzed: 11/09/2021						
Total Suspended Solids	<12.5	12.5	mg/L		<12.5				20	M_K-06
Duplicate (BGK0173-DUP2)		**Source: MGK0033-14**		Prepared & Analyzed: 11/09/2021						
Total Suspended Solids	16.000	12.5	mg/L		14.600			9.15	20	
Batch BGK0174 - Wet Prep										
Blank (BGK0174-BLK1)				Prepared & Analyzed: 11/09/2021						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BGK0174-BS1)				Prepared & Analyzed: 11/09/2021						
Total Dissolved Solids	110.00	25.0	mg/L	102.20		108	70-130			

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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: MGK0033-13**		Prepared & Analyzed: 11/09/2021						
Total Dissolved Solids	250.00	25.0	mg/L		246.00			1.61	20	
Duplicate (BGK0174-DUP2)		**Source: MGK0033-14**		Prepared & Analyzed: 11/09/2021						
Total Dissolved Solids	550.00	25.0	mg/L		560.00			1.80	20	

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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

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0136 - EPA 200.2, EPA 3005										
Blank (BGK0136-BLK1)				Prepared: 11/05/2021 Analyzed: 11/09/2021						
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							
LCS (BGK0136-BS1)				Prepared: 11/05/2021 Analyzed: 11/09/2021						
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)		**Source: MGK0016-05**		Prepared: 11/05/2021 Analyzed: 11/09/2021						
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)		**Source: MGK0016-27**		Prepared: 11/05/2021 Analyzed: 11/09/2021						
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)		**Source: MGK0016-05**		Prepared: 11/05/2021 Analyzed: 11/09/2021						
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			
Selenium	105.85	0.500	ug/L	100.00	0.71833	105	75-125			

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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

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0136 - EPA 200.2, EPA 3005										
Matrix Spike (BGK0136-MS2)		**Source: MGK0016-27**		Prepared: 11/05/2021 Analyzed: 11/09/2021						
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)		**Source: MGK0016-05**		Prepared: 11/05/2021 Analyzed: 11/09/2021						
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)		**Source: MGK0016-27**		Prepared: 11/05/2021 Analyzed: 11/09/2021						
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: 11/06/2021 Analyzed: 11/09/2021						
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: 11/06/2021 Analyzed: 11/09/2021						
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			

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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

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0163 - EPA 200.2, EPA 3005										
Duplicate (BGK0163-DUP1)		**Source: MGK0033-15**		Prepared: 11/06/2021 Analyzed: 11/09/2021						
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)		**Source: MGK0033-15**		Prepared: 11/06/2021 Analyzed: 11/09/2021						
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)		**Source: MGK0033-15**		Prepared: 11/06/2021 Analyzed: 11/09/2021						
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	

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

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										
Blank (BGK0135-BLK1)				Prepared: 11/05/2021 Analyzed: 11/08/2021						
Lithium	<0.0150	0.0150	mg/L							
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BGK0135-BS1)				Prepared: 11/05/2021 Analyzed: 11/08/2021						
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			
Duplicate (BGK0135-DUP1)		**Source: MGK0016-03**		Prepared: 11/05/2021 Analyzed: 11/08/2021						
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)		**Source: MGK0016-04**		Prepared: 11/05/2021 Analyzed: 11/08/2021						
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)		**Source: MGK0016-03**		Prepared: 11/05/2021 Analyzed: 11/08/2021						
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)		**Source: MGK0016-04**		Prepared: 11/05/2021 Analyzed: 11/08/2021						
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			
Lithium	0.99627	0.0150	mg/L	1.0000	0.0039014	99.2	70-130			

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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

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)		**Source: MGK0016-03**		Prepared: 11/05/2021 Analyzed: 11/08/2021						
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)		**Source: MGK0016-04**		Prepared: 11/05/2021 Analyzed: 11/08/2021						
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: 11/06/2021 Analyzed: 11/08/2021						
Calcium	<1.50	1.50	mg/L							
Boron	<0.0500	0.0500	mg/L							
LCS (BGK0162-BS1)				Prepared: 11/06/2021 Analyzed: 11/08/2021						
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)		**Source: MGK0033-14**		Prepared: 11/06/2021 Analyzed: 11/08/2021						
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)		**Source: MGK0033-14**		Prepared: 11/06/2021 Analyzed: 11/08/2021						
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			

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Certification # MN-027-053-197
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Christine Keefe, Supervisor (612) 630-4506

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

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGK0162 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BGK0162-MSD1)	**Source: MGK0033-14**			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	

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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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-05223
Project Name:	Xcel Energy Sherco Ponds Fall 2021

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Filtered (Y/N)

Requested Analysis:

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; TISSUE TS

ITEM #	Section D Required Client Information — SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	~~P-01A~~	WT	G	-	-	WELL DRY	NO SAMPLE		4	1	1	2						X	X			X	X				
*1 2	P-03A	WT	G	-	-	11/2/21	1030		3	1	1	1						X				X					
*1 3	P-03B	WT	G	-	-	11/2/21	1055		3	1	1	1						X				X					
4	~~P-04A~~	WT	G	-	-	WELL DRY	NO SAMPLE		3	1	1	1						X				X					
5	~~P-05A~~	WT	G	-	-	WELL DRY	NO SAMPLE		3	1	1	1						X				X					
*1 6	P-17	WT	G	-	-	11/2/21	1520		2	1		1							X	X			X	X			
*1 7	P-22	WT	G	-	-	11/1/21	1515		4	1	1	2						X	X			X	X				
*1 8	P-23	WT	G	-	-	11/2/21	1200		4	1	1	2						X	X			X	X				
*1 9	P-42	WT	G	-	-	11/1/21	1125		3	1	1	1						X				X					
*1 10	P-43	WT	G	-	-	11/1/21	935		3	1	1	1						X				X					
*1 11	P-50	WT	G	-	-	11/2/21	1135		3	1	1	1						X				X					
*1 12	P-50B	WT	G	-	-	11/2/21	1200		3	1	1	1						X				X					

Additional Comments:

*1 samples delivered to Xcel lab 11/3/21 CJP

pH Strip: MS00402
Temp MH00841: 4.1°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*1 [signature] Pace	11/3/21	720	[signature] Xcel	11/3/21	0720	4.1	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	Chris Pelosi + Riley Jacobson	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
SIGNATURE of SAMPLER: [signature]	DATE Signed (MM / DD / YY): 11/1/21				

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-05223
Project Name:	Xcel Energy Sherco Ponds Fall 2021

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
*1	P-93A	WT	G	-	-	11/1/21	1420		3	1	1	1						X				X					
*2	P-93B	WT	G	-	-	11/1/21	1355		3	1	1	1						X				X					
3	P-93D	WT	G	-	-	11/3/21	1055		3	1	1	1						X				X					
*4	P-94A	WT	G	-	-	11/2/21	1345		3	1	1	1						X				X					
*5	P-101A	WT	G	-	-	11/2/21	940		3	1	1	1						X				X					
*6	P-101B	WT	G	-	-	11/2/21	1005		3	1	1	1						X				X					
7	P-126	WT	G	-	-	11/3/21	1145		3	1	1	1						X				X					
8	P-127	WT	G	-	-	11/3/21	1110		3	1	1	1						X				X					
9	P-128	WT	G	-	-	11/3/21	1235		3	1	1	1						X				X					
10	P-129	WT	G	-	-	11/3/21	1315		3	1	1	1						X				X					
11	P-130	WT	G	-	-	11/4/21	1425		4	1	1	2						X			X	X			X		
12	P-131	WT	G	-	-	11/4/21	1225		4	1	1	2						X			X	X			X		

Additional Comments:

*, samples delivered to Xcel lab 11/3/21 CJP.

- remaining samples delivered to Xcel lab as signed on COC.

pH strips: MD00402
Temp ID00841: 5.0°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Riley Jacobson Pace	11/5/21	0900	#50 / Xcel	11/5/21	0900	5.0	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Chris Pelosi + Riley Jacobson		
SIGNATURE of SAMPLER:		DATE Signed (MM / DD / YY):	11/3/21

Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services MP-7	Copy To:	Riley Jacobson	Company Name:	
				Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	21-05223	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Fall 2021	Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER_MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER__

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WP; AR; OT; TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
*1	P-50D	WT	G	-	-	11/2/21	1225		3	1	1	1						X				X						
*2	P-56	WT	G	-	-	11/2/21	900		3	1	1	1						X				X						
*3	P-60	WT	G	-	-	11/2/21	835		3	1	1	1						X				X						
*4	P-62	WT	G	-	-	11/2/21	810		3	1	1	1						X				X						
*5	P-66	WT	G	-	-	11/1/21	0900		3	1	1	1						X				X						
*6	P-88	WT	G	-	-	11/2/21	1345		3	1	1	1						X				X						
*7	P-89-1	WT	G	-	-	11/2/21	1305		3	1	1	1						X				X						
*8	P-90	WT	G	-	-	11/1/21	1020		3	1	1	1						X				X						
*9	P-90A	WT	G	-	-	11/1/21	1050		3	1	1	1						X				X						
*10	P-92A	WT	G	-	-	11/1/21	1320		3	1	1	1						X				X						
*11	P-92B	WT	G	-	-	11/1/21	1255		3	1	1	1						X				X						
*12	P-92D	WT	G	-	-	11/1/21	1225		3	1	1	1						X				X						

Additional Comments:

*, Samples delived to Xcel lab 11/3/21 CJP

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*1 Chris Pelosi Pace	11/3/21	720	Xcel	11/3/21	0720	4.1

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER:	Chris Pelosi + Riley Jacobson			Y/N	Y/N	Y/N
SIGNATURE of SAMPLER:		DATE Signed (MM / DD / YY): 11/1/21		Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N

pH Strips: MD00402
Temp measured: 4.1°C

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-05223
Project Name:	Xcel Energy Sherco Ponds Fall 2021

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ M ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER / DW; WATER / WT; WASTE WATER / WW; PRODUCT / P; SOLID/SOLD / SL; OIL / OL; WIPE / WP; AIR / AR; TISSUE / TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-132	WT	G	–	–	11/3/21	855		4	1	1	2						X			X	X			X		
2	~~P-150~~	~~WT~~	~~G~~	–	–	WELL DRY	NO SAMPLE		2	1		1									X				X		
3	P-151	WT	G	–	–	11/4/21	1300		2	1		1									X				X		
4	~~P-152A~~	~~WT~~	~~G~~	–	–	WELL DRY	NO SAMPLE		2	1		1							X	X	X		X	X	X		
5	P-153	WT	G	–	–	11/4/21	1135		2	1		1									X				X		
6	P-154A	WT	G	–	–	11/4/21	1100		2	1		1									X				X		
*1 7	P-155	WT	G	–	–	11/2/21	835		2	1		1							X				X				
*1 8	P-156	WT	G	–	–	11/2/21	925		2	1		1							X				X				
*1 9	P-157	WT	G	–	–	11/2/21	1230		2	1		1							X				X				
*1 10	P-158	WT	G	–	–	11/2/21	1305		2	1		1							X	X			X	X			
11	P-162	WT	G	–	–	11/4/21	845		2	1		1									X				X		
12	P-163	WT	G	–	–	11/4/21	930		2	1		1									X				X		

Additional Comments:

*1 samples delivered to Xcel lab 11/3/21 CJP.

remaining samples delivered to Xcel lab as signed on COC

pH Strips: MS00404

Temp M400841: 5.0 °C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Riley Jacobson Pace	11/5/21	0900	Xcel	11/5/21	0960	5.0	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Pelosi + Riley Jacobson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/3/21

Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-05223
Project Name:	Xcel Energy Sherco Ponds Fall 2021

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Filtered (Y/N)

Requested Analysis:

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER / DW; WATER / WT; WASTE WATER / WW; PRODUCT / P; SOIL/SOLID / SL; OIL / OL; WIPE / WP; AIR / AR; OTHER / OT; TISSUE / TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
*1	P-93A	WT	G	-	-	11/1/21	1420		3	1	1	1						X			X							
*1	P-93B	WT	G	-	-	11/1/21	1355		3	1	1	1						X			X							
3	P-93D	WT	G	-	-				3	1	1	1						X			X							
*1	4 P-94A	WT	G	-	-	11/2/21	1345		3	1	1	1						X			X							
*1	5 P-101A	WT	G	-	-	11/2/21	940		3	1	1	1						X			X							
*1	6 P-101B	WT	G	-	-	11/2/21	1005		3	1	1	1						X			X							
7	P-126	WT	G	-	-				3	1	1	1						X			X							
8	P-127	WT	G	-	-				3	1	1	1						X			X							
9	P-128	WT	G	-	-				3	1	1	1						X			X							
10	P-129	WT	G	-	-				3	1	1	1						X			X							
11	P-130	WT	G	-	-				4	1	1	2						X		X	X			X				
12	P-131	WT	G	-	-				4	1	1	2						X		X	X			X				

Additional Comments:

*1 samples delivered to Xcel lab 11/3/21
CS

pH Strip s: MP00402
Temp #400841 : 4.1°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*1 [signature] Pace	11/3/21	720	[signature] Xcel	11/3/21	0720	4.1

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	Chris Pelosi + Riley Jacobson	
SIGNATURE of SAMPLER:	[signature]	DATE Signed (MM / DD / YY): 11/1/21

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	21-05223	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Fall 2021	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-164	WT	G	-	-	11/4/21	1000		2	1		1									X				X			
2	P-165	WT	G	-	-	11/3/21	945		2	1		1									X				X			
*1, 3	P-173	WT	G	-	-	11/2/21	1000		2	1		1									X				X			
*1, 4	P-174	WT	G	-	-	11/2/21	1040		2	1		1									X				X			
5	P-175	WT	G	-	-	11/4/21	1500		2	1		1									X				X			
6	P-176	WT	G	-	-	11/4/21	1640		2	1		1									X				X			
7	P-177	WT	G	-	-	11/4/21	1520		2	1		1									X				X			
*1, 8	P-178A	WT	G	-	-	11/2/21	1400		4	1	1	2							X		X		X		X			
*1, 9	P-178B	WT	G	-	-	11/2/21	1425		3	1	1	1							X				X					
10	WELL #4	WT	G	-	-	11/3/21	1355		3	1	1	1							X				X					
11	WELL #6A	WT	G	-	-	11/3/21	1345		3	1	1	1							X				X					
*1, 12	DUPLICATE NPDES	WT	G	-	-	11/1/21	935		3	1	1	1							X				X					

Additional Comments:

*1, samples delivered to Xcel lab 11/3/21 CJP.
remaining samples delivered to Xcel lab as signed on COC

pH Strips MD00402
Temp MH00941: 5.0°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Riley Jacobson Pace	11/5/21	0900	Xcel	11/5/21	0900	5.0	(Y)/N	Y/N	(Y)/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER:	Chris Pelosi + Riley Jacobson				
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY): 11/3/21				

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	21-05223	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Fall 2021	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-132	WT	G						4	1	1	2						X			X	X			X		
2	P-150	WT	G						2	1		1									X				X		
3	P-151	WT	G						2	1		1									X				X		
4	P-152A	WT	G						2	1		1							X	X	X		X	X	X		
5	P-153	WT	G						2	1		1									X				X		
6	P-154A	WT	G						2	1		1									X				X		
*1 7	P-155	WT	G			11/2/21	835		2	1		1							X			X					
*1 8	P-156	WT	G			11/2/21	925		2	1		1							X			X					
*1 9	P-157	WT	G			11/2/21	1230		2	1		1							X			X					
*1 10	P-158	WT	G			11/2/21	1305		2	1		1							X	X			X	X			
11	P-162	WT	G						2	1		1									X				X		
12	P-163	WT	G						2	1		1									X				X		

Additional Comments:

*1 samples delivered to Xcel lab 11/3/21 CVF

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*1 [signature] Pace	11/3/21	720	[signature] Xcel	11/3/21	0720

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
4.1	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Pelosi + Riley Jacobson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/1/21

pH strip: MD00402

Temp M40083 41: 4.1°C

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254 / Fax:		Project Number	21-05223	Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Fall 2021	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: ☑ NC ☐ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☑ WI ☐ OTHER

Filtered (Y/N)

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WP, AR, OT, TS

	ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
*1	1	RINSE NPDES	WT	G	–	–	11/1/21	910		3	1	1	1						X				X					
*1	2	DUPLICATE BAP	WT	G	–	–	11/1/21	1515		2	1		1							X				X				
*1	3	RINSE BAP	WT	G	–	–	11/1/21	1520		2	1		1							X				X				
*1	4	DUPLICATE BAP2	WT	G	–	–	11/2/21	1000		2	1		1								X				X			
*1	5	RINSE BAP2	WT	G	–	–	11/2/21	1005		2	1		1								X				X			
	6	DUPLICATE P3	WT	G	–	–	11/3/21	945		2	1		1									X				X		
	7	RINSE P3	WT	G	–	–	11/3/21	950		2	1		1									X				X		
	8	P-93D @162'	WT	G	–	–	11/3/21	1515		3	1	1	1															
	9	P-93D @ 158'	WT	G	–	–	11/3/21	1535		3	1	1	1															
	10																											
	11								[initials] 11/4/21																			
	12																											

Additional Comments:

*1 samples delivered to Xcel lab 11/3/21 CJP
- remaining samples delivered to Xcel lab as signed on COC.

pH strips: MD00402
Temp MQ00841: 5.0°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
[signature]	11/5/21	0900	[signature] / Xcel	11/5/21	0900	5.0	Y/N (circled Y)	Y/N	Y/N (circled Y)
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Pelosi + Riley Jacobson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/3/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-05223
Project Name:	Xcel Energy Sherco Ponds Fall 2021

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER / DW; WATER / WT; WASTE WATER / WW; PRODUCT / P; SOIL/SOLID / SL; OIL / OL; WP; AR; OT; TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-164	WT	G	-	-				2	1		1									X				X			
2	P-165	WT	G	-	-				2	1		1									X				X			
*1 3	P-173	WT	G	-	-	11/2/21	1000		2	1		1								X				X			
*1 4	P-174	WT	G	-	-	11/2/21	1040		2	1		1								X				X			
5	P-175	WT	G	-	-				2	1		1								X				X			
6	P-176	WT	G	-	-				2	1		1								X				X			
7	P-177	WT	G	-	-				2	1		1								X				X			
*1 8	P-178A	WT	G	-	-	11/2/21	1400		4	1	1	2						X		X		X		X			
*1 9	P-178B	WT	G	-	-	11/2/21	1425		3	1	1	1						X				X					
10	WELL #4	WT	G	-	-				3	1	1	1						X				X					
11	WELL #6A	WT	G	-	-				3	1	1	1						X				X					
*1 12	DUPLICATE NPDES	WT	G	-	-	11/1/21	935		3	1	1	1						X				X					

Additional Comments:

*1, samples delivered to Xcel lab 11/3/21
CR

pH Strips: MD00402
Temp MY00941: 4.1°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*1 [signature] Pace 11/3/21	11/3/21	720	[signature] / Xcel	11/3/21	0720

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
4.1	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Pelosi + Riley Jacobson

SIGNATURE of SAMPLER: [signature] [signature] DATE Signed (MM / DD / YY): 11/1/21

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company:	Xcel Energy
Address:	Environmental Services
	MP-7
Email To:	Chris Pelosi
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	21-05223
Project Name:	Xcel Energy Sherco Ponds Fall 2021

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Chris Pelosi/ Riley Jacobson
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER MCES

SITE LOCATION: NC ☑ MN ☐ IL ☐ IN ☐ MI ☐ OH ☐ SC ☐ WI ☑ OTHER

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
*1	1 RINSE NPDES	WT	G	-	-	11/1/21	910		3	1	1	1						X				X				
*1	2 DUPLICATE BAP	WT	G	-	-	11/1/21	1515		2	1		1							X				X			
*1	3 RINSE BAP	WT	G	-	-	11/1/21	1520		2	1		1							X				X			
*1	4 DUPLICATE BAP2	WT	G	-	-	11/2/21	1000		2	1		1								X				X		
*1	5 RINSE BAP2	WT	G	-	-	11/2/21	1005		2	1		1								X				X		
	6 DUPLICATE P3	WT	G	-	-				2	1		1									X				X	
	7 RINSE P3	WT	G	-	-				2	1		1									X				X	
	8																									
	9																									
	10																									
	11																									
	12																									

Additional Comments:

*1 Samples delivered to Xcel labs 11/3/21
CJR

pH Strips: MD00402
Temp #400841: 4.1°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*1 [signature] Pace	11/3/21	720	[signature] / Xcel	11/3/21	0720	4.1

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER:	Chris Pelosi + Riley Jacobson			Y/N	Y/N	Y/N
SIGNATURE of SAMPLER: [signature] Riley	DATE Signed (MM / DD / YY)	11/1/21		Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N