2022 CCR Annual Groundwater Monitoring and Corrective Action Report

Scrubber Solids Pond No. 3

Sherburne County (Sherco) Generating Plant
Becker, Minnesota

Prepared for:
Northern States Power Company, a Minnesota Corporation

January 31, 2023

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2022 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Scrubber Solids Pond No. 3
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, P.G. #57700
Carlson McCain, Inc.

Date: January 31, 2023

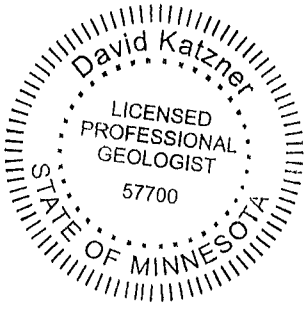


TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

EXECUTIVE SUMMARY

Scrubbers Solids Pond No. 3 at the Sherburne County Generating Plant is subject to the groundwater monitoring and corrective action requirements under U.S. Code of Federal Regulations, Title 40, Parts §257.90 to §257.98. Scrubber Solids Pond No. 3 operated under the assessment monitoring program in §257.95 throughout the annual reporting period beginning on January 1, 2022 and ending on December 31, 2022. Since Scrubber Solids Pond No. 3 was operated under the assessment monitoring program in §257.95 during all of 2022, 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 2022 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.

1. INTRODUCTION

This report presents the documentation of the status of groundwater monitoring and corrective action for the year 2022 (YR2022) for Scrubber Solids Pond No. 3 (Pond 3) at the Sherburne County Generating Plant (Sherco) located in Becker, Minnesota. Pond 3 is owned and operated by Northern States Power Company, a Minnesota Corporation (NSPM).

Pond 3 is an existing 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 YR2022.

This report has been prepared in general accordance with the reporting procedures outlined in the Sherco Scrubber Solids Pond No. 3 CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2021a). Any deviations from the requirements of the Groundwater Sampling and Analysis Plan are described in subsequent sections of this report.

1.1 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 5.2 of the CCR Groundwater Sampling and Analysis Plan (Carlson McCain, 2021a) 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.

This report contains four additional sections following this introduction:

- Section 3 (Site Description) briefly describes the site location and hydrogeologic setting.
- Section 4 (Monitoring Results) discusses the reporting requirements of the CCR Sampling and Analysis Plan and §257.90(e).
- Section 5 (Discussion) summarizes key actions completed in YR2022, describes any problems reported in YR2022 and the actions to resolve the problems, and key activities projected for 2023.
- Section 5 provides a list of referenced documents.

2. SITE DESCRIPTION

Pond 3 is located in the City of Becker, Sherburne County, Minnesota. Pond 3 is approximately 115 acres in size and is part of a larger generating plant site. Phased construction resulted in the northern half of Pond 3 beginning operation in 2004 and the southern half in 2010. The Pond 3 location is shown on Figure 1 and an aerial photograph and site layout map for Pond 3 are shown on Figure 2.

2.1 Site Hydrogeology

The site hydrogeology is discussed in more detail in the Pond 3 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 physiographic 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 west-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 331 feet/year.

The conceptual model for the hypothetical (or potential) release of a constituent of concern (COC) from Pond 3 focuses on groundwater as the transport mechanism. The water table beneath Pond 3 is typically below the glacial till layer identified in Section 2.1.2 of the Pond 3 Groundwater Monitoring System Certification. Exfiltration from the Pond 3 area is anticipated to move vertically downward from the base of the pond 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. The lack of an identifiable perched zone above the till indicates that flow along the top of the till is minimal. Upon reaching the water table, a COC would likely travel mainly horizontally to the west-southwest toward the Mississippi River.

3. MONITORING RESULTS

Section 3.1 below presents the monitoring results obtained during YR2022 in terms of the specific requirements of §257.90(e) that are to be included in this report.

3.1 Compliance with §257.90(e)

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

The area of Pond 3 and all upgradient and downgradient monitoring well locations included in the Pond 3 CCR groundwater monitoring system are shown and labeled on Figure 2. A summary of the monitoring wells included in the Pond 3 CCR Groundwater Monitoring System is included in Table 1.

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

No monitoring wells that are part of the groundwater monitoring system for Pond 3 were installed or decommissioned during YR2022.

In April 2022, well P-132 was modified by extending the riser pipe and protective casing approximately 2.5 feet higher since the top of protective casing was previously only about six inches above the ground surface. A section of 2-inch PVC casing was added to the existing casing with a coupler and a section of steel protective casing was welded onto the existing steel protective casing. The new well top of riser was surveyed and a monitoring well locking cap was reinstalled on top of the section of protective casing that was added. 30 gallons of water was purged from the well to remove any potential debris that may have entered the well during the maintenance work.

The dedicated bladder pump previously installed in well P-132 was removed prior to well maintenance work and the pump and tubing assemblies were dismantled. New, longer tubing, fittings, and parts were assembled and re-attached to the same pump previously installed in the well. The reassembled bladder pump was installed in the well at a depth of 35.6 feet at the bottom of the pump.

The well P-132 well and pump maintenance work is described in greater detail in the Monitoring Well Replacement Report (Carlson McCain, 2022b). This report was placed Pond 3's operating record for compliance with §257.91(e)(1).

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

Monitoring data collected during YR2022 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 2022 monitoring results is provided on Table 4 and a summary of the fall 2022 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 Pond 3 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 YR2022:

- Ten of twelve wells in the Pond 3 groundwater monitoring system were sampled during the spring monitoring event conducted on May 4-6 and 26, 2022. Wells P-150 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 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.
- Nine of twelve wells in the Pond 3 groundwater monitoring system were sampled during the fall monitoring event conducted on November 2-4, 2022. Wells P-150 and P-152A were not sampled due to low water levels and well P-162 was not sampled due to pump/tubing issues, 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 2022 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 Pond 3 include P-130, P-131, P-150, P-151, P-152A, P-153 and P-154A 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), as amended in December 2020, 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 66.9	NA
	Calcium, total (mg/L)	25 to 132	NA
	Chloride, total (mg/L)	<1.0 to 74.6	NA
	Fluoride, total (mg/L)	<0.750	NA
	pH (lab) (pH)	7.34 to 8.23	NA
	Sulfate, total (mg/L)	2.53 to 45.1	NA
	Total Dissolved Solids (mg/L)	94 to 496	NA
Appendix IV Parameters	Antimony, total (mg/L)	<0.0005	0.006
	Arsenic, total (mg/L)	<0.0005 to 0.0015	0.01
	Barium, total (mg/L)	<0.05 to 0.111	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 0.0027	0.1
	Cobalt, total (mg/L)	<0.0005 to 0.0013	0.006
	Fluoride, total (mg/L)	<0.750	4
	Lead, total (mg/L)	<0.0005 to 0.0121	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 0.0011	0.1
	Radium, 226 and 228 combined (pCi/L)	<0.84 to 3.1	5
	Selenium, total (mg/L)	<0.0005 to 0.0017	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 YR2022 monitoring data using the procedures described in Pond 3's Statistical Analysis Plan (Carlson McCain, 2021b), 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 Pond 3 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 statistical results are below the applicable groundwater protection standards, therefore Pond 3 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 Pond 3 during the spring and fall of 2022 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 Pond 3 along with other nearby monitoring wells and water level piezometers not included in the Pond 3 CCR monitoring system. For both of the events, the flow direction was generally to the west-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 toward the Mississippi River.

Groundwater elevations at Pond 3 monitoring system wells continued to be low during YR2022 compared to recent years but were approximately 1.6 feet higher on average during the fall of 2022 monitoring event compared to the fall of 2021 monitoring event. The low groundwater levels at Pond 3 are consistent with drought conditions experienced throughout Minnesota during 2021 and 2022. No significant changes in groundwater gradients or flow direction have been observed due to low groundwater levels in the vicinity of Pond 3.

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

Pond 3 first transitioned from the detection monitoring program (§257.94) to the assessment monitoring program (§257.95) in 2018, as described in Technical Memorandums dated January 15, 2018 (Carlson McCain, 2018a) and April 13, 2018 (Carlson McCain, 2018c). Since the initial transition to the assessment monitoring program (§257.95) during YR2018, Pond 3 has not transitioned between monitoring programs and continues monitoring under the assessment monitoring program.

3.1.5 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.

4. 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 4.1 below discusses the key actions completed for the groundwater monitoring program at the Pond 3; Section 4.2 discusses the any problems encountered with the groundwater monitoring and actions to resolve such problems; and Section 4.3 discusses key activities that may occur in the upcoming year.

4.1 Key Actions Completed

Key actions that were completed during YR2022 include the following items:

- The 2021 Annual CCR Groundwater Monitoring and Corrective Report (Carlson McCain, 2022a) was completed, placed in the facility's operating record on January 31, 2022, and posted on the Pond 3's publicly available website by February 28, 2022.
- Modifications to raise the level of the well P-132 riser pipe and protective casing were completed on April 21, 2022. The Monitoring Well Replacement Report (Carlson McCain, 2022b) which describes well and pump maintenance work completed at well P-132 was placed Pond 3's operating record for compliance with §257.91(e)(1).
- Eight of twelve monitoring wells were initially sampled during the spring monitoring event conducted on May 4-6, 2022 and analyzed for all Appendix III and Appendix IV constituents as required by §257.95(d)(1). Wells P-150 and P-152A were not sampled due to low groundwater levels and angled wells P-163 and P-164 were not sampled due pump/tubing issues.
- Shortly after the spring monitoring event, tubing and foot valves were replaced in angled wells P-162, P-163 and P-164 which attach to a Waterra® Hydrolift inertial pump for sampling those wells.
- Wells P-163 and P-164 were sampled as part of the spring monitoring event on May 26, 2022 and analyzed for all Appendix III and Appendix IV constituents as required by §257.95(d)(1).
- Nine of twelve monitoring wells were sampled during the fall event conducted on November 2-4, 2022 and analyzed for all Appendix III constituents and only those Appendix IV constituents that were detected during the spring 2022 event as part of semiannual sampling required by §257.95(d)(1). Wells P-150 and P-152A were not sampled due to low groundwater levels and angled well P-162 was not sampled due pump/tubing issues.
- A second unsuccessful attempt to sample well P-162 as part of the fall monitoring event was made on November 10, 2022.

- Laboratory reports and field datasheets for the spring and fall sampling events were placed in the operating record on August 8, 2022 and January 12, 2023, respectively.
- Statistical evaluation of the spring and fall monitoring event data was performed on August 2, 2022 and December 23, 2022, respectively, for compliance with §257.95(e) through (g).

4.2 Problems

4.2.1 Problems Encountered

Low Groundwater Level Issues

Low groundwater levels prevented samples from being collected from wells P-150 and P-152A during the spring and fall monitoring events during YR2022. Attempts were made to collect samples from the wells using the dedicated bladder pumps installed in the wells during both events and a non-dedicated submersible pump and associated tubing during the spring event. The water level in the wells was 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, and the water column lengths in wells P-150 and P-152A were 0.1 and 0.8 feet, respectively, during the spring monitoring event. The water column lengths in wells P-150 and P-152A during the fall event were 1.54 and 2.19 feet, however, the field sampler elected to not attempt sampling the wells with a submersible pump. The submersible pump was not attempted likely due to concerns with obtaining poor quality samples that tend to cause detections of certain metals that are not representative of groundwater.

Angled Well Pump/Tubing Issues

The Waterra® Hydrolift inertial pump and associated tubing assemblies used for sampling angled wells P-162, P-163 and P-164 failed to function properly at wells P-163 and P-164 during the spring monitoring event and well P-162 during the fall monitoring resulting in the wells (at least initially) not being sampled. Two unsuccessful attempts were made to purge and sample well P-162 during the fall monitoring event on November 4 and 10, 2022. In each case, the pump appeared to work normally but the pump and tubing assemblies in the wells would not sustain continuous purge or did not produce any water at all.

The cause of the inertial pump and tubing assembly issues is uncertain at this time. One-half-inch inner diameter high density polyethylene (HPDE) tubing is used in the wells that was originally installed in each of the wells after well installation in 2016. Originally it was suspected that the tubing had become more pliable over the 6-year period of being in the wells resulting in less water being able to enter the tubing through the foot valves during each pump cycle. As such, each of the tubing assemblies in wells P-162, P-163 and P-164 were replaced immediately after the spring monitoring event. As expected, each of the pumps worked on May 26, 2022 when samples were successfully obtained from wells P-163 and P-164 for the spring monitoring event. However, the pump/tubing assembly failed once again during the fall monitoring event at well P-162 and problems sustaining a purge were encountered at well P-164 too. Another possible cause of the pump/tubing issues is lower groundwater levels in area as discussed above. The length of the water column was measured

in each of the wells during the spring monitoring event after the problems were first identified. The water column lengths in each of the angled wells P-162, P-163 and P-164 were greater than ten feet during the spring monitoring event. The end of the tubing assemblies in each of the wells are installed approximately one to two feet from the well bottoms.

Other Problems
No other significant problems with the groundwater monitoring system, or deviations from the CCR Groundwater Sampling and Analysis Plan were reported at the facility during YR2022. No corrective action was required at the facility during YR2022.

4.2.2 Resolution of Problems

Low Groundwater Level Issues
Low groundwater levels prevented samples from being collected from wells P-150 and P-152A during the spring and fall monitoring events, which represents a data gap from both the spring and fall monitoring events.

It is unknown whether groundwater levels will recover sufficiently to allow sampling of wells P-150 and P-152A using the dedicated bladder pump in the wells during the spring 2023 monitoring event. As such, NSPM may take action(s) to eliminate this data gap including but not limited to the following:

- Modifying the Pond 3 CCR groundwater monitoring system.
- Replacing wells P-150 and P-152A with deeper wells at the same location prior to the spring 2023 monitoring event.
- Lower the dedicated bladder pump in the well P-152A approximately 0.5 feet to maximize the ability to obtain samples from the well.

Alternatively, NSPM may wait for groundwater levels to sufficiently recover to be able to sample the wells with the dedicated bladder pumps in the wells. Considering Pond 3 has seven upgradient wells to pool for interwell statistical analysis, missing data from two background wells for possibly several monitoring events should not significantly affect data interpretation at Pond 3. Background water quality at Pond 3 continues to be accurately represented without samples from wells P-150 and P-152A in YR2022.

Angled Well Pump/Tubing Issues
Prior to the spring of 2023 monitoring event, the pump and tubing assemblies and water levels will be evaluated to determine if current purging and sampling methods are adequate to sustain a continuous purge in order to be able to sample angled wells P-162, P-163 and P-164. If not, alternative pumps or pumping methods will be considered including but not limited to installing bladder pumps in the wells for purging and sampling.

Failure of the inertial pump/tubing assembly in well P-162 prevented a water sample from obtained from the well during the fall monitoring event, which represents a data gap from the fall monitoring event.

Statistical analysis of data from P-162 through the spring of 2022 monitoring event indicates that boron, chromium, molybdenum, selenium and total dissolved solids consistently exhibit concentrations above background water quality in this well. Trend analysis indicates upward trends for detectable Appendix III and Appendix IV constituents including boron, chromium, selenium, sulfate and TDS and a downward trend for molybdenum in the data from well P-162. Review of time-concentration graphs indicates slow increases for the constituents with slow upward trends since monitoring of the well began in 2016. Monitoring results from well P-163, which is located about 630 feet south of well P-162, indicates constituents such as boron, sulfate and TDS in samples from the well have exhibited higher concentrations compared to well P-162. No new trends or increases in constituent concentrations above past results at well P-163 were identified during the fall monitoring event. Due to the slow-moving concentration increases for boron, chromium, selenium, sulfate and TDS at well P-162 prior to the fall monitoring event, and the lack of significant constituent concentration increases at well P-163 during the fall monitoring event; the likelihood of missing any significant constituent concentration increases at well P-162 during the fall monitoring event appears to be low.

4.3 Key Activities for 2023

The following key actions are anticipated at the Pond 3 in the year 2023:

1. Evaluation and any corrective action necessary to allow purging and sampling from angled wells P-162, P-163, and P-164 prior to the spring monitoring event.
2. Routine, semi-annual assessment monitoring events at monitoring system wells are planned in the spring between March 15 and May 15, 2023 and in the fall between September 15 and November 15, 2023.
3. Statistical analysis of monitoring results will be conducted to demonstrate compliance with §257.95(e) through (g).

5.0 REFERENCES

Carlson McCain, 2017. CCR Groundwater Monitoring System Certification, Scrubber Solids Pond No. 3, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, October 16, 2017.

Carlson McCain, 2018a. SSI Determination – Scrubber Solids Pond No. 3, Prepared for NSPM Environmental Services, Carlson McCain, Inc., January 15, 2018.

Carlson McCain, 2018b. CCR Annual Groundwater and Corrective Action Monitoring Report, Scrubber Solids Pond No. 3, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, January 29, 2018.

Carlson McCain, 2018c. Alternate Source Demonstration Update – Scrubber Solids Pond No. 3, Prepared for NSPM Environmental Services, Carlson McCain, Inc., April 13, 2018.

Carlson McCain, 2021a. CCR Groundwater Sampling and Analysis Plan – Revision #2, Scrubber Solids Pond No. 3, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, May 6, 2021.

Carlson McCain, 2021b. Statistical Analysis Plan – Revision #1, Scrubber Solids Pond No. 3, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, May 6, 2021.

Carlson McCain, 2022a. 2021 CCR Annual Groundwater and Corrective Action Monitoring Report, Scrubber Solids Pond No. 3, Sherco Generating Plant, prepared for Northern States Power Company, A Minnesota Corporation, January 31, 2022.

Carlson McCain, 2022b. Monitoring Well Replacement Report, Sherco Generating Plant NPDES/SDS Permit No. MN0002186, prepared for Northern States Power Company, A Minnesota Corporation, June 23, 2022.

Tables

Table 1
CCR Groundwater Monitoring System
Scrubber Solids Pond No. 3

Well ID	Minnesota Unique Well ID	Date Installed	Location Site Coordinates (ft)		Elevation Top of Riser Pipe	Well Type	Screen Length (ft)	Well Diameter (inches)	Well Depth (ft)	Monitoring Status	Hydrologic Location
			Easting	Northing							
P-130	722085	5/12/2005	2031446.8	865871.1	965.59	Vertical	10	2	46.84	Routine Semi-annual	Upgradient
P-131	722086	5/16/2005	2033046.4	865133.3	966.03	Vertical	10	2	48.55	Routine Semi-annual	Upgradient
P-132	722087	5/11/2005	2031594.6	862211.7	958.58	Vertical	10	2	38.88	Routine Semi-annual	Downgradient
P-150	806320	10/7/2014	2032983.1	867047.3	964.41	Vertical	10	2	36.65	Routine Semi-annual	Upgradient
P-151	806315	10/9/2014	2032644.2	865848.2	942.44	Vertical	10	2	20.16	Routine Semi-annual	Upgradient
P-152A	806318	10/10/2014	2031471.6	866696.4	965.87	Vertical	10	2	42.35	Routine Semi-annual	Upgradient
P-153	806314	10/13/2014	2032310.4	864158.5	944.94	Vertical	10	2	23.63	Routine Semi-annual	Upgradient
P-154A	806316	10/15/2014	2032966.3	862868.4	961.44	Vertical	10	2	49.53	Routine Semi-annual	Upgradient
P-162	822156	7/25/2016	2030610	864631.7	1020.9	Angled	20	2	166.00	Routine Semi-annual	Downgradient
P-163	822157	7/19/2016	2030604	863992	1024.98	Angled	20	2	176.00	Routine Semi-annual	Downgradient
P-164	822158	7/14/2016	2030610	863059.5	1020.49	Angled	20	2	167.00	Routine Semi-annual	Downgradient
P-165	822159	7/12/2016	2030714	862215.8	957.13	Vertical	10	2	40.13	Routine Semi-annual	Downgradient

*Notes:

Elevation is feet above mean sea level

Table 2
Summary of Data Collected
Sherco Scrubber Solids Pond No. 3

Upgradient Wells			
Well ID	Number of Samples	Sample Dates	
		Spring 2022[1]	Fall 2022[2]
P-130	2	5/6/2022	11/2/2022
P-131	2	5/5/2022	11/2/2022
P-150	0	NS[3]	NS[3]
P-151	2	5/5/2022	11/3/2022
P-152A	0	NS[3]	NS[3]
P-153	2	5/5/2022	11/3/2022
P-154A	2	5/5/2022	11/4/2022

Downgradient Wells			
Well ID	Number of Samples	Sample Dates	
		Spring 2022[1]	Fall 2022[2]
P-132	2	5/4/2022	11/4/2022
P-162	1	5/5/2022	NS[4]
P-163	2	5/26/2022	11/4/2022
P-164	2	5/26/2022	11/4/2022
P-165	2	5/5/2022	11/4/2022

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

[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.

[4] No Sample. Inertial pump/tubing issues prevented a sample from being collected from the well on the specified date.

Table 3

Count of Parameters Analyzed by Well

Sherco Scrubber Solids Pond No.3

Appendix III Parameters												
Parameter	Well ID and Number of Samples											
	P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
Boron, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Calcium, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Chloride, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Fluoride, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
pH (lab) (pH)	2	2	2	0	2	0	2	2	1	2	2	2
Sulfate, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Total Dissolved Solids (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2

Appendix IV Parameters												
Parameter	Well ID and Number of Samples											
	P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
Antimony, total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Arsenic, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Barium, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Beryllium, total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Cadmium,total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Chromium, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Cobalt, total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Fluoride, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Lead, total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Lithium Total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Mercury, total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Molybdenum, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Selenium, total (mg/L)	2	2	2	0	2	0	2	2	1	2	2	2
Thallium, total (mg/L)	1	1	1	0	1	0	1	1	1	1	1	1
Radium, 226 and 228 combined (pCi/L)	1	1	1	0	1	0	1	1	1	1	1	1

Table 4
Spring 2022 Groundwater Summary Data
Scrubber Solids Pond No. 3

Appendix III Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 5/6/2022	P-131 5/5/2022	P-132 5/4/2022	P-150[1] 5/5/2022	P-151 5/5/2022	P-152A[1] 5/5/2022	P-153 5/5/2022	P-154A 5/5/2022	P-162 5/5/2022	P-163 5/26/2022	P-164 5/26/2022	P-165 5/6/2022
Boron, total	mg/L	NA	<0.050	<0.050	0.077	--	<0.050	--	<0.050	<0.050	0.34	0.073	0.083	<0.050
Calcium, total	mg/L	NA	42	75	83	--	46	--	25	72	140	84	75	71
Chloride, total	mg/L	NA	<1.0	25	1.9	--	16	--	<1.0	29	40	28	16	7.9
Fluoride, total	mg/L	NA	<0.75	<0.75	<0.75	--	<0.75	--	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
pH, Lab	pH	NA	7.89	7.85	7.7	--	7.97	--	8.11	7.96	7.74	7.8	7.84	7.87
Sulfate, total	mg/L	NA	3.6	31	51	--	15	--	4.1	33	180	76	69	28
Total Dissolved Solids	mg/L	NA	170	300	360	--	200	--	100	330	750	360	350	300

Appendix IV Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130 5/6/2022	P-131 5/5/2022	P-132 5/4/2022	P-150[1] 5/5/2022	P-151 5/5/2022	P-152A[1] 5/5/2022	P-153 5/5/2022	P-154A 5/5/2022	P-162 5/5/2022	P-163 5/26/2022	P-164 5/26/2022	P-165 5/6/2022
Antimony, total	mg/L	0.006	<0.00050	<0.00050	<0.00050	--	<0.00050	--	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Arsenic, total	mg/L	0.01	0.00054	0.00063	<0.00050	--	<0.00050	--	0.0013	0.0013	0.00064	0.00057	0.00055	<0.00050
Barium, total	mg/L	2	0.031	0.072	0.037	--	0.035	--	0.015	0.05	0.069	0.033	0.049	0.036
Beryllium, total	mg/L	0.004	<0.00010	<0.00010	<0.00010	--	<0.00010	--	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cadmium,total	mg/L	0.005	<0.00010	<0.00010	<0.00010	--	<0.00010	--	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Chromium, total	mg/L	0.1	0.0014	0.0015	0.0023	--	0.0015	--	0.00094	0.00093	0.0079	0.02	0.0092	0.0015
Cobalt, total	mg/L	0.006	<0.00050	<0.00050	<0.00050	--	<0.00050	--	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Fluoride, total	mg/L	4	<0.75	<0.75	<0.75	--	<0.75	--	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Lead, total	mg/L	0.015	<0.00050	<0.00050	<0.00050	--	<0.00050	--	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Lithium, total	mg/L	0.04	<0.015	<0.015	<0.015	--	<0.015	--	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Mercury, total	mg/L	0.002	<0.00020	<0.00020	<0.00020	--	<0.00020	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum, total	mg/L	0.1	<0.00050	0.0006	<0.00050	--	<0.00050	--	0.00078	0.00075	0.0022	0.0016	0.00093	<0.00050
Selenium, total	mg/L	0.05	<0.00050	0.00058	0.0012	--	<0.00050	--	<0.00050	<0.00050	0.0091	0.0096	0.008	0.00099
Thallium, total	mg/L	0.002	<0.00050	<0.00050	<0.00050	--	<0.00050	--	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Radium, 226 and 228 combined	pCi/L	5	<1.0	<0.87	<1.4	--	<0.84	--	<0.96	<1.2	<1.3	<1.1	<1.4	<0.60

Field Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130 5/6/2022	P-131 5/5/2022	P-132 5/4/2022	P-150[1] 5/5/2022	P-151 5/5/2022	P-152A[1] 5/5/2022	P-153 5/5/2022	P-154A 5/5/2022	P-162 5/5/2022	P-163 5/26/2022	P-164 5/26/2022	P-165 5/6/2022
ORP	mV	NA	124	170	160	--	166	--	180	168	108	--	--	126
Oxygen, dissolved	mg/L	NA	10	7.7	8.3	--	10	--	11	4.5	5.9	--	--	10
pH, field	pH	NA	7.6	7.5	7.3	--	7.7	--	7.4	7.8	7.6	--	--	7.7
Specific Cond, field	µmhos/cm	NA	360	600	670	--	380	--	200	530	1190	467	427	580
Static Water Level	ft	NA	40.65	38.7	34.63	36.56	15.71	41.45	19.77	36.38	149	163.7	156.5	33.94
Temperature	degrees C	NA	11.1	10.5	11.7	--	9.3	--	10.5	10.3	9.2	10.7	11.8	10.4
Turbidity, field	NTU	NA	2	0.87	1.3	--	1.8	--	0.92	0.6	1.1	--	--	1.4
Water Level Elevation	ft	NA	924.94	927.33	923.95	927.85	926.73	924.42	925.17	925.06	--	--	--	923.19

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.

Table 5
Fall 2022 Groundwater Summary Data
Scrubber Solids Pond No. 3

Appendix III Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 11/2/2022	P-131 11/2/2022	P-132 11/4/2022	P-150[1] 11/3/2022	P-151 11/3/2022	P-152A[1] 11/3/2022	P-153 11/3/2022	P-154A 11/4/2022	P-162[2] 11/4/2022	P-163 11/4/2022	P-164 11/4/2022	P-165 11/4/2022
Boron, total	mg/L	NA	<0.050	<0.050	0.093	--	<0.050	--	<0.050	<0.050	--	0.37	0.069	0.057
Calcium, total	mg/L	NA	74	66	80	--	37	--	25	57	--	110	78	57
Chloride, total	mg/L	NA	2.9	10	1.5	--	6.4	--	<1.0	8	--	20	11	2.1
Fluoride, total	mg/L	NA	<0.75	<0.75	<0.75	--	<0.75	--	<0.75	<0.75	--	<0.75	<0.75	<0.75
pH, Lab	pH	NA	7.7	7.87	7.71	--	7.96	--	8.09	7.94	--	7.91	8.01	7.86
Sulfate, total	mg/L	NA	10	13	32	--	7.7	--	5.1	23	--	120	55	18
Total Dissolved Solids	mg/L	NA	260	250	310	--	180	--	120	260	--	520	340	240

Appendix IV Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130 11/2/2022	P-131 11/2/2022	P-132 11/4/2022	P-150[1] 11/3/2022	P-151 11/3/2022	P-152A[1] 11/3/2022	P-153 11/3/2022	P-154A 11/4/2022	P-162[2] 11/4/2022	P-163 11/4/2022	P-164 11/4/2022	P-165 11/4/2022
Antimony, total	mg/L	0.006	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	mg/L	0.01	<0.00050	0.00063	<0.00050	--	<0.00050	--	0.0014	0.0014	--	0.00056	0.00054	<0.00050
Barium, total	mg/L	2	0.059	0.069	0.033	--	0.031	--	0.017	0.043	--	0.051	0.045	0.029
Beryllium, total	mg/L	0.004	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium,total	mg/L	0.005	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	mg/L	0.1	0.0012	0.0012	0.0022	--	0.00078	--	0.001	0.00092	--	0.01	0.0041	0.0014
Cobalt, total	mg/L	0.006	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride, total	mg/L	4	<0.75	<0.75	<0.75	--	<0.75	--	<0.75	<0.75	--	<0.75	<0.75	<0.75
Lead, total	mg/L	0.015	--	--	--	--	--	--	--	--	--	--	--	--
Lithium, total	mg/L	0.04	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	mg/L	0.002	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum, total	mg/L	0.1	<0.00050	<0.00050	<0.00050	--	0.00056	--	0.00079	0.00068	--	0.00071	<0.00050	<0.00050
Selenium, total	mg/L	0.05	0.00055	0.00066	0.0018	--	<0.00050	--	0.00062	<0.00050	--	0.025	0.0072	0.0013
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-130 11/2/2022	P-131 11/2/2022	P-132 11/4/2022	P-150[1] 11/3/2022	P-151 11/3/2022	P-152A[1] 11/3/2022	P-153 11/3/2022	P-154A 11/4/2022	P-162[2] 11/4/2022	P-163 11/4/2022	P-164 11/4/2022	P-165 11/4/2022
ORP	mV	NA	36	31	140	--	68	--	65	130	--	84	15	145
Oxygen, dissolved	mg/L	NA	7.5	10	10	--	8.5	--	9.9	2.1	--	11	9.1	10
pH, field	pH	NA	7.3	7.6	7.6	--	7.9	--	8.2	8	--	7.7	7.9	7.8
Specific Cond, field	µmhos/cm	NA	940	840	840	--	470	--	350	680	--	600	460	630
Static Water Level	ft	NA	39.58	37.12	33.88	35.14	14.29	40.16	18.51	35.18	--	163.7	156.5	33.67
Temperature	degrees C	NA	12.9	12.5	9.6	--	14.5	--	13.6	9.8	--	9.9	11.3	9.8
Turbidity, field	NTU	NA	5.1	2.4	1.2	--	1.8	--	2.6	2.1	--	4.4	8.6	1.4
Water Level Elevation	ft	NA	926.01	928.91	924.7	929.27	928.15	925.71	926.43	926.26	--	--	--	923.46

GWPS = Groundwater Protection Standard

NA = Not Applicable

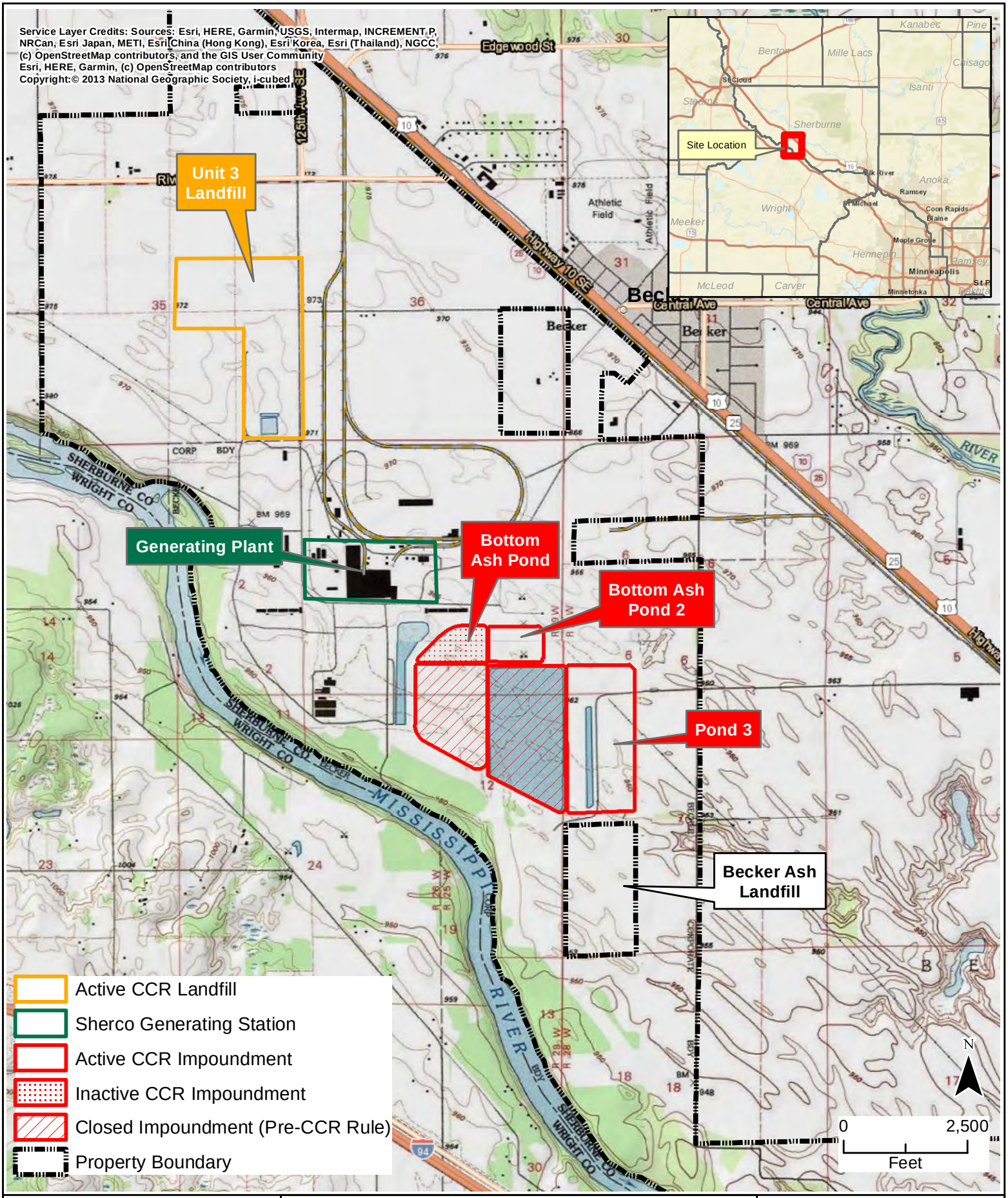
Two dashed lines = Not Analyzed

Downgradient Well

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

[2] Inertial pump/tubing issues prevented a sample from being collected from the well on the specified date.

Figures



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2022 CCR ANNUAL GROUNDWATER MONITORING REPORT

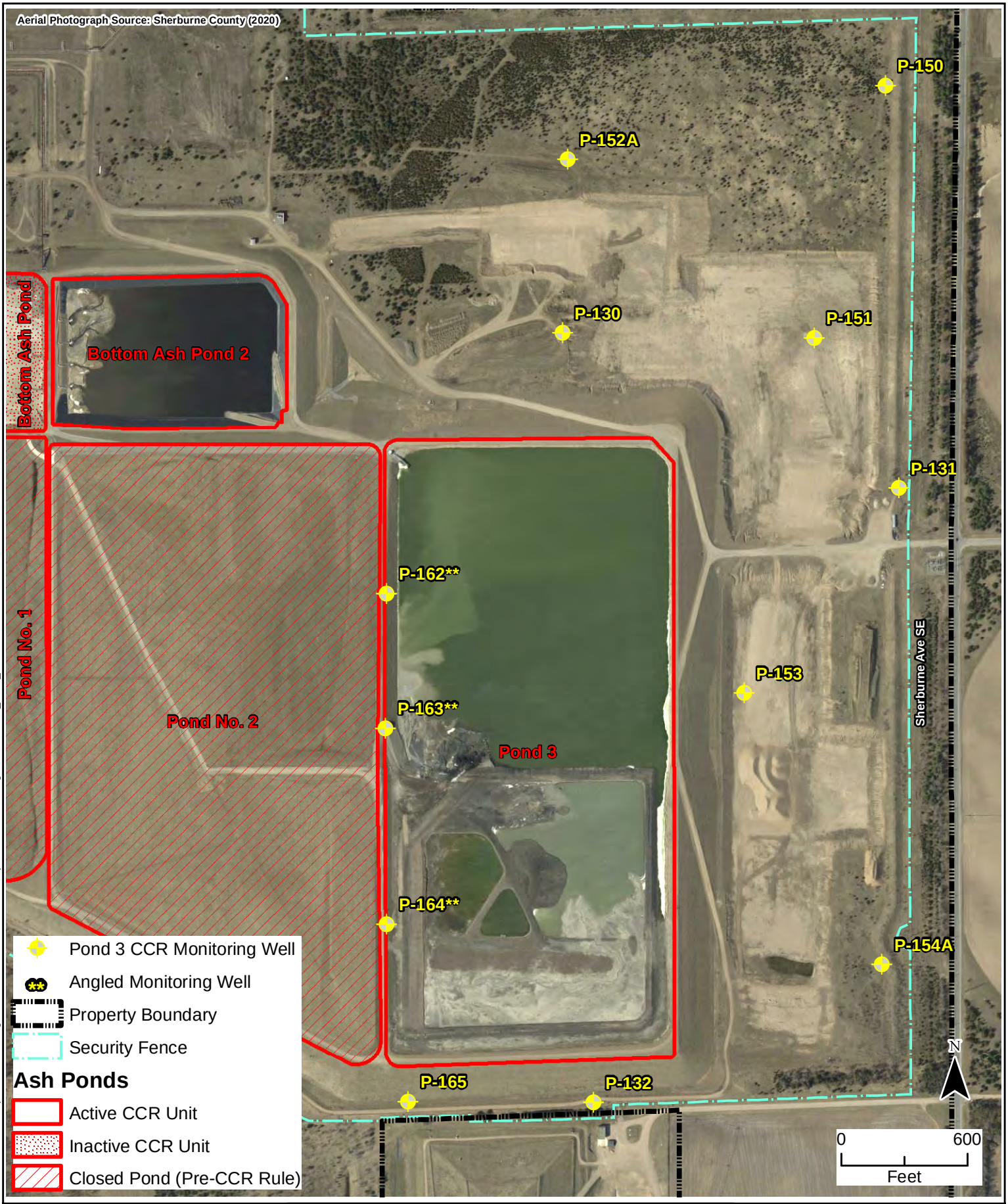
Scrubber Solids Pond No. 3

Sherburne County Generating Plant

Becker, Minnesota

FIGURE 1

SITE LOCATION MAP



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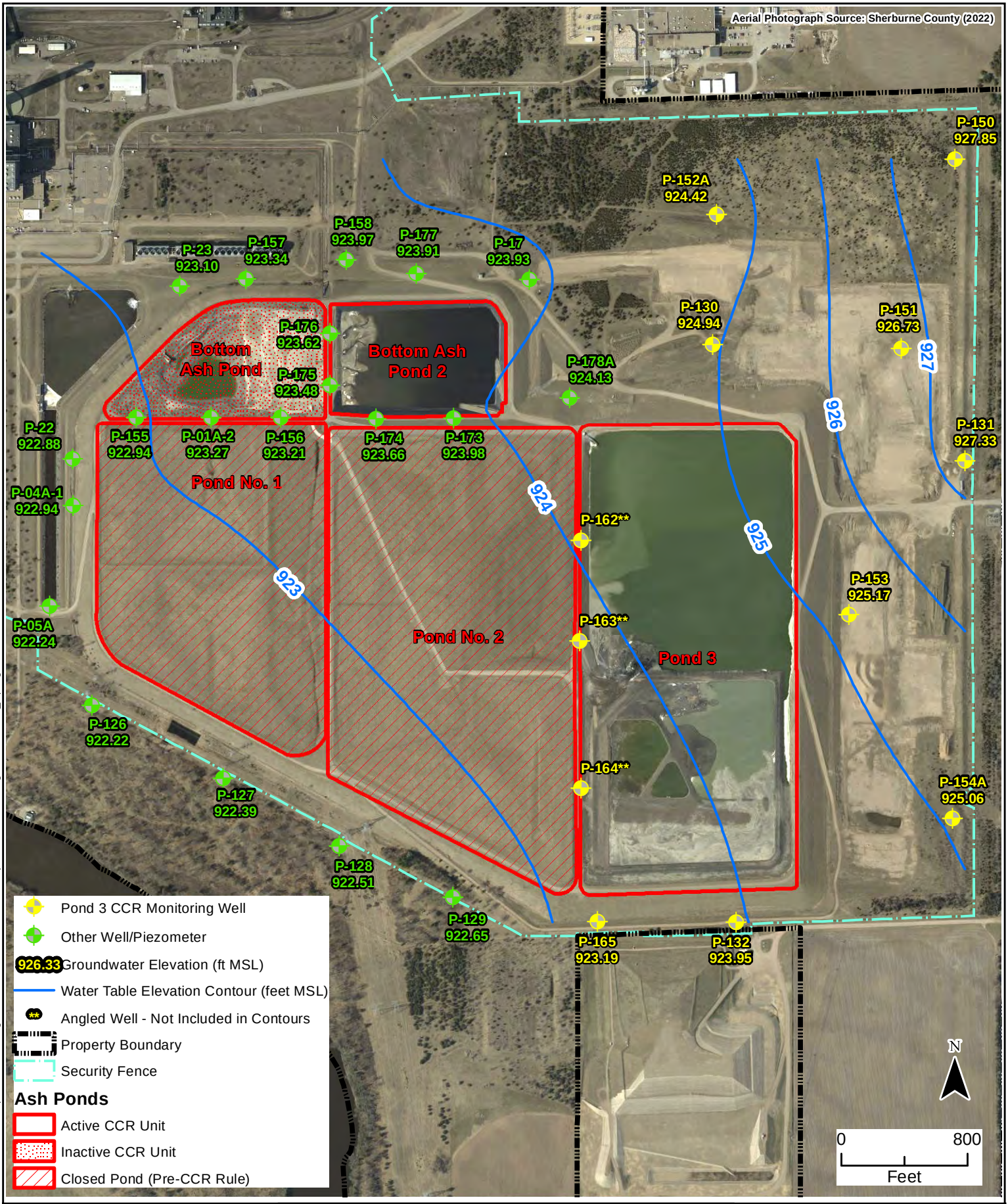
2022 CCR ANNUAL GROUNDWATER MONITORING REPORT
Scrubber Solids Pond No. 3
Sherburne County Generating Plant
Becker, Minnesota

FIGURE 2
CCR GROUNDWATER MONITORING SYSTEM



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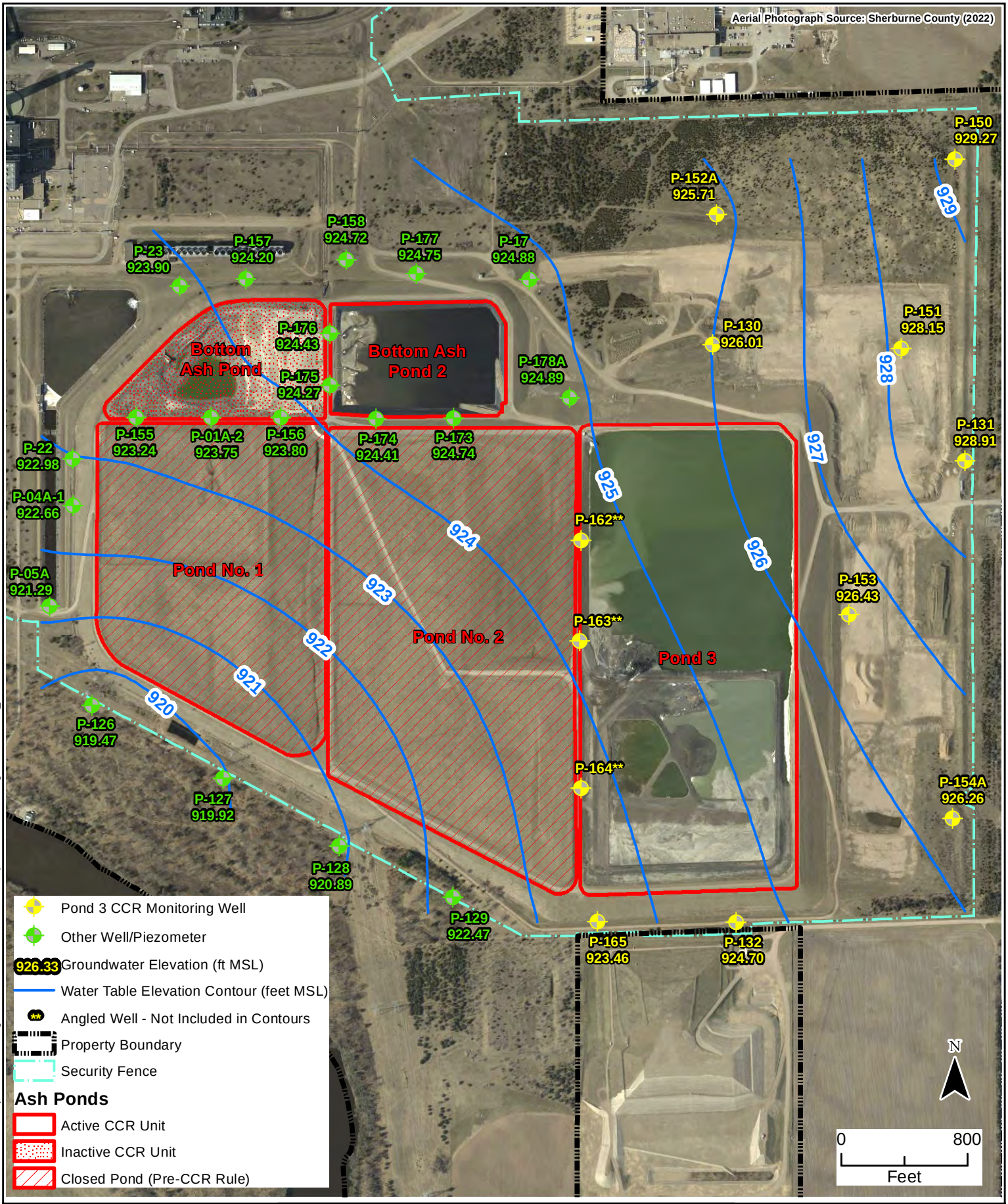
2022 CCR ANNUAL GROUNDWATER MONITORING REPORT
Scrubber Solids Pond No. 3
Sherburne County Generating Plant
Becker, Minnesota

FIGURE 3
WATER TABLE ELEVATION CONTOUR MAP (5/2-5/2022)



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2022 CCR ANNUAL GROUNDWATER MONITORING REPORT
Scrubber Solids Pond No. 3
Sherburne County Generating Plant
Becker, Minnesota

FIGURE 4
WATER TABLE ELEVATION CONTOUR MAP (10/31-11/3/22)

Appendix A

Spring 2022 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   Project: Sherco Ponds Spring 2022   Project No.:

Monitoring Point ID: P-130   Labeled: P130

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: 46.84 Feet

Static water level measurement before purging (Start Depth): 40.65 Feet × 5/2/22

Static water level measurement at time of sampling (Final Depth): 40.65 Feet

Static Water Level Elevation Before Purging: NA Feet

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

Date Purged: 5/6/22   Water Column: 6.19 Feet

Time Purged: 0940 – 0958   One Casing Volume: 1.01 Gallons

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

Field Sampling Data

Date Sampled: 5/6/22

Time Sampled: 1005

Sampling Equip.: Pump + Filter

Meter ID: MPS-6

Analyzed by: RCJ

Field Parameter Measurements of Sample

pH: 7.6 (units)   D.O: 10.1 (mg/l)

Spec. Cond.: 360 (µmhos/cm)   Turbidity: 2.0 (NTU)

Temp. Observed: 10.8 (°C)   Eh: 124 (mV)

Temp. Corrected: ~~10~~ 11.1 (°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: 10.3 °C

Weather Conditions During Sampling: 52°F, Sunny, E @ 5 MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0946	7.7	370	10.9	10.4	2.2	112	1.2
0952	7.7	360	10.9	10.2	2.0	119	2.4
0958	7.6	360	10.8	10.1	2.0	124	3.6
				RCJ 5/6/22			

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

Form Revised: 01/25/2021

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

Lead Technician Signature: [signature]   Date: 5/6/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Spring 2022 Project No.

Monitoring Point ID P-131 Labeled P131

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	48.55	Feet * 5/2/22 @ 0855
Static water level measurement before purging (Start Depth)	38.70	Feet
Static water level measurement at time of sampling (Final Depth)	38.70	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-2

Date Purged 5/5/22 Water Column 9.85 Feet

Time Purged 1020 - 1047 One Casing Volume 1.61 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 5.4 Gallons

Field Sampling Data

Date Sampled 5/5/22

Time Sampled 1050

Sampling Equip. Pump + Filter

Meter ID MP58

Analyzed by KM

Field Parameter Measurements of Sample

pH	7.5 (units)	D.O	7.7 (mg/l)
Spec. Cond.	600 (µmhos/cm)	Turbidity	0.87 (NTU)
Temp. Observed	10.5 (°C)	Eh	170 (mV)
Temp. Corrected	10.5 (°C)	Other	NA

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

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

Temperature Correction Factor: 0 °C

Weather Conditions During Sampling: 59°, partly cloudy, wind SE 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)
1029	7.5	600	10.5	7.7	0.87	172	1.8
1038	7.5	600	10.5	7.7	0.87	171	3.6
1047	7.5	600	10.5	7.7	0.87	170	5.4

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01-25-2021

Name/Affiliation of Sampler(s): Kendra Moran / Pace

Lead Technician Signature: KM Date: 5/5/22

Pace Analytical
Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Spring 2022 Project No.

Monitoring Point ID P-132 Labeled P132

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	36.51	Feet
Static water level measurement before purging (Start Depth)	34.63	Feet ? 5/2/22
Static water level measurement at time of sampling (Final Depth)	34.63	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-2

Date Purged 5/4/22 Water Column 1.86 Feet

Time Purged 1425 - 1431 One Casing Volume 0.31 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 1.2 Gallons

Field Sampling Data

Date Sampled 5/4/22

Time Sampled 1435

Sampling Equip. Pump + Filter

Meter ID MP58 + TM6

Analyzed by WM

Field Parameter Measurements of Sample

pH	7.3 (units)	D.O	8.3 (mg/l)
Spec. Cond.	670 (µmhos/cm)	Turbidity	1.3 (NTU)
Temp. Observed	11.7 (°C)	Eh	160 (mV)
Temp. Corrected	11.7 (°C)	Other	NM

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

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

Temperature Correction Factor: 0 °C

Weather Conditions During Sampling: 61, sunny; wind E 4mph

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)
1427	7.3	670	11.7	8.3	1.3	162	0.4
1429	7.3	670	11.7	8.3	1.3	161	0.8
1431	7.3	670	11.7	8.3	1.3	160	1.2

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 8/26/2021

Name/Affiliation of Sampler(s): Kendra Moran | Pace

Lead Technician Signature: [signature] Date: 5/4/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Project: Sherco Ponds Spring 2022 Project No.:

Monitoring Point ID: P-150 Labeled: 08 806320

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: 36.66 Feet

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

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

Static Water Level Elevation Before Purging: NA Feet

Purge Method: Dedicated Bladder Pump Pump ID:

Date Purged: Water Column: Feet

Time Purged: One Casing Volume: Gallons

Pump Rate: GPM / LPM Volume Purged: Gallons

Field Sampling Data

Date Sampled:

Time Sampled:

Sampling Equip.: Pump + Filter

Meter ID:

Analyzed by:

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: ☒ Yes ☐ No ☐ NA

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

Temperature Correction Factor: °C

Weather Conditions During Sampling:

Sample Description:

Observations: *34.68 - Top of Bladder Dry - Removed Bladder: SWL = 36.56

*COULD NOT SAMPLE

Stabilization Test

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

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley [signature] Pace

Lead Technician Signature: [signature] Date: 5/5/22

Pace Analytical™ Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Spring 2022 Project No.

Monitoring Point ID P-151 Labeled 806315

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	20.16	Feet
Static water level measurement before purging (Start Depth)	15.71	Feet ✓ 5/6/22
Static water level measurement at time of sampling (Final Depth)	15.71	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC 2

Date Purged 5/5/22 Water Column 4.45 Feet

Time Purged 1110 - 1122 One Casing Volume 0.73 Gallons

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

Field Sampling Data

Date Sampled 5/5/22

Time Sampled 1175

Sampling Equip. Pump + Filter

Meter ID MPS-8

Analyzed by KCM

Field Parameter Measurements of Sample

pH	7.7 (units)	D.O	10.3 (mg/l)
Spec. Cond.	380 (µmhos/cm)	Turbidity	1.8 (NTU)
Temp. Observed	9.3 (°C)	Eh	166 (mV)
Temp. Corrected	9.3 (°C)	Other	NA

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

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

Temperature Correction Factor: 0 °C

Weather Conditions During Sampling: 59°, partly cloudy. Wind SE @ 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)
1114	7.7	380	9.3	10.3	1.8	166	0.8
1118	7.7	380	9.3	10.3	1.8	166	1.6
1122	7.7	380	9.3	10.3	1.8	166	2.4

Samples chilled immediately after collection. ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendra Moun/Pace

Lead Technician Signature: KM Date: 5/5/22

Pace Analytical®
Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel   Project: Sherco Ponds Spring 2022   Project No.:

Monitoring Point ID: P-152A   Labeled: 306318

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)	* NA - DRY	Feet
Static water level measurement at time of sampling (Final Depth)	NA	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: Dedicated Bladder Pump   Pump ID:

Date Purged: Water Column: Feet

Time Purged: One Casing Volume: Gallons

Pump Rate: GPM / LPM   Volume Purged: Gallons

Field Sampling Data

Date Sampled:

Time Sampled:

Sampling Equip.: Pump + Filter

Meter ID:

Analyzed by:

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:

RLS 5/5/22

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

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

Temperature Correction Factor: °C

Weather Conditions During Sampling:

Sample Description:

Observations: * Top of Bladder = 39.36 ft - Removed Bladder after failed attempt to sample + got soft. Sgte = 41.45 ft / 41.55 5/6/22 by RLS - Attempted Sample w/ submersible - NO SAMPLE

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
				RLS 5/5/22			

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

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Erickson

Lead Technician Signature: Riley [signature]   Date: 5/5/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Source Ponds Spring 2022 Project No.

Monitoring Point ID P-153 Labeled 8045.14

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	23.63	Feet *5/2/22
Static water level measurement before purging (Start Depth)	19.77	Feet
Static water level measurement at time of sampling (Final Depth)	19.77	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC 2

Date Purged 5/5/22 Water Column 3.86 Feet

Time Purged 1205-1217 One Casing Volume 0.63 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 2.4 Gallons

Field Sampling Data

Date Sampled 5/5/22

Time Sampled 1220

Sampling Equip. Pump + Filter

Meter ID MP50 - TM4b

Analyzed by WM

Field Parameter Measurements of Sample

pH	7.4 (units)	D.O	10.6 (mg/l)
Spec. Cond.	200 (µmhos/cm)	Turbidity	0.92 (NTU)
Temp. Observed	10.5 (°C)	Eh	184 (mV)
Temp. Corrected	10.5 (°C)	Other	NA

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

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

Temperature Correction Factor: 0 °C

Weather Conditions During Sampling: 50, partly cloudy, wind SE 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)
1209	7.4	200	10.5	10.5	0.92	179	0.8
1213	7.4	200	10.5	10.6	0.92	180	1.6
~~1211~~ 1217	7.4	200	10.5	10.6	0.92	180	2.4
				RD 5/26/22			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendra Moran / Pace

Lead Technician Signature: [signature] Date: 5/5/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Spring 2022 Project No.

Monitoring Point ID P-154A Labeled 806316

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	49.53	Feet *5/2/22
Static water level measurement before purging (Start Depth)	36.38	Feet
Static water level measurement at time of sampling (Final Depth)	36.38	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-2

Date Purged 5/5/22 Water Column 13.23 Feet

Time Purged 1255 - 1328 One Casing Volume 2.16 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 6.4 Gallons

Field Sampling Data

Date Sampled 5/5/22

Time Sampled 1330

Sampling Equip. Pump + Filter

Meter ID MP58 + TM6

Analyzed by KM

Field Parameter Measurements of Sample

pH	7.8 (units)	D.O	4.5 (mg/l)
Spec. Cond.	530 (µmhos/cm)	Turbidity	0.60 (NTU)
Temp. Observed	10.3 (°C)	Eh	168 (mV)
Temp. Corrected	10.3 (°C)	Other	na

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

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

Temperature Correction Factor: 0 °C

Weather Conditions During Sampling: 59°, partly cloudy, wind steady 5mph

Sample Description: Clear, no odor

Observations: *DUPLICATE P3 COLLECTED HERE @ 1330

*RINSE P3 COLLECTED HERE @ 1250

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1306	7.8	520	10.3	4.3	0.60	168	2.2
1317	7.8	530	10.3	4.4	0.60	168	4.4
1326	7.8	530	10.3	4.5	0.60	168	6.6

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Kendra Moran/Pace

Lead Technician Signature: [signature] Date: 5/5/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Project: Sherco Ponds Spring 2022 Project No.:

Monitoring Point ID: P-162 Labeled: P162

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: 166.00 Feet

Static water level measurement before purging (Start Depth): 149.00 Feet

Static water level measurement at time of sampling (Final Depth): 149.00 Feet

*Approx. from past data

Static Water Level Elevation Before Purging: NA Feet

Purge Method: Dedicated KECK Pump Pump ID: NA

Date Purged: 5/5/22 Water Column: 17.00 Feet

Time Purged: 1400 – 1421 One Casing Volume: 2.77 Gallons

Pump Rate: 0.4 GPM / LPM (GPM circled) Volume Purged: 8.4 Gallons

Field Sampling Data

Date Sampled: 5/5/22

Time Sampled: 1425

Sampling Equip.: Pump + Filter

Meter ID: MPS-6

Analyzed by: RCJ

Field Parameter Measurements of Sample

pH: 7.6 (units) D.O: 5.9 (mg/l)

Spec. Cond.: 1190 (µmhos/cm) Turbidity: 1.1 (NTU)

Temp. Observed: 8.9 (°C) Eh: 108 (mV)

Temp. Corrected: 9.2 (°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: 66°F, Sl. Cloudy, SE @ 10MPH

Sample Description: clear no odor

Observations: ~~None~~ RCJ 5/6/22 5/6/22 - RCJ/KCM measured SWL + TD, SWL = 155 ft, TD of tubing = 165'

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1407	7.7	1220	8.8	5.9	1.1	104	2.8
1414	7.6	1200	8.9	5.9	1.2	106	5.6
1421	7.6	1190	8.9	5.9	1.1	108	8.4
					RCJ 5/5/22		

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

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

Lead Technician Signature: [signature] Date: 5/5/22

Pace Analytical™ Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Spring 2022 Project No.

Monitoring Point ID P-163 Labeled P163

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	176.00	Feet
Static water level measurement before purging (Start Depth)	163.70 (1)	Feet
Static water level measurement at time of sampling (Final Depth)	NM	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Peak Pump Pump ID NA

Date Purged 5/6/22 Water Column 12.30 Feet

Time Purged 1435 - NM One Casing Volume 2.00 Gallons

Pump Rate NA GPM / LPM Volume Purged Ø Gallons

Field Sampling Data

Date Sampled NM

Time Sampled NM

Sampling Equip. Pump + Filter

Meter ID NM

Analyzed by RJS

Field Parameter Measurements of Sample

pH _____ (units) D.O _____ (mg/l)

Spec. Cond. _____ (umhos/cm) Turbidity _____ (NTU)

Temp. Observed _____ (°C) ~~Eh~~ _____ (mV)

Temp. Corrected _____ (°C) Other _____

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: NA

Sample Description: NM

Observations: *NO SAMPLE 5/6/22 - Tried Again - still no sample, (1) verified water column SHOULD BE adequate for Sample... - RJS 5/6/22 w/DK

Stabilization Test

Time	pH (units)	Specifc Conductance (umhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
				~~Eh~~			

Samples chilled immediately after collection: ☒ Yes ☐ Other _____

Form Revised: 01/25/2021

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

Lead Technician Signature: Riley Jacobsen Date: 5/6/22

CARLSON McCAIN

WELL PURGING AND SAMPLE COLLECTION

Well No. P-163

Project Name/Location: Aerco Ponds Spring 2022 **Project No.:** 6559-04

Date: 5/26/2022 **Weather:** Cloudy 65°,

Purging Method ☒ Pumped ☐ Bailed **Other** Waterra

Pump Type: Waterra **Bailer Type:**

Depth to Water (D.T.W.) 163.70 **Depth to Bottom (D.T.B.)** 176.00

Volume Calculation: (176.00 - 163.7) x 0.163 = 2 gallons

Gals./Well Volume: 2.5 **[(D.T.B. – D.T.W.) gal./ft.] = Gals./well volume]**

Time	Volume Removed (gal.)	Temp. (°C)	pH	ORP (mv)	Cond. (uS/cm)	Turbidity (ntu)	DO (ppm)	Odor Y/N	Color
1408	Initial 2.5	10.8	–	–	465	–	–	N	Clear
1416	5	10.8	–	–	466	–	–	N	Clear
1424	7.5	10.7	–	–	467	–	–	N	Clear

Sample No.: P-163 **Time:** 1430

Trip Blank ☐ **Time:** **Sample No.:**

Duplicate ☐ **Time:** **Sample No.:**

Containers: 4 - **Analysis:** Radium, GW-GCR

Analysis:

Signature: [signature] **Date:** 5 / 26 / 2022

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Project: Sherco Ponds Spring 2022 Project No.:

Monitoring Point ID: P-166 Labeled: P166

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: ① Feet

Static water level measurement before purging (Start Depth): ① Feet

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

Static Water Level Elevation Before Purging: NA Feet

Purge Method: NA Pump ID:

Date Purged: Water Column: Feet

Time Purged: One Casing Volume: Gallons

Pump Rate: GPM / LPM Volume Purged: Gallons

Field Sampling Data

Date Sampled:

Time Sampled:

Sampling Equip.: Pump + Filter

Meter ID:

Analyzed by:

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:

RLS 5/16/22

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: NA

Sample Description: NA

Observations: * NO SAMPLE COLLECTED, Unsure of Issue.

① Measured 5/6/22 by RLS/KCM - SWL = 156.50' ; Tubing Length = 166

Stabilization Test

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

RLS 5/16/22

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

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

Lead Technician Signature: [signature] Date: 5/16/22

CARLSON McCAIN

WELL PURGING AND SAMPLE COLLECTION

Well No. P-164

Project Name/Location: Sherco Ponds Spring 2022 Project No.: 6559.01

Date: 5-26-2022 Weather: cloudy 65 wind 5-10 NNE

Purging Method ☒ Pumped ☐ Bailed Other

Pump Type: waterra Bailer Type:

Depth to Water (D.T.W.) 156.50 Depth to Bottom (D.T.B.) 166.00

Volume Calculation: (166.00 - 156.50) x 0.163 = 1.55 gallons

Gals./Well Volume: 1.55 gallons [(D.T.B. – D.T.W.) gal./ft.] = Gals./well volume]

Time	Volume Removed (gal.)	Temp. (°C)	pH	ORP (mv)	Cond. (uS/cm)	Turbidity (ntu)	DO (ppm)	Odor Y/N	Color
1459	~~Initial~~ 2.5	12.0	–	–	429	–	–	~~N~~	Clear
1506	5.0	12.0	–	–	428	–	–	N	Clear
1513	7.5	11.8	–	–	427	–	–	N	Clear

Sample No.: ~~P-163~~ P-164 Time: 1520

Trip Blank ☐ Time: Sample No.:

Duplicate ☐ Time: Sample No.:

Containers: 4 Analysis: GW-CCR, Radium

Analysis:

Signature: David Katzner Date: 5 / 26 / 2022

Stabilization Criteria:
Temperature is stabilized to ± 0.5 degrees Celsius.
pH is stabilized to ± 0.1 standard units.
Specific conductance (temperature corrected) is stabilized to ± 10% µS/cm.

Inside Well Diameter	gal./ft.
2"	0.163
4"	0.653
6"	1.469
8"	2.611

Pace Analytical™ Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Spring 2022 Project No.

Monitoring Point ID P-105 Labeled 8221-3

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	40.32	Feet
Static water level measurement before purging (Start Depth)	33.94	Feet 5/6/22
Static water level measurement at time of sampling (Final Depth)	33.94	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 5/6/22 Water Column 6.38 Feet

Time Purged 0840 – 0858 One Casing Volume 1.04 Gallons

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

Field Sampling Data

Date Sampled 5/6/22

Time Sampled 0905

Sampling Equip. Pump + Filter

Meter ID MPS-6

Analyzed by RJS

Field Parameter Measurements of Sample

pH	7.7 (units)	D.O	10.4 (mg/l)
Spec. Cond.	580 (µmhos/cm)	Turbidity	1.4 (NTU)
Temp. Observed	10.1 (°C)	Eh	126 (mV)
Temp. Corrected	10.4 (°C)	Other	MT

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: 52°F, Sunny, E@5MPH

Sample Description: clear no odor

Observations: ~~Arrive~~ Pump Repaired by David K onsite for Sampling. RJS 5/6/22 RJS 5/6/22

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0846	7.8	580	10.1	10.6	1.9	117	2.2
0852	7.8	580	10.1	10.5	1.8	121	2.4
0858	7.7	580	10.1	10.4	1.4	126	3.6
				RJS 5/6/22			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Anderson

Lead Technician Signature: Riley Anderson Date: 5/6/22

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Christine Keefe, Supervisor (612) 630-4506

09 June 2022

Eric Ealy

Environmental Services-Water Minneapolis

414 Nicollet Mall, GO-2

Minneapolis, MN 55401

cc:

RE: Sherco Pond 3 CCR

Enclosed are the results of analyses for samples received by the laboratory on 05/05/2022 07:30-05/27/2022 06:30. 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

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-132		MHE0049-23	Water	05/04/2022 14:35	05/05/2022 7:30
P-130		MHE0072-12	Water	05/06/2022 10:05	05/06/2022 15:00
P-131		MHE0072-14	Water	05/05/2022 10:50	05/06/2022 15:00
P-151		MHE0072-16	Water	05/05/2022 11:25	05/06/2022 15:00
P-153		MHE0072-17	Water	05/05/2022 12:20	05/06/2022 15:00
P-154A		MHE0072-18	Water	05/05/2022 13:30	05/06/2022 15:00
P-162		MHE0072-19	Water	05/05/2022 14:25	05/06/2022 15:00
P-165		MHE0072-20	Water	05/06/2022 9:05	05/06/2022 15:00
Duplicate CCR-P3		MHE0072-22	Water	05/05/2022 13:30	05/06/2022 15:00
Rinse CCR-P3		MHE0072-23	Water	05/05/2022 12:50	05/06/2022 15:00
P-163		MHE0280-01	Water	05/26/2022 14:30	05/27/2022 6:30
P-164		MHE0280-02	Water	05/26/2022 15:20	05/27/2022 6:30

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-132

MHE0049-23 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	1.85	1.00	mg/L		1	BHE0153	5/6/22 7:22	5/6/22 12:34	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0153	5/6/22 7:22	5/6/22 12:34	EPA 300.0	CRL
Sulfate	51.1	1.00	mg/L		1	BHE0153	5/6/22 7:22	5/6/22 12:34	EPA 300.0	CRL
Wet Chemistry										
pH	7.70		pH Units	M_TTT	1	BHE0115	5/5/22 9:40	5/5/22 13:20	SM 4500-H+ B	CRL
Total Dissolved Solids	358	25.0	mg/L		1	BHE0142	5/6/22 8:53	5/6/22 8:53	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0141	5/6/22 6:54	5/6/22 6:54	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Barium	37.3	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Chromium	2.29	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Selenium	1.18	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0173	5/9/22 10:17	5/10/22 8:31	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0767	0.0500	mg/L		1	BHE0172	5/9/22 9:56	5/11/22 14:54	EPA 200.7	HRD
Calcium	83.4	1.50	mg/L		1	BHE0172	5/9/22 9:56	5/11/22 14:53	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0172	5/9/22 9:56	5/11/22 14:53	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-132

MHE0049-23 (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	BHE0148	5/9/22 9:00	5/9/22 13:43	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-130

MHE0072-12 (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	BHE0178	5/9/22 7:39	5/9/22 18:24	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0178	5/9/22 7:39	5/9/22 18:24	EPA 300.0	CRL
Sulfate	3.64	1.00	mg/L		1	BHE0178	5/9/22 7:39	5/9/22 18:24	EPA 300.0	CRL
Wet Chemistry										
pH	7.89		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 10:46	SM 4500-H+ B	CRL
Total Dissolved Solids	168	25.0	mg/L		1	BHE0177	5/9/22 9:49	5/9/22 9:49	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0176	5/9/22 8:52	5/9/22 8:52	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.535	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Barium	30.8	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Chromium	1.44	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:37	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:07	EPA 200.7	HRD
Calcium	42.2	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:05	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:05	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-130

MHE0072-12 (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	BHE0148	5/9/22 9:00	5/9/22 13:55	EPA 245.1/7470A	HRD

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414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-131

MHE0072-14 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	24.5	1.00	mg/L		1	BHE0178	5/9/22 7:39	5/9/22 19:05	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0178	5/9/22 7:39	5/9/22 19:05	EPA 300.0	CRL
Sulfate	31.2	1.00	mg/L		1	BHE0178	5/9/22 7:39	5/9/22 19:05	EPA 300.0	CRL
Wet Chemistry										
pH	7.85		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 10:59	SM 4500-H+ B	CRL
Total Dissolved Solids	304	25.0	mg/L		1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.630	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Barium	71.8	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Chromium	1.51	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Molybdenum	0.597	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Selenium	0.584	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:41	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:13	EPA 200.7	HRD
Calcium	74.6	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:11	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:11	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-131

MHE0072-14 (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	BHE0148	5/9/22 9:00	5/9/22 14:00	EPA 245.1/7470A	HRD

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414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-151

MHE0072-16 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	15.9	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 9:50	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 9:50	EPA 300.0	CRL
Sulfate	14.8	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 9:50	EPA 300.0	CRL
Wet Chemistry										
pH	7.97		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 11:11	SM 4500-H+ B	CRL
Total Dissolved Solids	200	25.0	mg/L		1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Barium	35.0	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Chromium	1.47	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:45	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:18	EPA 200.7	HRD
Calcium	46.3	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:16	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:16	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-151

MHE0072-16 (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	BHE0148	5/9/22 9:00	5/9/22 14:02	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-153

MHE0072-17 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:11	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:11	EPA 300.0	CRL
Sulfate	4.08	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:11	EPA 300.0	CRL
Wet Chemistry										
pH	8.11		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 11:14	SM 4500-H+ B	CRL
Total Dissolved Solids	104	25.0	mg/L		1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.26	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Barium	15.3	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Chromium	0.937	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Molybdenum	0.784	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 9:49	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 16:49	EPA 200.7	HRD
Calcium	25.0	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 16:46	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 16:46	EPA 200.7	HRD

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Christine Keefe, Supervisor (612) 630-4506

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-153

MHE0072-17 (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	BHE0148	5/9/22 9:00	5/9/22 14:04	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-154A

MHE0072-18 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	28.8	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:31	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:31	EPA 300.0	CRL
Sulfate	33.0	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:31	EPA 300.0	CRL
Wet Chemistry										
pH	7.96		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 11:17	SM 4500-H+ B	CRL
Total Dissolved Solids	326	25.0	mg/L		1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.32	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Barium	49.7	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Chromium	0.926	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Molybdenum	0.747	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:00	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:24	EPA 200.7	HRD
Calcium	71.7	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:22	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:22	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-154A

MHE0072-18 (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	BHE0148	5/9/22 9:00	5/9/22 14:05	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-162

MHE0072-19 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	40.1	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:52	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:52	EPA 300.0	CRL
Sulfate	182	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 10:52	EPA 300.0	CRL
Wet Chemistry										
pH	7.74		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 11:21	SM 4500-H+ B	CRL
Total Dissolved Solids	746	25.0	mg/L		1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.644	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Barium	69.2	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Chromium	7.92	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Molybdenum	2.20	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Selenium	9.05	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:04	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.342	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:29	EPA 200.7	HRD
Calcium	138	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:28	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:28	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-162

MHE0072-19 (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	BHE0148	5/9/22 9:00	5/9/22 14:07	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-165

MHE0072-20 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	7.89	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 11:12	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 11:12	EPA 300.0	CRL
Sulfate	27.6	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 11:12	EPA 300.0	CRL
Wet Chemistry										
pH	7.87		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 11:24	SM 4500-H+ B	CRL
Total Dissolved Solids	298	25.0	mg/L		1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Barium	35.9	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Chromium	1.51	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Selenium	0.986	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:08	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:35	EPA 200.7	HRD
Calcium	70.5	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:33	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:33	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-165

MHE0072-20 (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	BHE0148	5/9/22 9:00	5/9/22 14:09	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Duplicate CCR-P3

MHE0072-22 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	29.8	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 11:54	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 11:54	EPA 300.0	CRL
Sulfate	33.1	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 11:54	EPA 300.0	CRL
Wet Chemistry										
pH	8.04		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 11:44	SM 4500-H+ B	CRL
Total Dissolved Solids	326	25.0	mg/L		1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.33	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Barium	50.8	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Chromium	0.783	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Molybdenum	0.699	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:12	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:52	EPA 200.7	HRD
Calcium	71.5	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:49	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:49	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Duplicate CCR-P3

MHE0072-22 (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	BHE0148	5/9/22 9:00	5/9/22 14:10	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Rinse CCR-P3

MHE0072-23 (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	BHE0192	5/9/22 10:10	5/10/22 12:14	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 12:14	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BHE0192	5/9/22 10:10	5/10/22 12:14	EPA 300.0	CRL
Wet Chemistry										
pH	6.29		pH Units	M_TTT	1	BHE0179	5/9/22 7:43	5/9/22 11:48	SM 4500-H+ B	CRL
Total Dissolved Solids	< 25.0	25.0	mg/L	M_ES	1	BHE0204	5/10/22 9:02	5/10/22 9:02	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0203	5/10/22 6:56	5/10/22 6:56	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHE0199	5/9/22 10:52	5/10/22 10:16	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 17:02	EPA 200.7	HRD
Calcium	< 1.50	1.50	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 16:59	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHE0198	5/9/22 10:51	5/11/22 16:59	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Rinse CCR-P3

MHE0072-23 (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	BHE0148	5/9/22 9:00	5/9/22 14:12	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-163

MHE0280-01 (Water) - Chain of Custody Number: 284537

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	28.4	1.00	mg/L		1	BHF0013	6/1/22 11:52	6/2/22 11:07	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHF0013	6/1/22 11:52	6/2/22 11:07	EPA 300.0	CRL
Sulfate	76.1	1.00	mg/L		1	BHF0013	6/1/22 11:52	6/2/22 11:07	EPA 300.0	CRL
Wet Chemistry										
pH	7.80		pH Units	M_TTT	1	BHE0597	5/27/22 7:59	5/27/22 8:44	SM 4500-H+ B	CRL
Total Dissolved Solids	360	25.0	mg/L		1	BHE0620	5/31/22 9:34	5/31/22 9:34	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0619	5/31/22 7:18	5/31/22 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.569	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Barium	32.8	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Chromium	20.1	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Molybdenum	1.62	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Selenium	9.55	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHF0010	6/2/22 9:06	6/6/22 8:32	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0726	0.0500	mg/L		1	BHF0009	6/2/22 9:01	6/7/22 17:54	EPA 200.7	HRD
Calcium	83.6	1.50	mg/L		1	BHF0009	6/2/22 9:01	6/7/22 17:51	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHF0009	6/2/22 9:01	6/7/22 17:51	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-163

MHE0280-01 (Water) - Chain of Custody Number: 284537

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BHE0554	6/1/22 9:04	6/1/22 16:38	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-164

MHE0280-02 (Water) - Chain of Custody Number: 284537

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	15.6	1.00	mg/L		1	BHF0013	6/1/22 11:52	6/2/22 11:27	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHF0013	6/1/22 11:52	6/2/22 11:27	EPA 300.0	CRL
Sulfate	69.1	1.00	mg/L		1	BHF0013	6/1/22 11:52	6/2/22 11:27	EPA 300.0	CRL
Wet Chemistry										
pH	7.84		pH Units	M_TTT	1	BHE0597	5/27/22 7:59	5/27/22 8:48	SM 4500-H+ B	CRL
Total Dissolved Solids	348	25.0	mg/L		1	BHE0620	5/31/22 9:34	5/31/22 9:34	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHE0619	5/31/22 7:18	5/31/22 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.549	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Barium	48.5	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Beryllium	< 0.100	0.100	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Chromium	9.22	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Molybdenum	0.929	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Selenium	7.99	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BHF0031	6/2/22 9:17	6/6/22 9:28	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0833	0.0500	mg/L		1	BHF0030	6/2/22 9:15	6/7/22 16:57	EPA 200.7	HRD
Calcium	74.8	1.50	mg/L		1	BHF0030	6/2/22 9:15	6/6/22 18:05	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BHF0030	6/2/22 9:15	6/6/22 18:05	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

P-164

MHE0280-02 (Water) - Chain of Custody Number: 284537

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BHE0554	6/1/22 9:04	6/1/22 16:40	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0140 - Wet Prep										
Blank (BHE0140-BLK1)				Prepared & Analyzed: 05/05/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BHE0140-BLK2)				Prepared & Analyzed: 05/05/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BHE0140-BS1)				Prepared & Analyzed: 05/05/2022						
Chloride	24.822	1.00	mg/L	25.000		99.3	90-110			
Fluoride	2.5520	0.750	mg/L	2.5000		102	90-110			
Sulfate	24.482	1.00	mg/L	25.000		97.9	90-110			
LCS (BHE0140-BS2)				Prepared & Analyzed: 05/05/2022						
Chloride	24.979	1.00	mg/L	25.000		99.9	90-110			
Fluoride	2.5860	0.750	mg/L	2.5000		103	90-110			
Sulfate	24.568	1.00	mg/L	25.000		98.3	90-110			
LCS (BHE0140-BS3)				Prepared & Analyzed: 05/05/2022						
Chloride	25.067	1.00	mg/L	25.000		100	90-110			
Fluoride	2.5940	0.750	mg/L	2.5000		104	90-110			
Sulfate	24.616	1.00	mg/L	25.000		98.5	90-110			
Duplicate (BHE0140-DUP1)		**Source: MHE0040-01**		Prepared & Analyzed: 05/05/2022						
Chloride	8.1310	1.00	mg/L		8.1420			0.135	20	
Fluoride	0.063000	0.750	mg/L		0.063000			0.00	20	
Sulfate	8.3250	1.00	mg/L		8.3340			0.108	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0140 - Wet Prep										
Duplicate (BHE0140-DUP2)		**Source: MHE0049-02**		Prepared & Analyzed: 05/05/2022						
Chloride	0.66100	1.00	mg/L		0.66000			0.151	20	
Fluoride	0.087000	0.750	mg/L		0.086000			1.16	20	
Sulfate	6.3450	1.00	mg/L		6.3290			0.252	20	
Matrix Spike (BHE0140-MS1)		**Source: MHE0040-01**		Prepared & Analyzed: 05/05/2022						
Chloride	34.833	1.11	mg/L	27.778	8.1420	96.1	90-110			
Fluoride	2.7900	0.833	mg/L	2.7778	<0.833	100	90-110			
Sulfate	34.910	1.11	mg/L	27.778	8.3340	95.7	90-110			
Matrix Spike (BHE0140-MS2)		**Source: MHE0049-02**		Prepared & Analyzed: 05/05/2022						
Chloride	28.587	1.11	mg/L	27.778	0.66000	101	90-110			
Fluoride	3.0233	0.833	mg/L	2.7778	0.086000	106	90-110			
Sulfate	34.514	1.11	mg/L	27.778	6.3290	101	90-110			
Matrix Spike Dup (BHE0140-MSD1)		**Source: MHE0040-01**		Prepared & Analyzed: 05/05/2022						
Chloride	35.474	1.11	mg/L	27.778	8.1420	98.4	90-110	1.82	20	
Fluoride	2.8778	0.833	mg/L	2.7778	<0.833	104	90-110	3.10	20	
Sulfate	35.540	1.11	mg/L	27.778	8.3340	97.9	90-110	1.79	20	
Matrix Spike Dup (BHE0140-MSD2)		**Source: MHE0049-02**		Prepared & Analyzed: 05/05/2022						
Chloride	27.902	1.11	mg/L	27.778	0.66000	98.1	90-110	2.42	20	
Fluoride	2.9522	0.833	mg/L	2.7778	0.086000	103	90-110	2.38	20	
Sulfate	33.844	1.11	mg/L	27.778	6.3290	99.1	90-110	1.96	20	
Batch BHE0153 - Wet Prep										
Blank (BHE0153-BLK1)				Prepared & Analyzed: 05/06/2022						
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 Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0153 - Wet Prep										
Blank (BHE0153-BLK2)				Prepared & Analyzed: 05/06/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BHE0153-BS1)				Prepared & Analyzed: 05/06/2022						
Chloride	25.241	1.00	mg/L	25.000		101	90-110			
Fluoride	2.6500	0.750	mg/L	2.5000		106	90-110			
Sulfate	24.906	1.00	mg/L	25.000		99.6	90-110			
LCS (BHE0153-BS2)				Prepared & Analyzed: 05/06/2022						
Chloride	25.117	1.00	mg/L	25.000		100	90-110			
Fluoride	2.6260	0.750	mg/L	2.5000		105	90-110			
Sulfate	24.653	1.00	mg/L	25.000		98.6	90-110			
LCS (BHE0153-BS3)				Prepared & Analyzed: 05/06/2022						
Chloride	25.277	1.00	mg/L	25.000		101	90-110			
Fluoride	2.6410	0.750	mg/L	2.5000		106	90-110			
Sulfate	24.845	1.00	mg/L	25.000		99.4	90-110			
Duplicate (BHE0153-DUP1)		**Source: MHE0049-19**		Prepared & Analyzed: 05/06/2022						
Chloride	37.393	1.00	mg/L		37.398			0.0134	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	54.150	1.00	mg/L		54.165			0.0277	20	
Duplicate (BHE0153-DUP2)		**Source: MHE0049-20**		Prepared & Analyzed: 05/06/2022						
Chloride	34.104	1.00	mg/L		34.112			0.0235	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	111.41	1.00	mg/L		111.21			0.182	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0153 - Wet Prep										
Matrix Spike (BHE0153-MS1)		**Source: MHE0049-19**		Prepared & Analyzed: 05/06/2022						
Chloride	65.421	1.11	mg/L	27.778	37.398	101	90-110			
Fluoride	2.9811	0.833	mg/L	2.7778	<0.833	107	90-110			
Sulfate	82.354	1.11	mg/L	27.778	54.165	101	90-110			
Matrix Spike (BHE0153-MS2)		**Source: MHE0049-20**		Prepared & Analyzed: 05/06/2022						
Chloride	61.564	1.11	mg/L	27.778	34.112	98.8	90-110			
Fluoride	2.9144	0.833	mg/L	2.7778	<0.833	105	90-110			
Sulfate	138.59	1.11	mg/L	27.778	111.21	98.6	90-110			
Matrix Spike Dup (BHE0153-MSD1)		**Source: MHE0049-19**		Prepared & Analyzed: 05/06/2022						
Chloride	65.168	1.11	mg/L	27.778	37.398	100	90-110	0.388	20	
Fluoride	2.9589	0.833	mg/L	2.7778	<0.833	107	90-110	0.748	20	
Sulfate	82.076	1.11	mg/L	27.778	54.165	100	90-110	0.339	20	
Matrix Spike Dup (BHE0153-MSD2)		**Source: MHE0049-20**		Prepared & Analyzed: 05/06/2022						
Chloride	61.641	1.11	mg/L	27.778	34.112	99.1	90-110	0.124	20	
Fluoride	2.9311	0.833	mg/L	2.7778	<0.833	106	90-110	0.570	20	
Sulfate	138.67	1.11	mg/L	27.778	111.21	98.9	90-110	0.0625	20	
Batch BHE0178 - Wet Prep										
Blank (BHE0178-BLK1)				Prepared & Analyzed: 05/09/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BHE0178-BLK2)				Prepared & Analyzed: 05/09/2022						
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 Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0178 - Wet Prep										
LCS (BHE0178-BS1)				Prepared & Analyzed: 05/09/2022						
Chloride	24.864	1.00	mg/L	25.000		99.5	90-110			
Fluoride	2.6070	0.750	mg/L	2.5000		104	90-110			
Sulfate	24.474	1.00	mg/L	25.000		97.9	90-110			
LCS (BHE0178-BS2)				Prepared & Analyzed: 05/09/2022						
Chloride	24.726	1.00	mg/L	25.000		98.9	90-110			
Fluoride	2.5950	0.750	mg/L	2.5000		104	90-110			
Sulfate	24.262	1.00	mg/L	25.000		97.0	90-110			
LCS (BHE0178-BS3)				Prepared & Analyzed: 05/09/2022						
Chloride	24.692	1.00	mg/L	25.000		98.8	90-110			
Fluoride	2.5870	0.750	mg/L	2.5000		103	90-110			
Sulfate	24.223	1.00	mg/L	25.000		96.9	90-110			
Duplicate (BHE0178-DUP1)		**Source: MHE0049-40**		Prepared & Analyzed: 05/09/2022						
Chloride	10.838	1.00	mg/L		10.380			4.32	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	57.982	1.00	mg/L		55.592			4.21	20	
Duplicate (BHE0178-DUP2)		**Source: MHE0049-42**		Prepared & Analyzed: 05/09/2022						
Chloride	6.5370	1.00	mg/L		6.5390			0.0306	20	
Fluoride	0.074000	0.750	mg/L		<0.750				20	
Sulfate	23.912	1.00	mg/L		23.962			0.209	20	
Matrix Spike (BHE0178-MS1)		**Source: MHE0049-40**		Prepared & Analyzed: 05/09/2022						
Chloride	37.709	1.11	mg/L	27.778	10.380	98.4	90-110			
Fluoride	2.8056	0.833	mg/L	2.7778	<0.833	101	90-110			
Sulfate	85.400	1.11	mg/L	27.778	55.592	107	90-110			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0178 - Wet Prep										
Matrix Spike (BHE0178-MS2)		**Source: MHE0049-42**		Prepared & Analyzed: 05/09/2022						
Chloride	34.266	1.11	mg/L	27.778	6.5390	99.8	90-110			
Fluoride	2.9489	0.833	mg/L	2.7778	<0.833	106	90-110			
Sulfate	51.892	1.11	mg/L	27.778	23.962	101	90-110			
Matrix Spike Dup (BHE0178-MSD1)		**Source: MHE0049-40**		Prepared & Analyzed: 05/09/2022						
Chloride	38.472	1.11	mg/L	27.778	10.380	101	90-110	2.00	20	
Fluoride	2.9067	0.833	mg/L	2.7778	<0.833	105	90-110	3.54	20	
Sulfate	85.968	1.11	mg/L	27.778	55.592	109	90-110	0.663	20	
Matrix Spike Dup (BHE0178-MSD2)		**Source: MHE0049-42**		Prepared & Analyzed: 05/09/2022						
Chloride	34.074	1.11	mg/L	27.778	6.5390	99.1	90-110	0.559	20	
Fluoride	2.9311	0.833	mg/L	2.7778	<0.833	106	90-110	0.605	20	
Sulfate	51.719	1.11	mg/L	27.778	23.962	99.9	90-110	0.335	20	
Batch BHE0192 - Wet Prep										
Blank (BHE0192-BLK1)				Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BHE0192-BS1)				Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chloride	24.787	1.00	mg/L	25.000		99.1	90-110			
Fluoride	2.6240	0.750	mg/L	2.5000		105	90-110			
Sulfate	24.387	1.00	mg/L	25.000		97.5	90-110			
LCS (BHE0192-BS2)				Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chloride	24.804	1.00	mg/L	25.000		99.2	90-110			
Fluoride	2.6190	0.750	mg/L	2.5000		105	90-110			
Sulfate	24.276	1.00	mg/L	25.000		97.1	90-110			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0192 - Wet Prep										
Duplicate (BHE0192-DUP1)		**Source: MHE0072-17**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chloride	0.81200	1.00	mg/L		0.81300			0.123	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	4.0770	1.00	mg/L		4.0790			0.0490	20	
Matrix Spike (BHE0192-MS1)		**Source: MHE0072-17**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chloride	28.833	1.11	mg/L	27.778	0.81300	101	90-110			
Fluoride	3.0944	0.833	mg/L	2.7778	<0.833	111	90-110			M_MS
Sulfate	32.147	1.11	mg/L	27.778	4.0790	101	90-110			
Matrix Spike Dup (BHE0192-MSD1)		**Source: MHE0072-17**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chloride	28.909	1.11	mg/L	27.778	0.81300	101	90-110	0.262	20	
Fluoride	3.1056	0.833	mg/L	2.7778	<0.833	112	90-110	0.358	20	M_MS
Sulfate	32.173	1.11	mg/L	27.778	4.0790	101	90-110	0.0829	20	
Batch BHF0013 - Wet Prep										
Blank (BHF0013-BLK1)				Prepared: 06/01/2022 Analyzed: 06/02/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BHF0013-BS1)				Prepared: 06/01/2022 Analyzed: 06/02/2022						
Chloride	24.965	1.00	mg/L	25.000		99.9	90-110			
Fluoride	2.4670	0.750	mg/L	2.5000		98.7	90-110			
Sulfate	24.661	1.00	mg/L	25.000		98.6	90-110			
LCS (BHF0013-BS2)				Prepared: 06/01/2022 Analyzed: 06/02/2022						
Chloride	25.197	1.00	mg/L	25.000		101	90-110			
Fluoride	2.5690	0.750	mg/L	2.5000		103	90-110			
Sulfate	24.879	1.00	mg/L	25.000		99.5	90-110			

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414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHF0013 - Wet Prep										
Duplicate (BHF0013-DUP1)		**Source: MHE0280-01**		Prepared: 06/01/2022 Analyzed: 06/02/2022						
Chloride	28.396	1.00	mg/L		28.407			0.0387	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	76.011	1.00	mg/L		76.079			0.0894	20	
Matrix Spike (BHF0013-MS1)		**Source: MHE0280-01**		Prepared: 06/01/2022 Analyzed: 06/02/2022						
Chloride	56.572	1.11	mg/L	27.778	28.407	101	90-110			
Fluoride	2.8822	0.833	mg/L	2.7778	<0.833	104	90-110			
Sulfate	104.04	1.11	mg/L	27.778	76.079	101	90-110			
Matrix Spike Dup (BHF0013-MSD1)		**Source: MHE0280-01**		Prepared: 06/01/2022 Analyzed: 06/02/2022						
Chloride	57.430	1.11	mg/L	27.778	28.407	104	90-110	1.50	20	
Fluoride	3.0011	0.833	mg/L	2.7778	<0.833	108	90-110	4.04	20	
Sulfate	104.74	1.11	mg/L	27.778	76.079	103	90-110	0.670	20	

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414 Nicollet Mall, GO-2		**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 BHE0094 - Wet Prep										
Blank (BHE0094-BLK1)				Prepared & Analyzed: 05/05/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHE0094-BS1)				Prepared & Analyzed: 05/05/2022						
Total Suspended Solids	78.000	5.00	mg/L	102.20		76.3	70-130			
Duplicate (BHE0094-DUP1)		**Source: MHE0049-01**		Prepared & Analyzed: 05/05/2022						
Total Suspended Solids	5.5000	12.5	mg/L		5.2000			5.61	20	M_ES
Duplicate (BHE0094-DUP2)		**Source: MHE0049-02**		Prepared & Analyzed: 05/05/2022						
Total Suspended Solids	6.5000	12.5	mg/L		7.0000			7.41	20	M_ES
Batch BHE0095 - Wet Prep										
Blank (BHE0095-BLK1)				Prepared & Analyzed: 05/05/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHE0095-BS1)				Prepared & Analyzed: 05/05/2022						
Total Dissolved Solids	116.00	25.0	mg/L	104.10		111	70-130			
Duplicate (BHE0095-DUP1)		**Source: MHE0049-01**		Prepared & Analyzed: 05/05/2022						
Total Dissolved Solids	984.00	25.0	mg/L		992.00			0.810	20	
Duplicate (BHE0095-DUP2)		**Source: MHE0049-02**		Prepared & Analyzed: 05/05/2022						
Total Dissolved Solids	220.00	25.0	mg/L		230.00			4.44	20	
Batch BHE0115 - Wet Prep										
LCS (BHE0115-BS1)				Prepared & Analyzed: 05/05/2022						
pH	7.0800		pH Units	7.0000		101	90-110			

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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 BHE0115 - Wet Prep										
LCS (BHE0115-BS2)				Prepared & Analyzed: 05/05/2022						
pH	7.0900		pH Units	7.0000		101	90-110			
Duplicate (BHE0115-DUP1)		**Source: MHE0049-01**		Prepared & Analyzed: 05/05/2022						
pH	7.5900		pH Units		7.6200			0.394	20	
Duplicate (BHE0115-DUP2)		**Source: MHE0049-11**		Prepared & Analyzed: 05/05/2022						
pH	7.6200		pH Units		7.6200			0.00	20	
Duplicate (BHE0115-DUP3)		**Source: MHE0049-21**		Prepared & Analyzed: 05/05/2022						
pH	7.7900		pH Units		7.7900			0.00	20	
Duplicate (BHE0115-DUP4)		**Source: MHE0049-31**		Prepared & Analyzed: 05/05/2022						
pH	7.7400		pH Units		7.7400			0.00	20	
Batch BHE0141 - Wet Prep										
Blank (BHE0141-BLK1)				Prepared & Analyzed: 05/06/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHE0141-BS1)				Prepared & Analyzed: 05/06/2022						
Total Suspended Solids	76.000	5.00	mg/L	102.20		74.4	70-130			
Duplicate (BHE0141-DUP1)		**Source: MHE0049-10**		Prepared & Analyzed: 05/06/2022						
Total Suspended Solids	6.0000	12.5	mg/L		7.2000			18.2	20	M_ES
Duplicate (BHE0141-DUP2)		**Source: MHE0049-11**		Prepared & Analyzed: 05/06/2022						
Total Suspended Solids	76.667	16.7	mg/L		79.600			3.75	20	

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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 BHE0142 - Wet Prep										
Blank (BHE0142-BLK1)				Prepared & Analyzed: 05/06/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHE0142-BS1)				Prepared & Analyzed: 05/06/2022						
Total Dissolved Solids	98.000	25.0	mg/L	104.10		94.1	70-130			
Duplicate (BHE0142-DUP1)		**Source: MHE0049-10**		Prepared & Analyzed: 05/06/2022						
Total Dissolved Solids	456.00	25.0	mg/L		450.00			1.32	20	
Duplicate (BHE0142-DUP2)		**Source: MHE0049-11**		Prepared & Analyzed: 05/06/2022						
Total Dissolved Solids	1598.0	25.0	mg/L		1686.0			5.36	20	
Batch BHE0157 - Wet Prep										
Blank (BHE0157-BLK1)				Prepared & Analyzed: 05/07/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHE0157-BS1)				Prepared & Analyzed: 05/07/2022						
Total Suspended Solids	74.000	5.00	mg/L	102.20		72.4	70-130			
Duplicate (BHE0157-DUP1)		**Source: MHE0049-24**		Prepared & Analyzed: 05/07/2022						
Total Suspended Solids	3.0000	12.5	mg/L		2.8000			6.90	20	M_ES
Batch BHE0158 - Wet Prep										
Blank (BHE0158-BLK1)				Prepared & Analyzed: 05/07/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							

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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 BHE0158 - Wet Prep										
LCS (BHE0158-BS1)				Prepared & Analyzed: 05/07/2022						
Total Dissolved Solids	100.00	25.0	mg/L	104.10		96.1	70-130			
Duplicate (BHE0158-DUP1)		**Source: MHE0049-24**		Prepared & Analyzed: 05/07/2022						
Total Dissolved Solids	500.00	25.0	mg/L		504.00			0.797	20	
Batch BHE0170 - Wet Prep										
Blank (BHE0170-BLK1)				Prepared & Analyzed: 05/08/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHE0170-BS1)				Prepared & Analyzed: 05/08/2022						
Total Suspended Solids	76.000	5.00	mg/L	102.20		74.4	70-130			
Duplicate (BHE0170-DUP1)		**Source: MHE0049-34**		Prepared & Analyzed: 05/08/2022						
Total Suspended Solids	60.500	12.5	mg/L		58.800			2.85	20	
Batch BHE0171 - Wet Prep										
Blank (BHE0171-BLK1)				Prepared & Analyzed: 05/08/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHE0171-BS1)				Prepared & Analyzed: 05/08/2022						
Total Dissolved Solids	74.000	25.0	mg/L	104.10		71.1	70-130			
Duplicate (BHE0171-DUP1)		**Source: MHE0049-34**		Prepared & Analyzed: 05/08/2022						
Total Dissolved Solids	470.00	25.0	mg/L		458.00			2.59	20	

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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 BHE0176 - Wet Prep										
Blank (BHE0176-BLK1)				Prepared & Analyzed: 05/09/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHE0176-BS1)				Prepared & Analyzed: 05/09/2022						
Total Suspended Solids	90.000	5.00	mg/L	100.90		89.2	70-130			
Duplicate (BHE0176-DUP1)		**Source: MHE0072-01**		Prepared & Analyzed: 05/09/2022						
Total Suspended Solids	171.67	8.33	mg/L		174.33			1.54	20	
Duplicate (BHE0176-DUP2)		**Source: MHE0072-02**		Prepared & Analyzed: 05/09/2022						
Total Suspended Solids	78.333	8.33	mg/L		72.333			7.96	20	
Batch BHE0177 - Wet Prep										
Blank (BHE0177-BLK1)				Prepared & Analyzed: 05/09/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHE0177-BS1)				Prepared & Analyzed: 05/09/2022						
Total Dissolved Solids	92.000	25.0	mg/L	105.10		87.5	70-130			
Duplicate (BHE0177-DUP1)		**Source: MHE0072-01**		Prepared & Analyzed: 05/09/2022						
Total Dissolved Solids	340.00	25.0	mg/L		352.00			3.47	20	
Duplicate (BHE0177-DUP2)		**Source: MHE0072-02**		Prepared & Analyzed: 05/09/2022						
Total Dissolved Solids	362.00	25.0	mg/L		354.00			2.23	20	
Batch BHE0179 - Wet Prep										
LCS (BHE0179-BS1)				Prepared & Analyzed: 05/09/2022						
pH	7.0800		pH Units	7.0000		101	90-110			

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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 BHE0179 - Wet Prep										
LCS (BHE0179-BS2)				Prepared & Analyzed: 05/09/2022						
pH	7.0900		pH Units	7.0000		101	90-110			
Duplicate (BHE0179-DUP1)		**Source: MHE0072-01**		Prepared & Analyzed: 05/09/2022						
pH	7.6100		pH Units		7.6600			0.655	20	
Duplicate (BHE0179-DUP2)		**Source: MHE0072-11**		Prepared & Analyzed: 05/09/2022						
pH	7.8000		pH Units		7.8100			0.128	20	
Duplicate (BHE0179-DUP3)		**Source: MHE0072-22**		Prepared & Analyzed: 05/09/2022						
pH	8.0800		pH Units		8.0400			0.496	20	
Batch BHE0203 - Wet Prep										
Blank (BHE0203-BLK1)				Prepared & Analyzed: 05/10/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHE0203-BS1)				Prepared & Analyzed: 05/10/2022						
Total Suspended Solids	90.000	5.00	mg/L	100.90		89.2	70-130			
Duplicate (BHE0203-DUP1)		**Source: MHE0072-13**		Prepared & Analyzed: 05/10/2022						
Total Suspended Solids	203.00	25.0	mg/L		193.00			5.05	20	
Duplicate (BHE0203-DUP2)		**Source: MHE0072-14**		Prepared & Analyzed: 05/10/2022						
Total Suspended Solids	0.50000	12.5	mg/L		0.40000			22.2	20	M_D-RL, M_ES
Batch BHE0204 - Wet Prep										
Blank (BHE0204-BLK1)				Prepared & Analyzed: 05/10/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							

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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 BHE0204 - Wet Prep										
LCS (BHE0204-BS1)				Prepared & Analyzed: 05/10/2022						
Total Dissolved Solids	94.000	25.0	mg/L	105.10		89.4	70-130			
Duplicate (BHE0204-DUP1)		**Source: MHE0072-13**		Prepared & Analyzed: 05/10/2022						
Total Dissolved Solids	252.00	25.0	mg/L		298.00			16.7	20	
Duplicate (BHE0204-DUP2)		**Source: MHE0072-14**		Prepared & Analyzed: 05/10/2022						
Total Dissolved Solids	302.00	25.0	mg/L		304.00			0.660	20	
Batch BHE0597 - Wet Prep										
LCS (BHE0597-BS1)				Prepared & Analyzed: 05/27/2022						
pH	7.0800		pH Units	7.0000		101	90-110			
LCS (BHE0597-BS2)				Prepared & Analyzed: 05/27/2022						
pH	7.0900		pH Units	7.0000		101	90-110			
Duplicate (BHE0597-DUP1)		**Source: MHE0281-01**		Prepared & Analyzed: 05/27/2022						
pH	8.6400		pH Units		8.6600			0.231	20	
Batch BHE0619 - Wet Prep										
Blank (BHE0619-BLK1)				Prepared & Analyzed: 05/31/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHE0619-BS1)				Prepared & Analyzed: 05/31/2022						
Total Suspended Solids	90.000	5.00	mg/L	100.90		89.2	70-130			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0619 - Wet Prep										
Duplicate (BHE0619-DUP1)		**Source: MHE0280-02**		Prepared & Analyzed: 05/31/2022						
Total Suspended Solids	1.0000	12.5	mg/L		0.80000			22.2	20	M_D-RL, M_ES
Batch BHE0620 - Wet Prep										
Blank (BHE0620-BLK1)				Prepared & Analyzed: 05/31/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHE0620-BS1)				Prepared & Analyzed: 05/31/2022						
Total Dissolved Solids	96.000	25.0	mg/L	105.10		91.3	70-130			
Duplicate (BHE0620-DUP1)		**Source: MHE0280-02**		Prepared & Analyzed: 05/31/2022						
Total Dissolved Solids	340.00	25.0	mg/L		348.00			2.33	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0173 - EPA 200.2, EPA 3005										
Blank (BHE0173-BLK1)				Prepared: 05/09/2022 Analyzed: 05/10/2022						
Cadmium	<0.100	0.100	ug/L							
Arsenic	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Antimony	<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							
Lead	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
LCS (BHE0173-BS1)				Prepared: 05/09/2022 Analyzed: 05/10/2022						
Thallium	93.945	0.500	ug/L	100.00		93.9	85-115			
Arsenic	97.362	0.500	ug/L	100.00		97.4	85-115			
Beryllium	96.547	0.500	ug/L	100.00		96.5	85-115			
Cobalt	97.073	0.500	ug/L	100.00		97.1	85-115			
Barium	97.606	0.500	ug/L	100.00		97.6	85-115			
Cadmium	97.687	0.100	ug/L	100.00		97.7	85-115			
Lead	93.791	0.500	ug/L	100.00		93.8	85-115			
Selenium	95.254	0.500	ug/L	100.00		95.3	85-115			
Antimony	97.180	0.500	ug/L	100.00		97.2	85-115			
Chromium	98.441	0.500	ug/L	100.00		98.4	85-115			
Molybdenum	97.947	0.500	ug/L	100.00		97.9	85-115			
Duplicate (BHE0173-DUP1)		**Source: MHE0049-07**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chromium	0.95728	0.500	ug/L		0.86110			10.6	20	
Arsenic	0.41292	0.500	ug/L		0.39798			3.69	20	
Thallium	0.066516	0.500	ug/L		<0.500				20	
Selenium	0.60903	0.500	ug/L		0.57354			6.00	20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	0.66256	0.500	ug/L		0.57365			14.4	20	
Cobalt	0.069844	0.500	ug/L		0.058403			17.8	20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Barium	48.020	0.500	ug/L		46.131			4.01	20	
Beryllium	0.095465	0.500	ug/L		<0.500				20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0173 - EPA 200.2, EPA 3005										
Matrix Spike (BHE0173-MS1)		**Source: MHE0049-07**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Thallium	93.305	0.500	ug/L	100.00	<0.500	93.3	75-125			
Barium	150.07	0.500	ug/L	100.00	46.131	104	75-125			
Cadmium	95.794	0.100	ug/L	100.00	<0.100	95.8	75-125			
Cobalt	96.323	0.500	ug/L	100.00	0.058403	96.3	75-125			
Molybdenum	104.01	0.500	ug/L	100.00	0.57365	103	75-125			
Chromium	100.28	0.500	ug/L	100.00	0.86110	99.4	75-125			
Beryllium	99.160	0.500	ug/L	100.00	<0.500	99.2	75-125			
Arsenic	103.09	0.500	ug/L	100.00	0.39798	103	75-125			
Lead	90.516	0.500	ug/L	100.00	<0.500	90.5	75-125			
Antimony	101.87	0.500	ug/L	100.00	<0.500	102	75-125			
Selenium	98.725	0.500	ug/L	100.00	0.57354	98.2	75-125			
Matrix Spike Dup (BHE0173-MSD1)		**Source: MHE0049-07**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Cadmium	98.645	0.100	ug/L	100.00	<0.100	98.6	75-125	2.93	20	
Chromium	104.24	0.500	ug/L	100.00	0.86110	103	75-125	3.87	20	
Lead	90.671	0.500	ug/L	100.00	<0.500	90.7	75-125	0.171	20	
Molybdenum	102.51	0.500	ug/L	100.00	0.57365	102	75-125	1.45	20	
Cobalt	100.25	0.500	ug/L	100.00	0.058403	100	75-125	4.00	20	
Antimony	100.67	0.500	ug/L	100.00	<0.500	101	75-125	1.18	20	
Barium	147.45	0.500	ug/L	100.00	46.131	101	75-125	1.76	20	
Arsenic	101.97	0.500	ug/L	100.00	0.39798	102	75-125	1.09	20	
Beryllium	97.992	0.500	ug/L	100.00	<0.500	98.0	75-125	1.18	20	
Thallium	92.972	0.500	ug/L	100.00	<0.500	93.0	75-125	0.358	20	
Selenium	96.837	0.500	ug/L	100.00	0.57354	96.3	75-125	1.93	20	
Batch BHE0199 - EPA 200.2, EPA 3005										
Blank (BHE0199-BLK1)				Prepared: 05/09/2022 Analyzed: 05/10/2022						
Selenium	<0.500	0.500	ug/L							
Lead	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0199 - EPA 200.2, EPA 3005										
LCS (BHE0199-BS1)				Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chromium	96.322	0.500	ug/L	100.00		96.3	85-115			
Arsenic	98.327	0.500	ug/L	100.00		98.3	85-115			
Barium	98.069	0.500	ug/L	100.00		98.1	85-115			
Cadmium	94.431	0.100	ug/L	100.00		94.4	85-115			
Beryllium	96.766	0.500	ug/L	100.00		96.8	85-115			
Lead	95.089	0.500	ug/L	100.00		95.1	85-115			
Selenium	94.627	0.500	ug/L	100.00		94.6	85-115			
Molybdenum	100.27	0.500	ug/L	100.00		100	85-115			
Thallium	93.995	0.500	ug/L	100.00		94.0	85-115			
Cobalt	95.207	0.500	ug/L	100.00		95.2	85-115			
Antimony	98.815	0.500	ug/L	100.00		98.8	85-115			
Duplicate (BHE0199-DUP1)		**Source: MHE0072-18**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Thallium	0.060411	0.500	ug/L		<0.500				20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Cobalt	0.12183	0.500	ug/L		0.11728			3.81	20	
Chromium	0.58485	0.500	ug/L		0.92570			45.1	20	M_D
Beryllium	0.075460	0.500	ug/L		<0.500				20	
Molybdenum	0.84681	0.500	ug/L		0.74701			12.5	20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Barium	50.549	0.500	ug/L		49.687			1.72	20	
Arsenic	1.3526	0.500	ug/L		1.3245			2.10	20	
Selenium	<0.500	0.500	ug/L		<0.500				20	
Matrix Spike (BHE0199-MS1)		**Source: MHE0072-18**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Lead	88.629	0.500	ug/L	100.00	<0.500	88.6	75-125			
Chromium	101.70	0.500	ug/L	100.00	0.92570	101	75-125			
Cadmium	98.387	0.100	ug/L	100.00	<0.100	98.4	75-125			
Thallium	90.762	0.500	ug/L	100.00	<0.500	90.8	75-125			
Cobalt	98.827	0.500	ug/L	100.00	0.11728	98.7	75-125			
Antimony	99.582	0.500	ug/L	100.00	<0.500	99.6	75-125			
Selenium	92.919	0.500	ug/L	100.00	<0.500	92.9	75-125			
Beryllium	96.376	0.500	ug/L	100.00	<0.500	96.4	75-125			
Barium	150.86	0.500	ug/L	100.00	49.687	101	75-125			
Molybdenum	100.87	0.500	ug/L	100.00	0.74701	100	75-125			
Arsenic	103.44	0.500	ug/L	100.00	1.3245	102	75-125			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0199 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BHE0199-MSD1)		**Source: MHE0072-18**		Prepared: 05/09/2022 Analyzed: 05/10/2022						
Chromium	101.23	0.500	ug/L	100.00	0.92570	100	75-125	0.464	20	
Cadmium	96.775	0.100	ug/L	100.00	<0.100	96.8	75-125	1.65	20	
Lead	89.061	0.500	ug/L	100.00	<0.500	89.1	75-125	0.486	20	
Beryllium	95.932	0.500	ug/L	100.00	<0.500	95.9	75-125	0.462	20	
Thallium	90.968	0.500	ug/L	100.00	<0.500	91.0	75-125	0.227	20	
Arsenic	102.24	0.500	ug/L	100.00	1.3245	101	75-125	1.17	20	
Cobalt	95.981	0.500	ug/L	100.00	0.11728	95.9	75-125	2.92	20	
Barium	148.60	0.500	ug/L	100.00	49.687	98.9	75-125	1.51	20	
Selenium	95.142	0.500	ug/L	100.00	<0.500	95.1	75-125	2.36	20	
Antimony	98.475	0.500	ug/L	100.00	<0.500	98.5	75-125	1.12	20	
Molybdenum	99.426	0.500	ug/L	100.00	0.74701	98.7	75-125	1.44	20	
Batch BHF0010 - EPA 200.2, EPA 3005										
Blank (BHF0010-BLK1)				Prepared: 06/02/2022 Analyzed: 06/06/2022						
Lead	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHF0010 - EPA 200.2, EPA 3005										
LCS (BHF0010-BS1)				Prepared: 06/02/2022 Analyzed: 06/06/2022						
Barium	100.88	0.500	ug/L	100.00		101	85-115			
Selenium	97.592	0.500	ug/L	100.00		97.6	85-115			
Antimony	97.789	0.500	ug/L	100.00		97.8	85-115			
Chromium	102.97	0.500	ug/L	100.00		103	85-115			
Lead	99.893	0.500	ug/L	100.00		99.9	85-115			
Arsenic	96.702	0.500	ug/L	100.00		96.7	85-115			
Cadmium	98.819	0.100	ug/L	100.00		98.8	85-115			
Molybdenum	100.15	0.500	ug/L	100.00		100	85-115			
Beryllium	100.93	0.500	ug/L	100.00		101	85-115			
Cobalt	102.43	0.500	ug/L	100.00		102	85-115			
Thallium	101.24	0.500	ug/L	100.00		101	85-115			
Duplicate (BHF0010-DUP1)		**Source: MHE0281-02**		Prepared: 06/02/2022 Analyzed: 06/06/2022						
Arsenic	0.91308	0.500	ug/L		1.0119			10.3	20	
Cobalt	0.10212	0.500	ug/L		0.097902			4.22	20	
Beryllium	0.091930	0.500	ug/L		<0.500				20	
Barium	67.730	0.500	ug/L		69.740			2.93	20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Antimony	0.29837	0.500	ug/L		0.25631			15.2	20	
Selenium	12.326	0.500	ug/L		12.453			1.03	20	
Molybdenum	35.864	0.500	ug/L		36.754			2.45	20	
Chromium	3.9197	0.500	ug/L		3.9660			1.17	20	
Thallium	0.044185	0.500	ug/L		<0.500				20	
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Matrix Spike (BHF0010-MS1)		**Source: MHE0281-02**		Prepared: 06/02/2022 Analyzed: 06/06/2022						
Molybdenum	137.86	0.500	ug/L	100.00	36.754	101	75-125			
Selenium	114.18	0.500	ug/L	100.00	12.453	102	75-125			
Chromium	108.80	0.500	ug/L	100.00	3.9660	105	75-125			
Thallium	91.503	0.500	ug/L	100.00	<0.500	91.5	75-125			
Cobalt	102.38	0.500	ug/L	100.00	0.097902	102	75-125			
Antimony	97.839	0.500	ug/L	100.00	0.25631	97.6	75-125			
Barium	171.10	0.500	ug/L	100.00	69.740	101	75-125			
Cadmium	95.091	0.100	ug/L	100.00	<0.100	95.1	75-125			
Lead	88.264	0.500	ug/L	100.00	<0.500	88.3	75-125			
Arsenic	105.11	0.500	ug/L	100.00	1.0119	104	75-125			
Beryllium	93.769	0.500	ug/L	100.00	<0.500	93.8	75-125			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHF0010 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BHF0010-MSD1)		**Source: MHE0281-02**		Prepared: 06/02/2022 Analyzed: 06/06/2022						
Arsenic	105.09	0.500	ug/L	100.00	1.0119	104	75-125	0.0171	20	
Cobalt	101.90	0.500	ug/L	100.00	0.097902	102	75-125	0.472	20	
Barium	172.61	0.500	ug/L	100.00	69.740	103	75-125	0.878	20	
Cadmium	93.570	0.100	ug/L	100.00	<0.100	93.6	75-125	1.61	20	
Lead	88.406	0.500	ug/L	100.00	<0.500	88.4	75-125	0.161	20	
Selenium	113.95	0.500	ug/L	100.00	12.453	101	75-125	0.203	20	
Thallium	90.949	0.500	ug/L	100.00	<0.500	90.9	75-125	0.607	20	
Antimony	98.822	0.500	ug/L	100.00	0.25631	98.6	75-125	0.999	20	
Chromium	108.58	0.500	ug/L	100.00	3.9660	105	75-125	0.201	20	
Molybdenum	137.47	0.500	ug/L	100.00	36.754	101	75-125	0.282	20	
Beryllium	93.114	0.500	ug/L	100.00	<0.500	93.1	75-125	0.701	20	
Batch BHF0031 - EPA 200.2, EPA 3005										
Blank (BHF0031-BLK1)				Prepared: 06/02/2022 Analyzed: 06/06/2022						
Antimony	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Cadmium	<0.100	0.100	ug/L							
Cobalt	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Lead	<0.500	0.500	ug/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHF0031 - EPA 200.2, EPA 3005										
LCS (BHF0031-BS1)				Prepared: 06/02/2022 Analyzed: 06/06/2022						
Beryllium	96.643	0.500	ug/L	100.00		96.6	85-115			
Selenium	98.157	0.500	ug/L	100.00		98.2	85-115			
Lead	96.890	0.500	ug/L	100.00		96.9	85-115			
Cadmium	98.805	0.100	ug/L	100.00		98.8	85-115			
Chromium	102.23	0.500	ug/L	100.00		102	85-115			
Arsenic	94.773	0.500	ug/L	100.00		94.8	85-115			
Cobalt	100.45	0.500	ug/L	100.00		100	85-115			
Thallium	97.897	0.500	ug/L	100.00		97.9	85-115			
Barium	98.261	0.500	ug/L	100.00		98.3	85-115			
Antimony	96.147	0.500	ug/L	100.00		96.1	85-115			
Molybdenum	99.776	0.500	ug/L	100.00		99.8	85-115			
Duplicate (BHF0031-DUP1)		**Source: MHE0280-02**		Prepared: 06/02/2022 Analyzed: 06/06/2022						
Antimony	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	0.73479	0.500	ug/L		0.92877			23.3	20	M_D
Cadmium	<0.100	0.100	ug/L		<0.100				20	
Chromium	9.3643	0.500	ug/L		9.2153			1.60	20	
Beryllium	0.070437	0.500	ug/L		<0.500				20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Thallium	0.039997	0.500	ug/L		<0.500				20	
Barium	49.573	0.500	ug/L		48.543			2.10	20	
Cobalt	0.28440	0.500	ug/L		0.28720			0.981	20	
Arsenic	0.46634	0.500	ug/L		0.54921			16.3	20	
Selenium	8.0093	0.500	ug/L		7.9904			0.235	20	
Matrix Spike (BHF0031-MS1)		**Source: MHE0280-02**		Prepared: 06/02/2022 Analyzed: 06/06/2022						
Cobalt	104.37	0.500	ug/L	100.00	0.28720	104	75-125			
Chromium	116.14	0.500	ug/L	100.00	9.2153	107	75-125			
Lead	93.383	0.500	ug/L	100.00	<0.500	93.4	75-125			
Beryllium	99.322	0.500	ug/L	100.00	<0.500	99.3	75-125			
Barium	149.95	0.500	ug/L	100.00	48.543	101	75-125			
Arsenic	101.29	0.500	ug/L	100.00	0.54921	101	75-125			
Selenium	106.42	0.500	ug/L	100.00	7.9904	98.4	75-125			
Molybdenum	102.69	0.500	ug/L	100.00	0.92877	102	75-125			
Cadmium	96.521	0.100	ug/L	100.00	<0.100	96.5	75-125			
Thallium	95.502	0.500	ug/L	100.00	<0.500	95.5	75-125			
Antimony	99.381	0.500	ug/L	100.00	<0.500	99.4	75-125			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHF0031 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BHF0031-MSD1)		**Source: MHE0280-02**		Prepared: 06/02/2022 Analyzed: 06/06/2022						
Chromium	121.07	0.500	ug/L	100.00	9.2153	112	75-125	4.16	20	
Beryllium	101.60	0.500	ug/L	100.00	<0.500	102	75-125	2.27	20	
Molybdenum	105.28	0.500	ug/L	100.00	0.92877	104	75-125	2.49	20	
Antimony	100.74	0.500	ug/L	100.00	<0.500	101	75-125	1.36	20	
Arsenic	102.59	0.500	ug/L	100.00	0.54921	102	75-125	1.28	20	
Thallium	96.591	0.500	ug/L	100.00	<0.500	96.6	75-125	1.13	20	
Selenium	107.32	0.500	ug/L	100.00	7.9904	99.3	75-125	0.846	20	
Barium	154.58	0.500	ug/L	100.00	48.543	106	75-125	3.04	20	
Cadmium	98.051	0.100	ug/L	100.00	<0.100	98.1	75-125	1.57	20	
Lead	93.956	0.500	ug/L	100.00	<0.500	94.0	75-125	0.612	20	
Cobalt	103.35	0.500	ug/L	100.00	0.28720	103	75-125	0.982	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0172 - EPA 200.2, EPA 3005										
Blank (BHE0172-BLK1)				Prepared: 05/07/2022 Analyzed: 05/11/2022						
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BHE0172-BS1)				Prepared: 05/07/2022 Analyzed: 05/11/2022						
Lithium	0.98063	0.0150	mg/L	1.0000		98.1	85-115			
Calcium	99.194	1.50	mg/L	100.00		99.2	85-115			
Boron	1.0046	0.0500	mg/L	1.0000		100	85-115			
Duplicate (BHE0172-DUP1)		**Source: MHE0049-01**		Prepared: 05/07/2022 Analyzed: 05/11/2022						
Boron	3.1090	0.0500	mg/L		3.1679			1.88	20	
Calcium	149.40	1.50	mg/L		151.41			1.34	20	
Lithium	0.010729	0.0150	mg/L		0.010605			1.16	20	
Duplicate (BHE0172-DUP2)		**Source: MHE0049-06**		Prepared: 05/07/2022 Analyzed: 05/11/2022						
Lithium	0.0050285	0.0150	mg/L		0.0043832			13.7	20	
Calcium	52.248	1.50	mg/L		55.747			6.48	20	
Boron	0.056383	0.0500	mg/L		0.069011			20.1	20	M_D
Matrix Spike (BHE0172-MS1)		**Source: MHE0049-01**		Prepared: 05/07/2022 Analyzed: 05/11/2022						
Calcium	247.29	1.50	mg/L	100.00	151.41	95.9	70-130			
Boron	4.1186	0.0500	mg/L	1.0000	3.1679	95.1	70-130			
Lithium	1.0255	0.0150	mg/L	1.0000	0.010605	101	70-130			
Matrix Spike (BHE0172-MS2)		**Source: MHE0049-06**		Prepared: 05/07/2022 Analyzed: 05/11/2022						
Lithium	1.0087	0.0150	mg/L	1.0000	0.0043832	100	70-130			
Boron	1.0786	0.0500	mg/L	1.0000	0.069011	101	70-130			
Calcium	158.14	1.50	mg/L	100.00	55.747	102	70-130			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0172 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BHE0172-MSD1)		**Source: MHE0049-01**		Prepared: 05/07/2022 Analyzed: 05/11/2022						
Boron	4.1837	0.0500	mg/L	1.0000	3.1679	102	70-130	1.57	20	
Calcium	250.73	1.50	mg/L	100.00	151.41	99.3	70-130	1.38	20	
Lithium	1.0586	0.0150	mg/L	1.0000	0.010605	105	70-130	3.18	20	
Matrix Spike Dup (BHE0172-MSD2)		**Source: MHE0049-06**		Prepared: 05/07/2022 Analyzed: 05/11/2022						
Boron	1.1183	0.0500	mg/L	1.0000	0.069011	105	70-130	3.61	20	
Lithium	1.0191	0.0150	mg/L	1.0000	0.0043832	101	70-130	1.03	20	
Calcium	159.37	1.50	mg/L	100.00	55.747	104	70-130	0.775	20	
Batch BHE0198 - EPA 200.2, EPA 3005										
Blank (BHE0198-BLK1)				Prepared: 05/09/2022 Analyzed: 05/11/2022						
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BHE0198-BS1)				Prepared: 05/09/2022 Analyzed: 05/11/2022						
Lithium	0.99609	0.0150	mg/L	1.0000		99.6	85-115			
Calcium	100.20	1.50	mg/L	100.00		100	85-115			
Boron	0.99905	0.0500	mg/L	1.0000		99.9	85-115			
Duplicate (BHE0198-DUP1)		**Source: MHE0072-17**		Prepared: 05/09/2022 Analyzed: 05/11/2022						
Boron	0.034914	0.0500	mg/L		0.035910			2.81	20	
Lithium	0.0062576	0.0150	mg/L		0.0077459			21.3	20	M_D-RL
Calcium	24.514	1.50	mg/L		24.981			1.89	20	
Matrix Spike (BHE0198-MS1)		**Source: MHE0072-17**		Prepared: 05/09/2022 Analyzed: 05/11/2022						
Lithium	1.0069	0.0150	mg/L	1.0000	0.0077459	99.9	70-130			
Calcium	125.73	1.50	mg/L	100.00	24.981	101	70-130			
Boron	1.0529	0.0500	mg/L	1.0000	0.035910	102	70-130			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0198 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BHE0198-MSD1)		**Source: MHE0072-17**		Prepared: 05/09/2022 Analyzed: 05/11/2022						
Lithium	1.0044	0.0150	mg/L	1.0000	0.0077459	99.7	70-130	0.250	20	
Boron	1.0408	0.0500	mg/L	1.0000	0.035910	100	70-130	1.16	20	
Calcium	125.20	1.50	mg/L	100.00	24.981	100	70-130	0.421	20	
Batch BHF0009 - EPA 200.2, EPA 3005										
Blank (BHF0009-BLK1)				Prepared: 06/02/2022 Analyzed: 06/07/2022						
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
Lithium	<0.0150	0.0150	mg/L							
LCS (BHF0009-BS1)				Prepared: 06/02/2022 Analyzed: 06/07/2022						
Lithium	1.0158	0.0150	mg/L	1.0000		102	85-115			
Calcium	101.33	1.50	mg/L	100.00		101	85-115			
Boron	0.97257	0.0500	mg/L	1.0000		97.3	85-115			
Duplicate (BHF0009-DUP1)		**Source: MHE0289-01**		Prepared: 06/02/2022 Analyzed: 06/07/2022						
Calcium	98.181	1.50	mg/L		99.121			0.954	20	
Lithium	0.045567	0.0150	mg/L		0.047425			4.00	20	
Boron	0.093559	0.0500	mg/L		0.093752			0.206	20	
Matrix Spike (BHF0009-MS1)		**Source: MHE0289-01**		Prepared: 06/02/2022 Analyzed: 06/07/2022						
Boron	1.0625	0.0500	mg/L	1.0000	0.093752	96.9	70-130			
Lithium	1.0522	0.0150	mg/L	1.0000	0.047425	100	70-130			
Calcium	201.99	1.50	mg/L	100.00	99.121	103	70-130			
Matrix Spike Dup (BHF0009-MSD1)		**Source: MHE0289-01**		Prepared: 06/02/2022 Analyzed: 06/07/2022						
Boron	1.0824	0.0500	mg/L	1.0000	0.093752	98.9	70-130	1.86	20	
Calcium	200.39	1.50	mg/L	100.00	99.121	101	70-130	0.794	20	
Lithium	1.0258	0.0150	mg/L	1.0000	0.047425	97.8	70-130	2.54	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHF0030 - EPA 200.2, EPA 3005										
Blank (BHF0030-BLK1)				Prepared: 06/02/2022 Analyzed: 06/07/2022						
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
Lithium	<0.0150	0.0150	mg/L							
LCS (BHF0030-BS1)				Prepared: 06/02/2022 Analyzed: 06/07/2022						
Boron	0.98675	0.0500	mg/L	1.0000		98.7	85-115			
Calcium	98.850	1.50	mg/L	100.00		98.9	85-115			
Lithium	0.97808	0.0150	mg/L	1.0000		97.8	85-115			
Duplicate (BHF0030-DUP1)			**Source: MHE0302-03**	Prepared: 06/02/2022 Analyzed: 06/07/2022						
Boron	0.074784	0.0500	mg/L		0.078436			4.77	20	
Lithium	0.031209	0.0150	mg/L		0.032874			5.19	20	
Calcium	70.417	1.50	mg/L		72.552			2.99	20	
Matrix Spike (BHF0030-MS1)			**Source: MHE0302-03**	Prepared: 06/02/2022 Analyzed: 06/07/2022						
Boron	1.0343	0.0500	mg/L	1.0000	0.078436	95.6	70-130			
Lithium	1.0134	0.0150	mg/L	1.0000	0.032874	98.1	70-130			
Calcium	166.71	1.50	mg/L	100.00	72.552	94.2	70-130			
Matrix Spike Dup (BHF0030-MSD1)			**Source: MHE0302-03**	Prepared: 06/02/2022 Analyzed: 06/06/2022						
Calcium	168.04	1.50	mg/L	100.00	72.552	95.5	70-130	0.795	20	
Boron	0.98651	0.0500	mg/L	1.0000	0.078436	90.8	70-130	4.73	20	
Lithium	1.0312	0.0150	mg/L	1.0000	0.032874	99.8	70-130	1.75	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Mercury - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0148 - EPA 245.1, EPA 7470A										
Blank (BHE0148-BLK1)				Prepared & Analyzed: 05/09/2022						
Mercury	<0.200	0.200	ug/L							
LCS (BHE0148-BS1)				Prepared & Analyzed: 05/09/2022						
Mercury	2.7048	0.200	ug/L	3.0000		90.2	85-115			
Duplicate (BHE0148-DUP1)		**Source: MHE0049-23**		Prepared & Analyzed: 05/09/2022						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Duplicate (BHE0148-DUP2)		**Source: MHE0049-24**		Prepared & Analyzed: 05/09/2022						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BHE0148-MS1)		**Source: MHE0049-23**		Prepared & Analyzed: 05/09/2022						
Mercury	2.6383	0.200	ug/L	3.0000	<0.200	87.9	70-130			
Matrix Spike (BHE0148-MS2)		**Source: MHE0049-24**		Prepared & Analyzed: 05/09/2022						
Mercury	2.6540	0.200	ug/L	3.0000	<0.200	88.5	70-130			
Matrix Spike Dup (BHE0148-MSD1)		**Source: MHE0049-23**		Prepared & Analyzed: 05/09/2022						
Mercury	2.5878	0.200	ug/L	3.0000	<0.200	86.3	70-130	1.93	20	
Matrix Spike Dup (BHE0148-MSD2)		**Source: MHE0049-24**		Prepared & Analyzed: 05/09/2022						
Mercury	2.6223	0.200	ug/L	3.0000	<0.200	87.4	70-130	1.20	20	
Batch BHE0554 - EPA 245.1, EPA 7470A										
Blank (BHE0554-BLK1)				Prepared & Analyzed: 06/01/2022						
Mercury	<0.200	0.200	ug/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

Mercury - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHE0554 - EPA 245.1, EPA 7470A										
LCS (BHE0554-BS1)				Prepared & Analyzed: 06/01/2022						
Mercury	2.7391	0.200	ug/L	3.0000		91.3	85-115			
Duplicate (BHE0554-DUP1)		**Source: MHE0280-01**		Prepared & Analyzed: 06/01/2022						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BHE0554-MS1)		**Source: MHE0280-01**		Prepared & Analyzed: 06/01/2022						
Mercury	2.6159	0.200	ug/L	3.0000	<0.200	87.2	70-130			
Matrix Spike Dup (BHE0554-MSD1)		**Source: MHE0280-01**		Prepared & Analyzed: 06/01/2022						
Mercury	2.6821	0.200	ug/L	3.0000	<0.200	89.4	70-130	2.50	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	06/09/2022 10:41

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_ES	The reported value is an estimate. The amount of residue measured during analysis was outside of 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.
M_DIL	Sample was diluted. The MDL and MRL were raised due to the dilution.
M_D	The RPD for the sample duplicate was outside of QC acceptance limits possibly due to non-homogeneous matrix.
Z	Non Accredited Analyte
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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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:	Brad Jacobson	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Brad Jacobson	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Brad 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	COLLECTED 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
1	P-01A-2	WT	G			5/3/22	1415										
2	P-03A	WT	G			5/4/22	1150										
3	P-03B	WT	G			5/4/22	1120										
4	P-04A -1	WT	G			5/4/22	1035										
5	P-05A -1	WT	G			5/4/22	1330										
6	P-17	WT	G			5/4/22	1320										
7	P-22	WT	G			5/4/22	1000										
8	P-23	WT	G			5/4/22	0950										
9	P-42	WT	G														
10	P-43	WT	G														
11	P-50	WT	G			5/3/22	1255										
12	P-50B	WT	G			5/3/22	1325										

Requested Analysis:

ITEM #	GW-CCR	GW-CCR-BAP2	GW-D		(Report) BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	X		X			X	X			
2		~~X~~	X			X				
3		~~X~~	X			X				
4		~~X~~	X			X				
5			X			X				
6	X				X					
7	X		X			X	X			
8	X		X			X	X			
9										
10										
11			X			X				
12			X			X				

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pHstrips: MH00112e
Temp MH00841: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] / Pace	5/5/22	0730	[signature] / Xcel	5/5/22	0730	1.3	Y/N (N circled)	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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/4/22

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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.

Page: 1 o 6

Section A **Required** Client Information:		Section B **Required** Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Brad Jacobson	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Brad Jacobson	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Brad 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
	WP
	AR
	OT
	TS

Filtered (Y/N)

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	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis:	GW-CCR	GW-CCR-BAP2	GW-D			(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-01A-2	WT	G				(1)																					
2	P-03A	WT	G				(1)																					
3	P-03B	WT	G				(1)																					
4	P-04A -1	WT	G				(1)																					
5	P-05A -1	WT	G				(1)																					
6	P-17	WT	G				(1)																					
7	P-22	WT	G				(1)																					
8	P-23	WT	G				(1)																					
9	P-42	WT	G			5/5/22	1010														X		X					
10	P-43	WT	G			5/5/22	0900														X		X					
11	P-50	WT	G				(1)																					
12	P-50B	WT	G				(1)																					

Additional Comments:

~~**All Metals Are Field Filtered Except Leachate~~ [initials] 5/6/22

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] Pace	5/6/22	1500	[signature]	5/6/22	1500	5.2	(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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/6/22

(1) Dropped off 5/5/22 by KCM

IR Gun M400841

pH strips MH00136

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

Xcel Energy®

Nº 284537

Chain of Custody

Amarillo Testing Laboratory
7201 N. Lakeside Road, Amarillo, TX 79108
Phone (806) 381-6461 – Fax (806) 381-6468

Denver Testing Laboratory
9500 Interstate 76, Henderson, CO 80640
Phone (303) 628-2606 – Fax (303) 628-2926

Minneapolis Testing Laboratory
1518 Chestnut Avenue North, Minneapolis, MN 55403
Phone (612) 630-4506 – Fax (612) 630-4367

Facility/Project/Location: Sherco Ponds Spring 2022 Mon.
Project Manager/Requestor: Eric Ealy / David Katzner
Phone #/E-mail Address: david.katzner@xcelenergy.com
Sampled By (print/signature): David Katzner
Copies of Report to: Eric Ealy / David Katzner
LSR #:

**LIMS ID	Sample ID/Location	Date	Time	Safety Related (Nuclear)	Matrix	Preservative	# of Containers	Volume/Amount	Analyses: Anions:	Wet Chem.:	Metals:	PCBs	Oil Testing: (Comp)	DGA Furans (circle selection(s))	Fuels:	Asbestos:	GW-CCR				** Sample Temperature ° C	** Sample pH
	P-163	5/26/22	1430				4										X					
	D-164	"	1520				4										X					

Relinquished by:	Date/Time	Received by:	Date/Time	Comments:
David Katzner	5-26-2022 1615		5/27/22 @ 06:30	Read on ice In walk-in cooler pH strips: MH001136 Temp: 4.5°C MH00841
Relinquished by:	Date/Time	Received by:	Date/Time	
Relinquished by:	Date/Time	Received by:	Date/Time	

Distribution: White: Return Original (electronic or hard copy) to Project Manager with Analytical Results; **Canary:** Laboratory; **Pink**: Generator's Copy
Matrix: **(W)** Water **(S** Solid **(SL)** Sludge **(O)** Other (Specify) **Preservative**: **(I)** Ice **(N)** Nitric Acid **(S)** Sulfuric Acid **(H)** Hydrochloric Acid **(D)** Sodium Hydroxide **(X)** Other (Specify)
(F)filtered **(F15)** filtered within 15 minutes (O-PO4)
Note: ** - indicates lab use only

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

Requested Analysis: Filtered (Y/N); GW-CCR; GW-CCR-BAP2; GW-D; (REPORT) NPDES; (REPORT) CCR-BAP; (REPORT) CCR-P3; Residual Chlorine (Y/N)

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	GW-D	(REPORT) NPDES	Pace Project No. Lab I.D.
1	P-50D	WT	G			5/3/22	1225			X	X	
2	P-56	WT	G									
3	P-60	WT	G									
4	P-62	WT	G									
5	P-66	WT	G									
6	P-88	WT	G									
7	P-89-1	WT	G									
8	P-90	WT	G			5/2/22	1205			X	X	
9	P-90A	WT	G			5/2/22	1240			X	X	
10	P-92A	WT	G			5/3/22	1040			X	X	
11	P-92D	WT	G			5/3/22	1010			X	X	
12	P-93A	WT	G			5/3/22	1130			X	X	

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pH Strips: MHou13p
Tip rdw541: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
KD / Pace	5/5/22	0730	H / Xcel	5/5/22	0730	1.3	Y/N (circled)	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 & Kendra Moran
SIGNATURE of SAMPLER: [signature] + [signature]
DATE Signed (MM / DD / YY): 5/4/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B
Required Project Information:

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

Section C
Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	COLLECTED 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-CCR	GW-CCR-BAP2	GW-D			(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-50D	WT	G				①											~~X~~	~~X~~	~~X~~							
2	P-56	WT	G			5/6/22	1300													X			X				
3	P-60	WT	G			5/6/22	0920													X			X				
4	P-62	WT	G			5/6/22	1230													X			X				
5	P-66	WT	G			5/5/22	0935													X			X				
6	P-88	WT	G			5/5/22	1605													X			X				
7	P-89-1	WT	G			5/5/22	1430													X			X				
8	P-90	WT	G				①																				
9	P-90A	WT	G				①																				
10	P-92A	WT	G				①																				
11	P-92D	WT	G				①																				
12	P-93A	WT	G				①																				

Additional Comments:

~~**All Metals Are Field Filtered Except Leachate~~
(Rejects) 5/6/22

① Dropped off 5/5/22 by KCM
Temp M40084: 5.2
pH strips: MHA0112

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Riley J. Pace	5/6/22	1500	[signature]	5/6/22	1500	5.2	Ⓨ/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 + Kendra Moran
SIGNATURE of SAMPLER: [signatures]
DATE Signed (MM / DD / YY): 5/6/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

Filtered (Y/N)

Requested Analysis:

Pace Project No. / Lab I.D.

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	GW-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-93D	WT	G																						
2	P-94A	WT	G																						
3	P-101A	WT	G																						
4	P-101B	WT	G																						
5	P-126	WT	G			5/4/22	1225												X		X				
6	P-126D	WT	G			5/4/22	1255												X		X				
7	P-127	WT	G			5/4/22	1440												X		X				
8	P-128	WT	G			5/4/22	1515												X		X				
9	P-128D	WT	G			5/4/22	1545												X		X				
10	P-129	WT	G			5/4/22	1405												X		X				
11	P-130	WT	G																						
12	P-130D	WT	G																						

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pH strips: MH00136
Temp MH00941: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[illegible] Pace	5/5/22	0730	[illegible] Xcel	5/5/22	0730

SAMPLE CONDITIONS				
1.3	NC	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	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 / Kendra Moran
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 5/4/22

CHAIN-OF-CUSTODY / Analytical Request Document

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Pace Analytical™ www.pacelabs.com

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Brad Jacobson	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Brad Jacobson	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Brad 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-CCR	GW-CCR-BAP2	GW-D			(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-93D	WT	G				(1)																	`				
2	P-94A	WT	G			5/5/22	1520														X			X				
3	P-101A	WT	G			5/6/22	1045														X			X				
4	P-101B	WT	G			5/6/22	1105														X			X				
5	P-126	WT	G				(1)																					
6	P-126D	WT	G				(1)																					
7	P-127	WT	G				(1)																					
8	P-128	WT	G				(1)																					
9	P-128D	WT	G				(1)																					
10	P-129	WT	G				(1)																					
11	P-130	WT	G			5/6/22	1005												X		X		~~X~~	X		X		
12	P-130D	WT	G			5/5/22	1240														X		~~X~~	X				

Additional Comments:

~~**All Metals Are Field Filtered Except Leachate~~ RJ 5/6/22

(1) Dropped off by KCM 5/5/22

pH strip's: MH001310
Temp MY00341 : 5.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] Pace	5/6/22	1500	[signature]	5/6/22	1500	5.2	(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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature]

DATE Signed (MM / DD / YY): 5/6/22

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:	Brad Jacobson	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Brad Jacobson	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Brad 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; WP; AR; OT; TS

Filtered (Y/N)

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-CCR	GW-CCR-BAP2	GW-D		(Report) BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-131	WT	G																								
2	P-131D	WT	G																								
3	P-132	WT	G			5/4/22	1435											X		X			X		X		
4	P-150	WT	G																								
5	P-151	WT	G																								
6	P-152A	WT	G																								
7	P-153	WT	G																								
8	P-154A	WT	G																								
9	P-155	WT	G			5/3/22	1525											X						X			
10	P-156	WT	G			5/3/22	1325											X						X			
11	P-157	WT	G			5/4/22	1020											Y						X			
12	P-158	WT	G			5/4/22	1140											X	X			X		X			

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pit strip: MPHDD 136
Typ MMW841: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
[signature] / Pace	5/5/22	0730	HS / Xcel	5/5/22	0730	1.3	(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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/4/22

CHAIN-OF-CUSTODY / Analytical Request Document

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

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www.pacelabs.com

Section A
Required Client Information:

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

Section B
Required Project Information:

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

Section C
Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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-CCR	GW-CCR-BAP2	GW-D			(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-131	WT	G			5/5/22	1050											X		X			X		X		
2	P-131D	WT	G			5/5/22	1045													X			X				
3	P-132	WT	G				①																				
4	② ~~P-150~~	~~WT~~	G																								
5	P-151	WT	G			5/5/22	1125											X							X		
6	② ~~P-152A~~	WT	G																								
7	P-153	WT	G			5/5/22	1220											X							X		
8	P-154A	WT	G			5/5/22	1330											X							X		
9	P-155	WT	G				①																				
10	P-156	WT	G				①																				
11	P-157	WT	G				①																				
12	P-158	WT	G				①																				

Additional Comments:

~~*All Metals Are Field Filtered Except Leachate~~
RERes 5/6/22

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] Pace	5/6/22	1500	[signature]	5/6/22	1500

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
5.2	Ⓨ/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 + Carlin Moran
SIGNATURE of SAMPLER: [signature] + [signature]
DATE Signed (MM / DD / YY): 5/6/22

① Dropped off by KCM 5/5/22
② Insufficient Vol. to Collect / NO SAMPLE - RCJ 5/5/22
pH strips: MH00136 Temp: MH00841 : 5.2°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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B — Required Project Information:

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

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

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	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-CCR	GW-CCR-BAP2	GW-D	(Perc + TSAP2)	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-162	WT	G																									
2	P-163	WT	G																									
3	P-164	WT	G																									
4	P-165	WT	G																									
5	P-173	WT	G			5/3/22	0945												X		X							
6	P-174	WT	G			5/3/22	1040												X		X							
7	P-175	WT	G			5/3/22	1125												X		X							
8	P-176	WT	G			5/4/22	1045												X		X							
9	P-177	WT	G			5/4/22	1220												X		X							
10	P-178A	WT	G			5/4/22	1355																					
11	P-178B	WT	G																									
12	P-179A	WT	G			5/3/22	1430													X		X						

Additional Comments:

**All Metals Are Field Filtered Except Leachate

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] / Pace	5/5/22	0730	[signature] / Xcel	5/5/22	0730

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
1.3	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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/4/22

Hotstrip: MH001360
Temp MH00841: 1.3°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:	Brad Jacobson	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Brad Jacobson	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Brad 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: MATRIX / CODE — 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	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-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-162	WT	G			5/5/22	1425											X					X		
2	~~P-163~~ NO SAMPLE COLLECTED (2)	WT	G																						
3	~~P-164~~ NO SAMPLE COLLECTED	WT	G																						
4	P-165	WT	G			5/6/22	0905											X					X		
5	P-173	WT	G				(1)																		
6	P-174	WT	G				(1)																		
7	P-175	WT	G				(1)																		
8	P-176	WT	G				(1)																		
9	P-177	WT	G				(1)																		
10	P-178A	WT	G				(1)																		
11	P-178B	WT	G			5/6/22	1150													X		X			
12	P-179A	WT	G				(1)																		

Additional Comments:

**~~All Metals Are Field Filtered Except Leachate~~
(RW) 5/6/22 RW

(1) Dropped of 5/5/22 by KCM

(2) NO SAMPLE - RW 5/6/22

pH Strip # HH00136
Temp Gun 841: 5.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	5/6/22	1500		5/6/22	1500

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
5.2	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 + Karla Moran

SIGNATURE of SAMPLER: Riley Jacobson + KM — DATE Signed (MM / DD / YY): 5/6/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	Filtered (Y/N)	Requested Analysis: GW-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-179D	WT	G			5/3/22	1400													X		X					
2	P-180A	WT	G			5/3/22	1535													X		X					
3	P-180D	WT	G			5/3/22	1505													X		X					
4	Duplicate NPDES	WT	G			5/3/22	1010													X		X					
5	Rinse NPDES	WT	G			5/3/22	1015													X		X					
6	Duplicate BAP	WT	G			5/4/22	1020													X				X			
7	Rinse BAP	WT	G			5/4/22	1000													X				X			
8	Duplicate BAP2	WT	G			5/3/22	0945														X		X				
9	Rinse BAP2	WT	G			5/3/22	0920														X		X				
10	Duplicate P3	WT	G																								
11	Rinse P3	WT	G																								
12																											

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pH strips: M House
Temp MH00841: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
MD / Pace	5/5/22	0730	MD / Xcel	5/5/22	0730

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
1.3	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
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 5/4/22

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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:	Brad Jacobson	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Brad Jacobson	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Brad 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: MATRIX / CODE — 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	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-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-179D	WT	G				(1)																				
2	P-180A	WT	G				(1)																				
3	P-180D	WT	G				(1)																				
4	Duplicate NPDES	WT	G				(1)																				
5	Rinse NPDES	WT	G				(1)																				
6	Duplicate BAP	WT	G				(1)																				
7	Rinse BAP	WT	G				(1)																				
8	Duplicate BAP2	WT	G				(1)																				
9	Rinse BAP2	WT	G				(1)																				
10	Duplicate P3	WT	G			5/5/22	1330												X					X			
11	Rinse P3	WT	G			5/5/22	1250												X					X			
12																											

Additional Comments:

**All Metals Are Field Filtered Except Leachate
(RJ) 5/6/22

(1) Dropped off 5/5/22 by KM

pH Strips: Millipore Type M 400841.5.2

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Pace	5/6/22	1500		5/6/22	1500	5.2	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 / Kendra Mason

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY): 5/6/22

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:

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

Section B
Required Project Information:

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

Section C
Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	COLLECTED 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-CCR	GW-CCR-BAP2	GW-D	(Report) BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-01A-2	WT	G			5/3/22	1415											X		X		X	X			
2	P-03A	WT	G			5/4/22	1150												~~X~~	X		X				
3	P-03B	WT	G			5/4/22	1120												~~X~~	X		X				
4	P-04A -1	WT	G			5/4/22	1035												~~X~~	X		X				
5	P-05A -1	WT	G			5/4/22	1330													X		X				
6	P-17	WT	G			5/4/22	1320											X			X					
7	P-22	WT	G			5/4/22	1000											X		X		X	X			
8	P-23	WT	G			5/4/22	0950											X		X		X	X			
9	P-42	WT	G																							
10	P-43	WT	G																							
11	P-50	WT	G			5/3/22	1255													X		X				
12	P-50B	WT	G			5/3/22	1325													X		X				

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pHstrips: MHA0132
Trip MH00841: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] / Pace	5/5/22	0730	[signature] / Xcel	5/5/22	0730	1.3	Y/N (circled)	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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/4/22

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.

Section A — Required Client Information:

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

Section B — Required Project Information:

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

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

Requested Analysis: GW-CCR, GW-CCR-BAP2, GW-D, (REPORT) NPDES, (REPORT) CCR-BAP, (REPORT) CCR-P3, Residual Chlorine (Y/N)

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	GW-D	(REPORT) NPDES	Pace Project No. / Lab I.D.
1	P-50D	WT	G			5/3/22	1225			X	X	
2	P-56	WT	G									
3	P-60	WT	G									
4	P-62	WT	G									
5	P-66	WT	G									
6	P-88	WT	G									
7	P-89-1	WT	G									
8	P-90	WT	G			5/2/22	1205			X	X	
9	P-90A	WT	G			5/2/22	1210			X	X	
10	P-92A	WT	G			5/3/22	1040			X	X	
11	P-92D	WT	G			5/3/22	1010			X	X	
12	P-93A	WT	G			5/3/22	1130			X	X	

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pH Strips: MHour3P
Temp meas 541: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
KD / Pace	5/5/22	0730	[signature] / Xcel	5/5/22	0730	1.3	Y/N (circled)	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 + Kendra Moran

SIGNATURE of SAMPLER: [signatures] DATE Signed (MM / DD / YY): 5/4/22

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

Pace Analytical
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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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
	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	Filtered (Y/N)	Requested Analysis: GW-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-93D	WT	G																							
2	P-94A	WT	G																							
3	P-101A	WT	G																							
4	P-101B	WT	G																							
5	P-126	WT	G			5/4/22	1225														X		X			
6	P-126D	WT	G			5/4/22	1255														X		X			
7	P-127	WT	G			5/4/22	1440														X		X			
8	P-128	WT	G			5/4/22	1515														X		X			
9	P-128D	WT	G			5/4/22	1545														X		X			
10	P-129	WT	G			5/4/22	1405														X		X			
11	P-130	WT	G																							
12	P-130D	WT	G																							

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pH strip: MH00136
Temp MH00941: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Pace	5/5/22	0730	Xcel	5/5/22	0730

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
1.3	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 + Kendra Moran
SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/4/22

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A — Required Client Information:

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Address:	Environmental Services
	MP-7
Email To:	Brad Jacobson
Phone: (612) 597-7254	Fax:
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Section B — Required Project Information:

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

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Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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: 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 #	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-CCR	GW-CCR-BAP2	GW-D	(Part) BAP 2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-131	WT	G																								
2	P-131D	WT	G																								
3	P-132	WT	G			5/4/22	1435											X		X		X	X				
4	P-150	WT	G																								
5	P-151	WT	G																								
6	P-152A	WT	G																								
7	P-153	WT	G																								
8	P-154A	WT	G																								
9	P-155	WT	G			5/3/22	1525											X					X				
10	P-156	WT	G			5/3/22	1325											X					X				
11	P-157	WT	G			5/4/22	1020											Y					X				
12	P-158	WT	G			5/4/22	1140											X	X			X	X				

Additional Comments:

**All Metals Are Field Filtered Except Leachate

pit strip: MW10 0130

Typ MW08: 1.3°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[illegible]/Pace	5/5/22	0730	HSO/Xcel	5/5/22	0730

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
1.3	(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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/4/22

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CHAIN-OF-CUSTODY / Analytical Request Document

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Address:	Environmental Services
	MP-7
Email To:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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
	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-CCR	GW-CCR-BAP2	GW-D	(Rerun) BAP2	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-162	WT	G																							
2	P-163	WT	G																							
3	P-164	WT	G																							
4	P-165	WT	G																							
5	P-173	WT	G			5/3/22	0945											X		X						
6	P-174	WT	G			5/3/22	1040											X		X						
7	P-175	WT	G			5/3/22	1125											X		X						
8	P-176	WT	G			5/4/22	1045											X		X						
9	P-177	WT	G			5/4/22	1220											X		X						
10	P-178A	WT	G			5/4/22	1355																			
11	P-178B	WT	G																							
12	P-179A	WT	G			5/3/22	1430													X			X			

Additional Comments:

**All Metals Are Field Filtered Except Leachate

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] / Pace	5/5/22	0730	[signature] / Xcel	5/5/22	0730

SAMPLE CONDITIONS			
1.3	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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/4/22

Htstrips: MH001360
Temp MH00841: 1.3°C

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Address:	Environmental Services
	MP-7
Email To:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	Filtered (Y/N)	Requested Analysis: GW-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-179D	WT	G			5/3/22	1400													X		X					
2	P-180A	WT	G			5/3/22	1535													X		X					
3	P-180D	WT	G			5/3/22	1505													X		X					
4	Duplicate NPDES	WT	G			5/3/22	1010													X		X					
5	Rinse NPDES	WT	G			5/3/22	1015													X		X					
6	Duplicate BAP	WT	G			5/4/22	1020														X				X		
7	Rinse BAP	WT	G			5/4/22	1000														X				X		
8	Duplicate BAP2	WT	G			5/3/22	0945															X		X			
9	Rinse BAP2	WT	G			5/3/22	0920															X		X			
10	Duplicate P3	WT	G																								
11	Rinse P3	WT	G																								
12																											

Additional Comments:

**All Metals Are Field Filtered Except Leachate

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[illegible]/Pace	5/5/22	0730	[illegible]/Xcel	5/5/22	0730

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
1.3	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
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 5/4/22

pH strips: MHouse
Trip MH00841: 1.3°C

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 o 6

Section A Required Client Information:

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

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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: GW-CCR, GW-CCR-BAP2, GW-D, (REPORT) NPDES, (REPORT) CCR-BAP, (REPORT) CCR-P3, Residual Chlorine (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

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

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	GW-CCR	GW-CCR-BAP2	GW-D		Pace Project No./ Lab I.D.
1	P-01A-2	WT	G				(1)							
2	P-03A	WT	G				(1)							
3	P-03B	WT	G				(1)							
4	P-04A -1	WT	G				(1)							
5	P-05A -1	WT	G				(1)							
6	P-17	WT	G				(1)							
7	P-22	WT	G				(1)							
8	P-23	WT	G				(1)							
9	P-42	WT	G			5/5/22	1010					X	X	
10	P-43	WT	G			5/5/22	0900					X	X	
11	P-50	WT	G				(1)							
12	P-50B	WT	G				(1)							

Additional Comments:

~~**All Metals Are Field Filtered Except Leachate~~ Rjac 5/6/22

(1) Dropped off 5/5/22 by KCM

IR Gun M400841

pH strips MH00136

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] Pace	5/6/22	1500	[signature]	5/6/22	1500	5.2	Y/N (circled)	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 + Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature]

DATE Signed (MM / DD / YY): 5/6/22

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

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Address:	Environmental Services
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Email To:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B — Required Project Information:

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

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

Requested Analysis: GW-CCR, GW-CCR-BAP2, GW-D, (REPORT) NPDES, (REPORT) CCR-BAP, (REPORT) CCR-P3, Residual Chlorine (Y/N)

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	GW-CCR	GW-CCR-BAP2	GW-D	(unlabelled)	Pace Project No. Lab I.D.
1	P-50D	WT	G				①			~~X~~	~~X~~	~~X~~		
2	P-56	WT	G			5/6/22	1300					X	X	
3	P-60	WT	G			5/6/22	0920					X	X	
4	P-62	WT	G			5/6/22	1230					X	X	
5	P-66	WT	G			5/5/22	0935					X	X	
6	P-88	WT	G			5/5/22	1605					X	X	
7	P-89-1	WT	G			5/5/22	1430					X	X	
8	P-90	WT	G				①							
9	P-90A	WT	G				①							
10	P-92A	WT	G				①							
11	P-92D	WT	G				①							
12	P-93A	WT	G				①							

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
Riley J / Pace	5/6/22	1500	[signature]	5/6/22	1500	5.2	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

Additional Comments:

~~**All Metals Are Field Filtered Except Leachate~~ (Re) RJ 5/6/22

① Dropped off 5/5/22 by KCM

Temp M40084: 5.2

pH strips: MH40224

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Kendra Moran

SIGNATURE of SAMPLER: [signatures]

DATE Signed (MM / DD / YY): 5/6/22

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Address:	Environmental Services
	MP-7
Email To:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

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

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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
	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	Filtered (Y/N)	Requested Analysis: GW-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-93D	WT	G				(1)																			
2	P-94A	WT	G			5/5/22	1520														X		X			
3	P-101A	WT	G			5/6/22	1045														X		X			
4	P-101B	WT	G			5/6/22	1105														X		X			
5	P-126	WT	G				(1)																			
6	P-126D	WT	G				(1)																			
7	P-127	WT	G				(1)																			
8	P-128	WT	G				(1)																			
9	P-128D	WT	G				(1)																			
10	P-129	WT	G				(1)																			
11	P-130	WT	G			5/6/22	1005														X	X	X	X	X	
12	P-130D	WT	G			5/5/22	1240															X	X	X		

Additional Comments:

**All Metals Are Field Filtered Except Leachate
(RLRes 5/6/22

(1) Dropped off by KCM 5/5/22

pH strip 5. Method 130
Temp 4 0841 : 5.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	5/6/22	1500		5/6/22	1500

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
5.2	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 + Kendra Moran
SIGNATURE of SAMPLER: + DATE Signed (MM / DD / YY): 5/6/22

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:

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

Section B
Required Project Information:

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

Section C
Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

Filtered (Y/N)

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-CCR	GW-CCR-BAP2	GW-D			(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-131	WT	G			5/5/22	1050											X		X			X		X		
2	P-131D	WT	G			5/5/22	1045													X			X				
3	P-132	WT	G				①																				
4	② ~~P-150~~	~~WT~~	~~G~~																								
5	P-151	WT	G			5/5/22	1125											X							X		
6	② ~~P-152A~~	~~WT~~	~~G~~																								
7	P-153	WT	G			5/5/22	1220											X							X		
8	P-154A	WT	G			5/5/22	1330											X							X		
9	P-155	WT	G				①																				
10	P-156	WT	G				①																				
11	P-157	WT	G				①																				
12	P-158	WT	G				①																				

Additional Comments:

~~*All Metals Are Field Filtered Except Leachate~~
RC Res 5/6/22

① Dropped off by KCM 5/5/22
② Insufficient Vol. to collect/NO SAMPLE - RCJ 5/5/22
pH strips: MH001360 Temp MH00841: 5.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	5/6/22	1500	[signature]	5/6/22	1500

SAMPLE CONDITIONS: Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
5.2	Ⓨ/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 + Kendra Moran
SIGNATURE of SAMPLER: [signatures]
DATE Signed (MM / DD / YY): 5/6/22

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

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Section A
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	MP-7
Email To:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

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Required Project Information:

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

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Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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____

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	COLLECTED 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-CCR	GW-CCR-BAP2	GW-D	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-162	WT	G			5/5/22	1425											X					X		
2	~~P-163~~ NO SAMPLE COLLECTED (2)	~~WT~~	~~G~~																						
3	P-164 NO SAMPLE COLLECTED	WT	G																						
4	P-165	WT	G			5/6/22	0905											X					X		
5	P-173	WT	G				(1)																		
6	P-174	WT	G				(1)																		
7	P-175	WT	G				(1)																		
8	P-176	WT	G				(1)																		
9	P-177	WT	G				(1)																		
10	P-178A	WT	G				(1)																		
11	P-178B	WT	G			5/6/22	1150													X	X				
12	P-179A	WT	G				(1)																		

Additional Comments:

~~**All Metals Are Field Filtered Except Leachate~~
(RJ) 5/6/22 RJ

(1) Dropped of 5/5/22 by KCM

(2) NO SAMPLE - RJ 5/6/22

pH Strip: MH00136
Temp gun 841: 5.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] Pace	5/6/22	1500	[signature]	5/6/22	1500	5.2	(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 + Kenda Moran

SIGNATURE of SAMPLER: [signature] + [signature]

DATE Signed (MM / DD / YY): 5/6/22

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

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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B — **Required** Project Information:

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

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

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-CCR	GW-CCR-BAP2	GW-D			(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-179D	WT	G				(1)																				
2	P-180A	WT	G				(1)																				
3	P-180D	WT	G				(1)																				
4	Duplicate NPDES	WT	G				(1)																				
5	Rinse NPDES	WT	G				(1)																				
6	Duplicate BAP	WT	G				(1)																				
7	Rinse BAP	WT	G				(1)																				
8	Duplicate BAP2	WT	G				(1)																				
9	Rinse BAP2	WT	G				(1)																				
10	Duplicate P3	WT	G			5/5/22	1330											X							X		
11	Rinse P3	WT	G			5/5/22	1250											X							X		
12																											

Additional Comments:

~~**All Metals Are Field Filtered Except Leachate~~ (RJ) 5/6/22

(1) Dropped off 5/5/22 by KCM

pH Strips: MI400136
Temp M400841: 5.2°C

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] Pace	5/6/22	1500	[signature]	5/6/22	1500	5.2	Ⓨ/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 / Kendra Moran

SIGNATURE of SAMPLER: [signature] + [signature] DATE Signed (MM / DD / YY): 5/6/22

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

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

June 29, 2022

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

RE: Project: Xcel Energy
Pace Project No.: 30489340

Dear Christopher Pelosi:

Enclosed are the analytical results for sample(s) received by the laboratory on May 16, 2022. 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,

Megan A Rager

Megan A. Rager
megan.rager@pacelabs.com
(724)850-5600
Project Manager

Enclosures

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

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

CERTIFICATIONS

Project: Xcel Energy
Pace Project No.: 30489340

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 #: 460198
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
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: Xcel Energy
Pace Project No.: 30489340

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30489340001	**P-01A-2**	Water	05/03/22 14:15	05/16/22 09:55
30489340002	**P-17**	Water	05/04/22 13:20	05/16/22 09:55
30489340003	**P-22**	Water	05/04/22 10:00	05/16/22 09:55
30489340004	**P-23**	Water	05/04/22 09:50	05/16/22 09:55
30489340005	**P-130**	Water	05/06/22 10:05	05/16/22 09:55
30489340006	**P-131**	Water	05/05/22 10:50	05/16/22 09:55
30489340007	**P-132**	Water	05/04/22 14:35	05/16/22 09:55
30489340008	**P-151**	Water	05/05/22 11:25	05/16/22 09:55
30489340009	**P-153**	Water	05/05/22 12:20	05/16/22 09:55
30489340010	**P-154A**	Water	05/05/22 13:30	05/16/22 09:55
30489340011	**P-155**	Water	05/03/22 15:25	05/16/22 09:55
30489340012	**P-156**	Water	05/03/22 13:25	05/16/22 09:55
30489340013	**P-157**	Water	05/04/22 10:20	05/16/22 09:55
30489340014	**P-158**	Water	05/04/22 11:40	05/16/22 09:55
30489340015	**P-162**	Water	05/05/22 14:25	05/16/22 09:55
30489340016	**P-165**	Water	05/06/22 09:05	05/16/22 09:55
30489340017	**Duplicate Bap**	Water	05/04/22 10:20	05/16/22 09:55
30489340018	**Rinse Bap**	Water	05/04/22 10:00	05/16/22 09:55
30489340019	**Duplicate P3**	Water	05/05/22 13:30	05/16/22 09:55
30489340020	**Rinse P3**	Water	05/05/22 12:50	05/16/22 09:55

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

SAMPLE ANALYTE COUNT

Project: Xcel Energy
Pace Project No.: 30489340

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30489340001	**P-01A-2**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340002	**P-17**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340003	**P-22**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340004	**P-23**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340005	**P-130**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340006	**P-131**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340007	**P-132**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340008	**P-151**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340009	**P-153**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340010	**P-154A**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340011	**P-155**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340012	**P-156**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340013	**P-157**	EPA 903.1	RPS	1	PASI-PA

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

SAMPLE ANALYTE COUNT

Project: Xcel Energy
Pace Project No.: 30489340

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340014	**P-158**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340015	**P-162**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340016	**P-165**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340017	**Duplicate Bap**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340018	**Rinse Bap**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340019	**Duplicate P3**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
30489340020	**Rinse P3**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		Total Radium Calculation	JAL	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 Energy
Pace Project No.: 30489340

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Pace-MN Field Services Division
Date: June 29, 2022

General Information:
20 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
Pace Project No.: 30489340

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Pace-MN Field Services Division
Date: June 29, 2022

General Information:
20 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
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: Xcel Energy
Pace Project No.: 30489340

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Pace-MN Field Services Division
Date: June 29, 2022

General Information:
20 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
Pace Project No.: 30489340

Sample: P-01A-2 **Lab ID: 30489340001** Collected: 05/03/22 14:15 Received: 05/16/22 09:55 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	**0.509 ± 0.322 (0.364) C:NA T:88%**	pCi/L	06/21/22 16:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.757 ± 0.381 (0.646) C:70% T:88%**	pCi/L	06/10/22 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.27 ± 0.703 (1.01)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-17 **Lab ID: 30489340002** Collected: 05/04/22 13:20 Received: 05/16/22 09:55 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	**0.0959 ± 0.297 (0.576) C:NA T:91%**	pCi/L	06/21/22 16:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.380 ± 0.330 (0.657) C:72% T:91%**	pCi/L	06/10/22 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.476 ± 0.627 (1.23)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-22 **Lab ID: 30489340003** Collected: 05/04/22 10:00 Received: 05/16/22 09:55 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	**0.156 ± 0.307 (0.551) C:NA T:91%**	pCi/L	06/21/22 16:50	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.376 ± 0.375 (0.772) C:65% T:91%**	pCi/L	06/10/22 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.532 ± 0.682 (1.32)**	pCi/L	06/29/22 07:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

Sample: P-23 **Lab ID: 30489340004** Collected: 05/04/22 09:50 Received: 05/16/22 09:55 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	**0.280 ± 0.285 (0.431) C:NA T:94%**	pCi/L	06/21/22 16:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0686 ± 0.428 (0.981) C:53% T:94%**	pCi/L	06/10/22 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.349 ± 0.713 (1.41)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-130 **Lab ID: 30489340005** Collected: 05/06/22 10:05 Received: 05/16/22 09:55 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	**0.0651 ± 0.156 (0.302) C:NA T:104%**	pCi/L	06/21/22 16:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.212 ± 0.334 (0.724) C:67% T:104%**	pCi/L	06/10/22 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.277 ± 0.490 (1.03)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-131 **Lab ID: 30489340006** Collected: 05/05/22 10:50 Received: 05/16/22 09:55 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 ± 0.166 (0.266) C:NA T:97%**	pCi/L	06/21/22 16:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.268 ± 0.289 (0.599) C:74% T:97%**	pCi/L	06/10/22 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.377 ± 0.455 (0.865)**	pCi/L	06/29/22 07:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

Sample: P-132 **Lab ID: 30489340007** Collected: 05/04/22 14:35 Received: 05/16/22 09:55 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	**0.000 ± 0.364 (0.737) C:NA T:90%**	pCi/L	06/21/22 16:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0795 ± 0.311 (0.706) C:75% T:90%**	pCi/L	06/10/22 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0795 ± 0.675 (1.44)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-151 **Lab ID: 30489340008** Collected: 05/05/22 11:25 Received: 05/16/22 09:55 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	**0.000 ± 0.191 (0.113) C:NA T:86%**	pCi/L	06/21/22 17:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0143 ± 0.307 (0.725) C:70% T:86%**	pCi/L	06/10/22 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.498 (0.838)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-153 **Lab ID: 30489340009** Collected: 05/05/22 12:20 Received: 05/16/22 09:55 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	**0.108 ± 0.234 (0.432) C:NA T:98%**	pCi/L	06/21/22 17:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.402 ± 0.280 (0.530) C:76% T:98%**	pCi/L	06/10/22 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.510 ± 0.514 (0.962)**	pCi/L	06/29/22 07:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

Sample: P-154A **Lab ID: 30489340010** Collected: 05/05/22 13:30 Received: 05/16/22 09:55 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	**0.120 ± 0.322 (0.598) C:NA T:95%**	pCi/L	06/21/22 17:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.515 ± 0.336 (0.631) C:74% T:95%**	pCi/L	06/10/22 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.635 ± 0.658 (1.23)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-155 **Lab ID: 30489340011** Collected: 05/03/22 15:25 Received: 05/16/22 09:55 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	**0.0874 ± 0.200 (0.118) C:NA T:92%**	pCi/L	06/21/22 17:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.317 ± 0.341 (0.711) C:72% T:92%**	pCi/L	06/10/22 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.404 ± 0.541 (0.829)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-156 **Lab ID: 30489340012** Collected: 05/03/22 13:25 Received: 05/16/22 09:55 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	**0.000 ± 0.287 (0.587) C:NA T:92%**	pCi/L	06/21/22 17:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.169 ± 0.276 (0.600) C:78% T:92%**	pCi/L	06/10/22 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.169 ± 0.563 (1.19)**	pCi/L	06/29/22 07:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

Sample: P-157 **Lab ID: 30489340013** Collected: 05/04/22 10:20 Received: 05/16/22 09:55 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	**-0.0786 ± 0.218 (0.515) C:NA T:94%**	pCi/L	06/21/22 17:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.302 ± 0.296 (0.607) C:79% T:94%**	pCi/L	06/10/22 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.302 ± 0.514 (1.12)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-158 **Lab ID: 30489340014** Collected: 05/04/22 11:40 Received: 05/16/22 09:55 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	**-0.0864 ± 0.208 (0.519) C:NA T:91%**	pCi/L	06/21/22 17:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.344 ± 0.304 (0.610) C:73% T:91%**	pCi/L	06/10/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.344 ± 0.512 (1.13)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: P-162 **Lab ID: 30489340015** Collected: 05/05/22 14:25 Received: 05/16/22 09:55 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	**-0.0897 ± 0.352 (0.747) C:NA T:88%**	pCi/L	06/21/22 17:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.390 ± 0.275 (0.518) C:80% T:88%**	pCi/L	06/10/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.390 ± 0.627 (1.27)**	pCi/L	06/29/22 07:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

Sample: P-165 **Lab ID: 30489340016** Collected: 05/06/22 09:05 Received: 05/16/22 09:55 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	**0.233 ± 0.188 (0.105) C:NA T:96%**	pCi/L	06/21/22 17:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.00829 ± 0.207 (0.495) C:78% T:96%**	pCi/L	06/10/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.233 ± 0.395 (0.600)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: Duplicate Bap **Lab ID: 30489340017** Collected: 05/04/22 10:20 Received: 05/16/22 09:55 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 ± 0.218 (0.398) C:NA T:94%**	pCi/L	06/21/22 17:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.513 ± 0.328 (0.612) C:74% T:94%**	pCi/L	06/10/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.624 ± 0.546 (1.01)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: Rinse Bap **Lab ID: 30489340018** Collected: 05/04/22 10:00 Received: 05/16/22 09:55 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	**0.0394 ± 0.204 (0.424) C:NA T:91%**	pCi/L	06/21/22 17:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.357 ± 0.368 (0.761) C:68% T:91%**	pCi/L	06/10/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.396 ± 0.572 (1.19)**	pCi/L	06/29/22 07:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

Sample: Duplicate P3 **Lab ID: 30489340019** Collected: 05/05/22 13:30 Received: 05/16/22 09:55 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	**0.0376 ± 0.171 (0.102) C:NA T:91%**	pCi/L	06/21/22 17:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.106 ± 0.265 (0.591) C:80% T:91%**	pCi/L	06/10/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.144 ± 0.436 (0.693)**	pCi/L	06/29/22 07:57	7440-14-4	

Sample: Rinse P3 **Lab ID: 30489340020** Collected: 05/05/22 12:50 Received: 05/16/22 09:55 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 ± 0.169 (0.271) C:NA T:95%**	pCi/L	06/21/22 17:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.248 ± 0.327 (0.697) C:70% T:95%**	pCi/L	06/10/22 12:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.359 ± 0.496 (0.968)**	pCi/L	06/29/22 07:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

QC Batch: 506544 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: 30489340001, 30489340002, 30489340003, 30489340004, 30489340005, 30489340006, 30489340007, 30489340008, 30489340009, 30489340010, 30489340011, 30489340012, 30489340013, 30489340014, 30489340015, 30489340016, 30489340017, 30489340018, 30489340019, 30489340020

METHOD BLANK: 2453907 Matrix: Water
Associated Lab Samples: 30489340001, 30489340002, 30489340003, 30489340004, 30489340005, 30489340006, 30489340007, 30489340008, 30489340009, 30489340010, 30489340011, 30489340012, 30489340013, 30489340014, 30489340015, 30489340016, 30489340017, 30489340018, 30489340019, 30489340020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.297 ± 0.282 (0.575) C:76% T:98%	pCi/L	06/10/22 12:04	

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Xcel Energy
Pace Project No.: 30489340

QC Batch: 506543 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: 30489340001, 30489340002, 30489340003, 30489340004, 30489340005, 30489340006, 30489340007, 30489340008, 30489340009, 30489340010, 30489340011, 30489340012, 30489340013, 30489340014, 30489340015, 30489340016, 30489340017, 30489340018, 30489340019, 30489340020

METHOD BLANK: 2453906 Matrix: Water
Associated Lab Samples: 30489340001, 30489340002, 30489340003, 30489340004, 30489340005, 30489340006, 30489340007, 30489340008, 30489340009, 30489340010, 30489340011, 30489340012, 30489340013, 30489340014, 30489340015, 30489340016, 30489340017, 30489340018, 30489340019, 30489340020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.179 (0.289) C:NA T:98%	pCi/L	06/21/22 16:36	

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

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QUALIFIERS

Project: Xcel Energy
Pace Project No.: 30489340

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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
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WO# : 30489340

30489340

uest Document
st be completed accurately.

Page: 1 of 2
5/16/22 RJS

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:	Dave Anderson	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:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Spring	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
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 (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	Requested Analysis: RA-226 EPA 903.1	RA-228 EPA 964.0	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-01A-2	WT	G			5/3/22	1415		2			2						X	X		001
2	P-17	WT	G			5/4/22	1320		2			2						X	X		002
3	P-22	WT	G			5/4/22	1000		2			2						X	X		003
4	P-23	WT	G			5/4/22	950		2			2						X	X		004
5	P-130	WT	G			5/6/22	1005		2			2						X	X		005
6	P-131	WT	G			5/5/22	1050		2			2						X	X		006
7	P-132	WT	G			5/4/22	1435		2			2						X	X		007
8	(1) P-150	WT	G						2			2						X	X		
9	P-151	WT	G			5/5/22	1125		2			2						X	X		008
10	(1) P-152A	WT	G						2			2						X	X		
11	P-153	WT	G			5/5/22	1220		2			2						X	X		009
12	P-154A	WT	G			5/5/22	1330		2			2						X	X		010

Additional Comments:

(1) DRY WELLS - NO SAMPLE
RJS 5/6/22

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Riley Jacobson Pace	5/16/22	1630		5/19/22	955	NM

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Riley Jacobson + Kenda Moran
SIGNATURE of SAMPLER: Riley Jacobson
DATE Signed (MM / DD / YY): 5/16/22

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

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.

30489340

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:	2 Weeks

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	Dave Anderson
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	Requested Analysis: RA-226 EPA 903.1	RA-228 EPA 904.0	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-155	WT	G			5/3/22	1525		2			2						X	X		011
2	P-156	WT	G			5/3/22	1325		2			2						X	X		012
3	P-157	WT	G			5/4/22	1020		2			2						X	X		013
4	P-158	WT	G			5/4/22	1140		2			2						X	X		014
5	P-162	WT	G			5/5/22	1425		2			2						X	X		015
6	(2) P-163	WT	G						2			2						X	X		
7	(2) P-164	WT	G						2			2						X	X		
8	P-165	WT	G			5/6/22	905		2			2						X	X		016
9	DUPLICATE BAP	WT	G			5/4/22	1020		2			2						X	X		017
10	RINSE BAP	WT	G			5/4/22	1000		2			2						X	X		018
11	DUPLICATE P3	WT	G			5/5/22	1330		2			2						X	X		019
12	RINSE P3	WT	G			5/5/22	1250		2			2						X	X		020

Additional Comments:

(2) NO SAMPLE - RLJ 5/6/22

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jr Pace	5/6/22	1630		5/9/22	955

SAMPLE CONDITIONS

	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 Jr Pace + Kendra Menard
SIGNATURE of SAMPLER: [signature] + [signature]
DATE Signed (MM/DD/YY): 5/6/22

Pace Analytical®

WO# : 30489340 tainer Count

30489340 1/2

PM: MAR Due Date: 06/07/22

CLIENT: PaceMN Field

Client

Site Xcel energy

Profile Number 7484

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	WT											2																	
2												2																	
3												2																	
4												2																	
5												2																	
6												2																	
7												2																	
8												2																	
9												2																	
10												2																	
11												2																	
12												2																	

Container Codes

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

30489340 2/2

Pace Analytical®

WO#: 30489340 Container Count

PM: MAR Due Date: 06/07/22

CLIENT: PaceMN Field

Client

Site Xcel energy

Profile Number 7484

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 13	WT											2																	
2 14	↓											2																	
3 15												2																	
4 16												2																	
5 17												2																	
6 18												2																	
7 19												2																	
8 20	↓											2																	
9																													
10																													
11																													
12																													

Container Codes

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: Pace MN Field Srvc Project # 30489340

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

Label MJS
LIMS Login VP

Tracking #: 5466 9884 5340

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

Thermometer Used NA 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# 10D4611 Date and Initials of person examining contents: MJS 5-16-22

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:	✓			5.
-Includes date/time/ID Matrix: WT				
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. pH<2
All containers meet method preservation requirements.	✓			Initial when completed MJS 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: MJS Date: 5-16-22 Survey Meter SN: 1563

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.

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

13 July 2022

Eric Ealy

Environmental Services-Water Minneapolis

414 Nicollet Mall, GO-2

Minneapolis, MN 55401

cc:

RE: Sherco Ponds Spring

Enclosed are the results of analyses for samples received by the laboratory on 05/31/2022 13:15. 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, Manager (612) 630-4506

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	07/13/2022 07:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-163		MHE0301-01	Water	05/26/2022 14:30	05/31/2022 13:15
P-164		MHE0301-02	Water	05/26/2022 15:20	05/31/2022 13:15

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	07/13/2022 07:06

SUBCONTRACTED ANALYSES

The following analyses were subcontracted to Pace Analytical. Please see attached for results.

Lab Number	Analysis
MHE0301-01	Total Radium
MHE0301-02	Total Radium

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	07/13/2022 07:06

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

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	07/13/2022 07:06

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

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	07/13/2022 07:06

Qualifiers and Definitions

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

Xcel Energy

Nº 284537

Chain of Custody

Amarillo Testing Laboratory
7201 N. Lakeside Road, Amarillo, TX 79108
Phone (806) 381-6461 – Fax (806) 381-6468

Denver Testing Laboratory
9500 Interstate 76, Henderson, CO 80640
Phone (303) 628-2606 – Fax (303) 628-2926

Minneapolis Testing Laboratory
1518 Chestnut Avenue North, Minneapolis, MN 55403
Phone (612) 630-4506 – Fax (612) 630-4367

Facility/Project/Location: Sherco Ponds Spring 2022 Mon.
Project Manager/Requestor: Eric Ealy / David Katzner
Phone #/E-mail Address: david.katzner@xcelenergy.com
Sampled By (print/signature): David Katzner
Copies of Report to: Eric Ealy / David Katzner
LSR #:

**LIMS ID	Sample ID/Location	Date	Time	Safety Related (Nuclear)	Matrix	Preservative	# of Containers	Volume/Amount	Analyses: Anions:	Wet Chem.:	Metals:	PCBs	Oil Testing: (Comp)	DGA Furans (circle selection(s))	Fuels:	Asbestos:	GW-CCR				** Sample Temperature ° C	** Sample pH
	P-163	5/26/22	1430				4										X					
	D-164	"	1520				4										X					

Relinquished by:	Date/Time	Received by:	Date/Time
David Katzner	5-26-2022 1615	[signature]	5/27/22 @ 06:30
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Comments: Read on ice
In walk-in cooler
pH strips: MH001136
Temp: 4.5°C MH00841

Distribution: White: Return Original (electronic or hard copy) to Project Manager with Analytical Results; **Canary:** Laboratory; **Pink**: Generator's Copy
Matrix: **(W)** Water **(S** Solid **(SL)** Sludge **(O)** Other (Specify) **Preservative**: **(I)** Ice **(N)** Nitric Acid **(S)** Sulfuric Acid **(H)** Hydrochloric Acid **(D)** Sodium Hydroxide **(X)** Other (Specify)
(F)filtered **(F15)** filtered within 15 minutes (O-PO4)
Note: ** - indicates lab use only

Form 17-9084 Revision 01/29/14

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

July 12, 2022

Steve Davis
Xcel Energy, Inc.
1518 Chestnut Ave
Minneapolis, MN 55414

RE: Project: Sherco Ponds Spring
Pace Project No.: 10610604

Dear Steve Davis:

Enclosed are the analytical results for sample(s) received by the laboratory on May 31, 2022. 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,

Jared Dickinson
jared.dickinson@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: John Kaczmarek, Xcel Energy

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Sherco Ponds Spring
Pace Project No.: 10610604

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 #: 460198
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
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Sherco Ponds Spring
Pace Project No.: 10610604

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10610604001	**MHE0301-01**	Water	05/26/22 14:30	05/31/22 14:00
10610604002	**MHE0301-02**	Water	05/26/22 15:20	05/31/22 14:00

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: Sherco Ponds Spring
Pace Project No.: 10610604

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10610604001	**MHE0301-01**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
10610604002	**MHE0301-02**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Sherco Ponds Spring
Pace Project No.: 10610604

Sample: MHE0301-01 **Lab ID: 10610604001** Collected: 05/26/22 14:30 Received: 05/31/22 14:00 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	**-0.0364 ± 0.166 (0.391) C:NA T:92%**	pCi/L	07/12/22 11:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0166 ± 0.317 (0.732) C:74% T:92%**	pCi/L	07/01/22 12:33	15262-20-1	

Sample: MHE0301-02 **Lab ID: 10610604002** Collected: 05/26/22 15:20 Received: 05/31/22 14:00 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	**0.223 ± 0.293 (0.488) C:NA T:91%**	pCi/L	07/12/22 11:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.106 ± 0.389 (0.877) C:65% T:91%**	pCi/L	07/01/22 12:33	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL - RADIOCHEMISTRY

Project: Sherco Ponds Spring
Pace Project No.: 10610604

QC Batch: 511664
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 10610604001, 10610604002

METHOD BLANK: 2480005 Matrix: Water
Associated Lab Samples: 10610604001, 10610604002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0388 ± 0.177 (0.285) C:NA T:91%	pCi/L	07/12/22 11:25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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QUALITY CONTROL - RADIOCHEMISTRY

Project: Sherco Ponds Spring
Pace Project No.: 10610604

QC Batch: 511665
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: 10610604001, 10610604002

METHOD BLANK: 2480006 Matrix: Water
Associated Lab Samples: 10610604001, 10610604002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.237 ± 0.300 (0.634) C:69% T:91%	pCi/L	07/01/22 12:35	

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
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Sherco Ponds Spring
Pace Project No.: 10610604

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(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 Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sherco Ponds Spring
Pace Project No.: 10610604

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10610604001	**MHE0301-01**	EPA 903.1	511664		
10610604002	**MHE0301-02**	EPA 903.1	511664		
10610604001	**MHE0301-01**	EPA 904.0	511665		
10610604002	**MHE0301-02**	EPA 904.0	511665		

REPORT OF LABORATORY ANALYSIS

Xcel Energy®

Nº 284538

Amarillo Testing Laboratory
7201 N. Lakeside Road, Amarillo, TX 79108
Phone (806) 381-6461 – Fax (806) 381-6468

Chain of Custody

Denver Testing Laboratory
9500 Interstate 76, Henderson, CO 80640
Phone (303) 628-2606 – Fax (303) 628-2926

Minneapolis Testing Laboratory
1518 Chestnut Avenue North, Minneapolis, MN 55403
Phone (612) 630-4506 – Fax (612) 630-4367

Facility/Project/Location: Sherco Ponds Spring
Project Manager/Requestor: Steve Davis
Phone #/E-mail Address: ~~612~~ 612-630-4205
Sampled By (print/signature):
Copies of Report to:
~~LSR #:~~ PO# 4500856185

**LIMS ID	Sample ID/Location	Date	Time	Safety Related (Nuclear)	Matrix	Preservative	# of Containers	Volume/Amount	Analyses: Anions	Wet Chem.:	Metals:	PCBs	Oil Testing: (Comp)	DGA Furans (circle selection(s))	Fuels:	Asbestos:	Total Radium 226/228	** Sample Temperature °C	** Sample pH
	MHE0301-01	5/26/22	1430		W	N	2										X	22.0	
	1 -02	1	1520		1	1	1										X		

WO# : 10610604
10610604

Relinquished by:	Date/Time	Received by:	Date/Time	Comments:
[signature]	5/31/22 1330	[signature]	5/31/22 1400	
Relinquished by:	Date/Time	Received by:	Date/Time	
Relinquished by:	Date/Time	Received by:	Date/Time	

Distribution: White: Return Original (electronic or hard copy) to Project Manager with Analytical Results; **Canary:** Laboratory; **Pink:** Generator's Copy
Matrix: (W) Water **(S** Solid **(SL)** Sludge **(O)** Other (Specify) **Preservative: (I)** Ice **(N)** Nitric Acid **(S)** Sulfuric Acid **(H)** Hydrochloric Acid **(D)** Sodium Hydroxide **(X)** Other (Specify)
(F)iltered **(F15)** filtered within 15 minutes (O-PO4)
Note: ** - indicates lab use only

Form 17-9084 Revision 01/29/14

Sample Condition Upon Receipt (SCUR)

Effective Date: 04/12/2022

Sample Condition Upon Receipt

Client Name: Sherco Ponds Sampling

Project #:

WO# : 10610604

PM: JDD Due Date: 06/14/22

CLIENT: XCEL

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

See Exceptions ☐ENV-FRM-MIN4-0142

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐Yes ☑No Seals Intact? ☐Yes ☑No Biological Tissue Frozen? ☐Yes ☐No ☑N/A

Packing Material: ☐Bubble Wrap ☐Bubble Bags ☑None ☐Other:_____ Temp Blank? ☐Yes ☑No

Thermometer: ☑T1(0461) ☐T2(1336) ☐T3(0459) ☐T4(0254) ☐T5(0489) ☐T6(0235) ☐T7 (0042) ☐01339252/1710 ☐122639816 ☐140792808

Type of Ice: ☐Wet ☐Blue ☑None ☐Dry ☐Melted

Did Samples Originate in West Virginia? ☐Yes ☑No Were All Container Temps Taken? ☐Yes ☐No ☑N/A

Temp should be above freezing to 6°C

Cooler Temp Read w/temp blank: _____ °C

Correction Factor: _____ Cooler Temp Corrected w/temp blank: _____ °C

Average Corrected Temp (no temp blank only): 2.2 °C

☐See Exceptions ENV-FRM-MIN4-0142 ☐1 Container

USDA Regulated Soil: (☑N/A, water sample/Other:_____)

Date/Initials of Person Examining Contents: NF 5/31/22

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐Yes ☐No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No

If Yes to either question, fill out a Regulated Soil Checklist ENV-FRM-MIN4-0154 and include with SCUR/COC paperwork.

Location (check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS:
Chain of Custody Present and Filled Out?	☑Yes	☐No		1.
Chain of Custody Relinquished?	☑Yes	☐No		2.
Sampler Name and/or Signature on COC?	☐Yes	☑No	☐N/A	3.
Samples Arrived within Hold Time?	☑Yes	☐No		4. If Fecal: ☐<8 hrs ☐>8hr, <24 hrs, ☐>24 hrs
Short Hold Time Analysis (<72 hr)?	☐Yes	☑No		5. ☐Fecal Coliform ☐HPC ☐Total Coliform/E coli ☐BOD/cBOD ☐Hex Chrome ☐Turbidity ☐Nitrate ☐Nitrite ☐Orthophos ☐Other
Rush Turn Around Time Requested?	☐Yes	☑No		6.
Sufficient Volume?	☑Yes	☐No		7.
Correct Containers Used?	☑Yes	☐No		8.
-Pace Containers Used?	☑Yes	☐No		
Containers Intact?	☑Yes	☐No		9.
Field Filtered Volume Received for Dissolved Tests?	☐Yes	☐No	☑N/A	10. Is sediment visible in the dissolved container? ☐Yes ☐No
Is sufficient information available to reconcile the samples to the COC?	☑Yes	☐No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐ **ENV-FRM-MIN4-0142**
Matrix: ☑Water ☐Soil ☐Oil ☐Other-				
All containers needing acid/base preservation have been checked?	☑Yes	☐No	☐N/A	12. Sample #1-7 2/7
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑Yes	☐No	☐N/A	☐ NaOH ☑ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐Yes	☐No	☑N/A	Positive for Res. Chlorine? ☐Yes ☐No **pH Paper Lot#** **See Exception** ☐ **ENV-FRM-MIN4-0142**
				Res. Chlorine | 0-6 Roll 230320 | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐Yes	☐No	☑N/A	
Extra labels present on soil VOA or WIDRO containers?	☐Yes	☐No	☑N/A	13. **See Exception** ☐ **ENV-FRM-MIN4-0140**
Headspace in VOA Vials (greater than 6mm)?	☐Yes	☐No	☑N/A	
Trip Blank Present?	☐Yes	☐No	☑N/A	14.
Trip Blank Custody Seals Present?	☐Yes	☐No	☑N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ **Field Data Required?** ☐Yes ☐No

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 6/1/22

is a discrepancy affecting North C… y of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect np, incorrect containers).

Labeled by: _____

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) Exception Form	Document Revised: 04Jun2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0142 Rev.01	Pace Analytical Services - Minneapolis

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank

Read Temp	Corrected Temp	Average Temp
22.0	22.0	22.0
22.1	22.1	
22.1	22.1	
22.1	22.1	

Tracking Number/Temperature	

Issue Type:

Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Comments:

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: MN
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 5/31/2022 Results Requested By: 6/28/2022

Workorder: 10610604 **Workorder Name:** Sherco Ponds Spring

Report To	Subcontract To
Jared Dickinson Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3 & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30493940

30493940

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: BP1N	Requested Analysis: Total radium 226/228	LAB USE ONLY
	MHE0301-01	PS	5/26/2022 14:30	10610604001	Water	2	X	001
	MHE0301-02	PS	5/26/2022 15:20	10610604002	Water	2	X	002

Transfers	Released By	Date/Time	Received By	Date/Time
	CSM/Pace	6/2/2214:00	[signature]	6-2-22 9:45

Comments

Cooler Temperature on Receipt ___ °C | Custody Seal (Y) or N | Received on Ice Y or (N) | Samples Intact (Y) or N

In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace Minnesota Project #

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

Label 2a
LIMS Login LP Inc

Tracking #: 5466 8884 8062

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

Comments:	Yes	No	N/A	pH paper Lot# 10D4611 / Date and Initials of person examining contents: 6-4-22 JA
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
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. pH <2
All containers meet method preservation requirements.	✓			Initial when completed JA / 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: JA / Date: 6-4-22 / Survey Meter SN: 1563

WO#: 30493940
PM: HMC Due Date: 06/23/22
CLIENT: PACE_10_MINN

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 2022 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   Project: Sherco Ponds Fall 2022   Project No. 22-06308

Monitoring Point ID: P-130   Labeled: P130

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: 46.84 Feet

Static water level measurement before purging (Start Depth): 39.58 Feet

Static water level measurement at time of sampling (Final Depth): 39.58 Feet

Static Water Level Elevation Before Purging: NA Feet

Purge Method: Bladder Pump   Pump ID: BPC-1

Date Purged: 11/2/22   Water Column: 7.26 Feet

Time Purged: 1415-1433   One Casing Volume: 1.18 Gallons

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

Field Sampling Data

Date Sampled: 11/2/22

Time Sampled: 1435

Sampling Equip.: Pump + Filter

Meter ID: MPS 26/TM 3

Analyzed by: RCJ

Field Parameter Measurements of Sample

pH: 7.3 (units)   D.O: 7.5 (mg/l)

Spec. Cond.: 940 (µmhos/cm)   Turbidity: 5.1 (NTU)

Temp. Observed: 12.6 (°C)   Eh: 36 (mV)

Temp. Corrected: 12.9 (°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: 73F, Sunny, S @ 25 MPH

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)
1421	7.2	980	12.5	8.2	5.3	20	1.2
1427	7.3	980	12.5	7.8	5.3	29	2.4
14.33	7.3	940	12.6	7.5	5.1	36	3.6
				RCJ			
				11/2/22			

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

Form Revised: 01/25/2021

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

Lead Technician Signature: Riley J   Date: 11/2/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel | Project: Sherco Ponds Fall 2022 | Project No.: 22-06308

Monitoring Point ID: P-131 | Labeled: P131

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	48.55	Feet
Static water level measurement before purging (Start Depth)	37.12	Feet
Static water level measurement at time of sampling (Final Depth)	37.12	Feet
Static Water Level Elevation Before Purging	NA	Feet

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

Date Purged: 11/2/22 | Water Column: 11.43 Feet

Time Purged: ① ~~1255~~ 1255 - 1325 | One Casing Volume: 1.86 Gallons

Pump Rate: 0.2 GPM / LPM | Volume Purged: 6.0 Gallons

Field Sampling Data

Date Sampled: 11/2/22

Time Sampled: ① ~~1315~~ 1330

Sampling Equip.: Pump + Filter

Meter ID: MPS 20/TM3

Analyzed by: RDS

Field Parameter Measurements of Sample

pH	7.6 (units)	D.O	10.0 (mg/l)
Spec. Cond.	840 (µmhos/cm)	Turbidity	2.4 (NTU)
Temp. Observed	12.2 (°C)	Eh	31 (mV)
Temp. Corrected	12.5 (°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: 73°F, Sunny, SE @ 20MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

① Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
~~1300~~ 1305	7.6	830	12.3	10.3	2.6	21	2.0
~~1305~~ 1315	7.6	840	12.3	10.1	2.4	26	4.0
~~1310~~ 1325	7.6	840	12.2	10.0	2.4	31	6.0
				RDS 11/2/22			

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

Form Revised: 01/25/2021

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

Lead Technician Signature: Riley Jacobson Date: 11/2/22

RDS 11/2/22

Pace Analytical Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel | Project: Sherco Ponds Fall 2022 | Project No.: 22-06308

Monitoring Point ID: P-132 | Labeled: P132

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	36.51	Feet
Static water level measurement before purging (Start Depth)	33.88	Feet
Static water level measurement at time of sampling (Final Depth)	33.88	Feet
Static Water Level Elevation Before Purging	NA	Feet

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

Date Purged: 1/14/22 | Water Column: 2.63 Feet

Time Purged: 1020 - 1029 | One Casing Volume: 0.43 Gallons

Pump Rate: 0.2 GPM / LPM | Volume Purged: 1.8 Gallons

Field Sampling Data

Date Sampled: 1/14/22

Time Sampled: 1032

Sampling Equip.: pump+filter

Meter ID: MP5 8

Analyzed by: SFR

Field Parameter Measurements of Sample

pH	7.6 (units)	D.O	10.1 (mg/l)
Spec. Cond.	840 (µmhos/cm)	Turbidity	1.2 (NTU)
Temp. Observed	9.6 (°C)	Eh	140 (mV)
Temp. Corrected	9.6 (°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: 0.0 °C

Weather Conditions During Sampling: 35°F & cloudy, wind NW @ 8mph

Sample Description: clear w/ 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)
1023	7.6	840	9.6	10.1	1.2	140	0.6
1026	7.6	840	9.6	10.1	1.2	140	1.2
1029	7.6	840	9.6	10.1	1.2	140	1.8
			SFR	1/14/22			

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

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Seann Rahn

Lead Technician Signature: [signature] Date: 1/14/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-150 Labeled

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	36.60	Feet
Static water level measurement before purging (Start Depth)	* DRY (35.14)	Feet
Static water level measurement at time of sampling (Final Depth)	NA	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method ____ Pump ID ____

Date Purged ____ RW 11/3/22 Water Column ____ Feet

Time Purged ____ One Casing Volume ____ Gallons

Pump Rate ____ GPM / LPM Volume Purged ____ Gallons

Field Sampling Data

Date Sampled 11/3/22

Time Sampled NA

Sampling Equip. ____

Meter ID ____

Analyzed by ____

Field Parameter Measurements of Sample

pH ____ (units) D.O ____ (mg/l)

Spec. Cond. ____ (µmhos/cm) RW 11/3/22 Turbidity ____ (NTU)

Temp. Observed ____ (°C) Eh ____ (mV)

Temp. Corrected ____ (°C) Other NA

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

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

Temperature Correction Factor: NA °C

Weather Conditions During Sampling: ____

Sample Description: ____

Observations: * Dry @ Top of Bladder - 34.62' Removed Bladder + got water level = 35.14'

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
				RW 11/3/22			

Samples chilled immediately after collection: ☒ Yes ☐ Other ____

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobson

Lead Technician Signature: Riley Jacobson Date: 11/3/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-151 Labeled P151

Inside Diameter _____ (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	20.16	Feet
Static water level measurement before purging (Start Depth)	14.29	Feet
Static water level measurement at time of sampling (Final Depth)	14.29	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BPC-1

Date Purged 11/3/22 Water Column 5.87 Feet

Time Purged 1350-1405 One Casing Volume 0.96 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 3 Gallons

Field Sampling Data

Date Sampled 11/3/22

Time Sampled 1410

Sampling Equip. Pump

Meter ID MS76 SM3

Analyzed by RCJ

Field Parameter Measurements of Sample

pH	7.9 (units)	D.O	8.5 (mg/l)
Spec. Cond.	470 (µmhos/cm)	Turbidity	1.8 (NTU)
Temp. Observed	14.2 (°C)	Eh	68 (mV)
Temp. Corrected	14.5 (°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: 61°, Overcast, SE 10 MPH

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)
1355	7.9	480	14.3	9.0	2.3	67	1.0
1400	7.9	480	14.2	8.5	2.1	67	2.0
1405	7.9	470	14.2	8.5	1.8	68	3.0
				RCJ 11/3/22			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Jacobsen

Lead Technician Signature: Riley Jacobsen Date: 11/3/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-152A Labeled P152A

Inside Diameter _____ (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	~~40~~ 42.35	Feet
Static water level measurement before purging (Start Depth)	*DRY	Feet
Static water level measurement at time of sampling (Final Depth)	NA	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method _____ Pump ID _____

Date Purged _____ RC 11/3/22 Water Column _____ Feet

Time Purged _____ One Casing Volume _____ Gallons

Pump Rate _____ GPM / LPM Volume Purged _____ Gallons

Field Sampling Data

Date Sampled 11/3/22

Time Sampled NA

Sampling Equip. ↓

Meter ID ↓

Analyzed by ↓

Field Parameter Measurements of Sample

pH _____ (units) RC 11/3/22 D.O _____ (mg/l)

Spec. Cond. _____ (µmhos/cm) Turbidity _____ (NTU)

Temp. Observed _____ (°C) Eh _____ (mV)

Temp. Corrected _____ (°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: NA

Sample Description: ↓

Observations: *Top of Bladder Pump @ 39.36' - DRY; Removed Bladder & got water level = 40.16' - NO SAMPLE

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
				RC 11/3/22			

Samples chilled immediately after collection: ☒ Yes ☐ Other _____

Form Revised: 01/25/2021

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

Lead Technician Signature: Riley Jacobson Date: 11/3/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-153 Labeled P153

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	23.63	Feet
Static water level measurement before purging (Start Depth)	18.51	Feet
Static water level measurement at time of sampling (Final Depth)	18.51	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Bladder Pump Pump ID BP1

Date Purged 11/3/22 Water Column 5.12 Feet

Time Purged 1430 - 1445 One Casing Volume 0.83 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged 6.0 Gallons

Field Sampling Data

Date Sampled 11/3/22

Time Sampled 1450

Sampling Equip. Pump

Meter ID MP56/SM3

Analyzed by RD

Field Parameter Measurements of Sample

pH	8.2 (units)	D.O	9.9 (mg/l)
Spec. Cond.	350 (µmhos/cm)	Turbidity	2.6 (NTU)
Temp. Observed	13.3 (°C)	Eh	65 (mV)
Temp. Corrected	13.6 (°C)	Other	NA

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

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

Temperature Correction Factor: +0.3 °C

Weather Conditions During Sampling: 62°F, Overcast, SE15 MPH

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)
1435	8.2	360	13.3	10.4	2.9	64	1.0
1440	8.2	360	13.3	10.1	2.6	64	2.0
1445	8.2	350	13.3	9.9	2.6	65	3.0
				RD			
				11/3/22			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

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

Lead Technician Signature: Riley Jacobson Date: 11/3/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel | Project: Sherco Ponds Fall 2022 | Project No.: 22-06308

Monitoring Point ID: P-154A | Labeled: ~~806514~~ 806316 SM 11/4/22

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	49.53	Feet
Static water level measurement before purging (Start Depth)	35.18	Feet
Static water level measurement at time of sampling (Final Depth)	35.18	Feet
Static Water Level Elevation Before Purging	NA	Feet

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

Date Purged: 11/4/22 | Water Column: 14.35 Feet

Time Purged: 0920-0956 | One Casing Volume: 2.34 Gallons

Pump Rate: 0.2 (GPM) LPM | Volume Purged: 7.2 Gallons

Field Sampling Data

Date Sampled: 11/4/22 | Time Sampled: 1000 | Sampling Equip.: pump | Meter ID: MP3-8 | Analyzed by: SM

Field Parameter Measurements of Sample

pH	8.0 (units)	D.O	7.1 (mg/l)
Spec. Cond.	695 (µmhos/cm)	Turbidity	2.1 (NTU)
Temp. Observed	9.5 (°C)	Eh	130 (mV)
Temp. Corrected	9.6 (°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: 0.0 °C

Weather Conditions During Sampling: 35°F Cloudy, wind NW @ 8mph

Sample Description: clear w/ no odor

Observations: *DUP P-3 collected here, *Rinse P-3 collected @ 0955

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0932	8.0	670	9.7	1.7	2.1	126	2.4
0944	8.0	680	9.8	2.0	2.1	130	4.8
0956	8.0	680	9.3	2.1	2.1	130	@ ~~6.7~~ 7.2
					SM	11/4/22	

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

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Serena Rollins

Lead Technician Signature: SM Date: 11/4/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-162 Labeled P162

Inside Diameter _____ (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	① NA	Feet
Total Well Depth	~~166.00~~ 166.00	Feet
Static water level measurement before purging (Start Depth)	~~149.00~~ 155.00	Feet
Static water level measurement at time of sampling (Final Depth)	~~149.00~~ 155.00	Feet
Static Water Level Elevation Before Purging	NA	Feet

② Measured 11/4/22

① Recorded from Past Data - Rev 11/4/22

Rev 11/4/22

Purge Method Dedicated Bleck Pump Pump ID NA

Date Purged 11/4/22 Rev 11/4/22 Water Column _____ Feet

Time Purged 0830 - ~~0845~~ 0835 One Casing Volume _____ Gallons

Pump Rate 0.4 GPM / LPM Volume Purged _____ Gallons

Field Sampling Data

Date Sampled 11/4/22

Time Sampled NA

Sampling Equip. _____

Meter ID _____

Analyzed by _____

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	NA

RJ 11/4/22

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

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

Temperature Correction Factor: NA °C

Weather Conditions During Sampling: NA

Sample Description: NR

Observations: * Pumped Dry @ 2.0 Gal - No Sample Collected.

② Returned in ~~afternoon~~ Late Morning to attempt again - Measured SWL. Still nothing Pumped - Contacted D.K. RJ 11/4/22 Rev 11/4/22

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0835							2.0
0840							5.6 4.0
0845				Rej 11/4/22			8.4 6.0
							Rev Rej 11/4/22

Samples chilled immediately after collection: ☒ Yes ☐ Other _____

Form Revised: 01/25/2021

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

Lead Technician Signature: Riley Jacobson Date: 11/4/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-163 Labeled f163

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	176.00	Feet
Static water level measurement before purging (Start Depth)	163.70	Feet
Static water level measurement at time of sampling (Final Depth)	~~163.70~~ NA	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Keck Pump Pump ID NA

Date Purged 11/4/22 Water Column 12.30 Feet

Time Purged 1035 - 1050 One Casing Volume 2.00 Gallons

Pump Rate 0.4 (GPM) / LPM Volume Purged 6.0 Gallons

Field Sampling Data

Date Sampled 11/4/22

Time Sampled 1055

Sampling Equip. Pump

Meter ID MPS-6/TM3

Analyzed by Rees

Field Parameter Measurements of Sample

pH	7.7 (units)	D.O	10.8 (mg/l)
Spec. Cond.	600 (µmhos/cm)	Turbidity	4.4 (NTU)
Temp. Observed	9.6 (°C)	Eh	84 (mV)
Temp. Corrected	9.9 (°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: 37°F, Partly Cloudy, NE 12 MPH

Sample Description: clear no odor

Observations: ~~NONE~~ Collected a "Grab" @ start, but discarded when purged full Vol (3x) Rees 11/4/22

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1040	7.6	580	9.7	10.8	7.4	82	2.0
1045	7.7	580	9.6	10.8	5.1	82	4.0
1050	7.7	600	9.6	10.8	4.4	84	6.0

Rees 11/4/22

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Riley Isaacson Rees

Lead Technician Signature: Riley Isaacson Date: 11/4/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-164 Labeled P164

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	162.00	Feet
Static water level measurement before purging (Start Depth)	152.50	Feet
Static water level measurement at time of sampling (Final Depth)	NA	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Peck Pump Pump ID NA

Date Purged 11/4/22 (Rev) 11/4/22

Time Purged 0955 - ~~1010~~ 1000

Water Column 10.50 Feet

One Casing Volume 1.71 Gallons

Pump Rate 0.4 GPM / LPM

Volume Purged 2.0 Gallons

Field Sampling Data

Date Sampled 11/4/22

Time Sampled 1000

Sampling Equip. Pump

Meter ID MPS-6/TM3

Analyzed by RDJ

Field Parameter Measurements of Sample

pH	7.9 (units)	D.O	9.1 (mg/l)
Spec. Cond.	460 (µmhos/cm)	Turbidity	8.6 (NTU)
Temp. Observed	11.0 (°C)	Eh	~~14.6~~ (mV) (Rev) 11/4/22
Temp. Corrected	11.3 (°C)	Other	NA (15)

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: 36°F, Partly Cloudy, NE 12 MPH

Sample Description: clear no odor

Observations: * Collected as Grab Sample @ Start of purge - Reasoning because of P-162, purged dry @ ~2.0 Gal

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C) (observed)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1000	7.9	460	11.0	9.1	8.6	~~14.6~~ (Rev) 11/4/22	2.0
~~1005~~						15	4.0
1010				(Rev) 11/4/22			6.0

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

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

Lead Technician Signature: [signature] Date: 11/4/22

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Project Sherco Ponds Fall 2022 Project No. 22-06308

Monitoring Point ID P-165 Labeled 822159

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	40.32	Feet
Static water level measurement before purging (Start Depth)	33.67	Feet
Static water level measurement at time of sampling (Final Depth)	33.67	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder pump Pump ID BPC-1

Date Purged 11/4/22 Water Column 6.65 Feet

Time Purged 1045-1104 One Casing Volume 1.09 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 11/4/22

Time Sampled 1110

Sampling Equip. Pump

Meter ID MPS-8

Analyzed by SKR

Field Parameter Measurements of Sample

pH	7.3 (units)	D.O	10.4 (mg/l)
Spec. Cond.	630 (µmhos/cm)	Turbidity	1.4 (NTU)
Temp. Observed	9.9 (°C)	Eh	145 (mV)
Temp. Corrected	9.9 (°C)	Other	NA

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

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

Temperature Correction Factor: 0.0 °C

Weather Conditions During Sampling: 36°F & cloudy, wind NW @ 9 mph

Sample Description: clear w/: 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)
1052	7.8	630	9.8	10.4	1.4	140	1.2
1058	7.8	630	9.8	10.4	1.4	142	2.4
1104	7.8	630	9.9	10.4	1.4	145	3.6
			SKR				
				11/4/22			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2021

Name/Affiliation of Sampler(s): Serena Rathy

Lead Technician Signature: [signature] Date: 11/4/22

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

05 December 2022

Eric Ealy

Environmental Services-Water Minneapolis

414 Nicollet Mall, GO-2

Minneapolis, MN 55401

cc:

RE: Sherco Pond 3 CCR

Enclosed are the results of analyses for samples received by the laboratory on 11/04/2022 05:30. 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 Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-130		MHK0019-16	Water	11/02/2022 14:35	11/04/2022 5:30
P-131		MHK0019-18	Water	11/02/2022 13:30	11/04/2022 5:30
P-132		MHK0019-30	Water	11/04/2022 10:32	11/04/2022 5:30
P-151		MHK0019-31	Water	11/03/2022 14:10	11/04/2022 5:30
P-153		MHK0019-32	Water	11/03/2022 14:50	11/04/2022 5:30
P-154A		MHK0019-33	Water	11/04/2022 10:00	11/04/2022 5:30
P-163		MHK0019-35	Water	11/04/2022 10:55	11/04/2022 5:30
P-164		MHK0019-36	Water	11/04/2022 10:00	11/04/2022 5:30
P-165		MHK0019-37	Water	11/04/2022 11:10	11/04/2022 5:30
Duplicate CCR-P3		MHK0019-38	Water	11/04/2022 10:00	11/04/2022 5:30
Rinse CPR-P3		MHK0019-39	Water	11/04/2022 9:55	11/04/2022 5:30

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 Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-130

MHK0019-16 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	2.87	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 12:10	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 12:10	EPA 300.0	CRL
Sulfate	10.3	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 12:10	EPA 300.0	CRL
Wet Chemistry										
pH	7.70		pH Units	M_TTT	1	BHK0069	11/4/22 6:35	11/4/22 10:05	SM 4500-H+ B	CRL
Total Dissolved Solids	262	25.0	mg/L		1	BHK0078	11/5/22 9:36	11/5/22 9:36	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0077	11/5/22 7:08	11/5/22 7:08	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:37	EPA 200.8	CRL
Barium	59.3	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:37	EPA 200.8	CRL
Chromium	1.16	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:37	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:37	EPA 200.8	CRL
Selenium	0.547	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:37	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHK0192	11/9/22 11:15	11/10/22 14:27	EPA 200.7	HRD
Calcium	73.7	1.50	mg/L		1	BHK0192	11/9/22 11:15	11/10/22 14:26	EPA 200.7	HRD

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 Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-131

MHK0019-18 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	10.3	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 12:51	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 12:51	EPA 300.0	CRL
Sulfate	12.7	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 12:51	EPA 300.0	CRL
Wet Chemistry										
pH	7.87		pH Units	M_TTT	1	BHK0069	11/4/22 6:35	11/4/22 10:19	SM 4500-H+ B	CRL
Total Dissolved Solids	254	25.0	mg/L		1	BHK0078	11/5/22 9:36	11/5/22 9:36	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0077	11/5/22 7:08	11/5/22 7:08	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.627	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:41	EPA 200.8	CRL
Barium	68.6	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:41	EPA 200.8	CRL
Chromium	1.21	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:41	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:41	EPA 200.8	CRL
Selenium	0.660	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:41	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHK0192	11/9/22 11:15	11/10/22 14:31	EPA 200.7	HRD
Calcium	66.2	1.50	mg/L		1	BHK0192	11/9/22 11:15	11/10/22 14:30	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-132

MHK0019-30 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	1.50	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 18:42	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 18:42	EPA 300.0	CRL
Sulfate	32.0	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 18:42	EPA 300.0	CRL
Wet Chemistry										
pH	7.71		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 14:51	SM 4500-H+ B	CRL
Total Dissolved Solids	314	25.0	mg/L		1	BHK0088	11/7/22 8:57	11/7/22 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0087	11/7/22 6:45	11/7/22 6:45	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:57	EPA 200.8	CRL
Barium	33.1	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:57	EPA 200.8	CRL
Chromium	2.15	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:57	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:57	EPA 200.8	CRL
Selenium	1.79	0.500	ug/L		1	BHK0193	11/9/22 11:19	11/10/22 11:57	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0926	0.0500	mg/L		1	BHK0192	11/9/22 11:15	11/10/22 14:43	EPA 200.7	HRD
Calcium	80.3	1.50	mg/L		1	BHK0192	11/9/22 11:15	11/10/22 14:42	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-151

MHK0019-31 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	6.40	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:03	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:03	EPA 300.0	CRL
Sulfate	7.66	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:03	EPA 300.0	CRL
Wet Chemistry										
pH	7.96		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 14:55	SM 4500-H+ B	CRL
Total Dissolved Solids	178	25.0	mg/L		1	BHK0088	11/7/22 8:57	11/7/22 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0087	11/7/22 6:45	11/7/22 6:45	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:29	EPA 200.8	CRL
Barium	31.1	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:29	EPA 200.8	CRL
Chromium	0.775	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:29	EPA 200.8	CRL
Molybdenum	0.559	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:29	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:29	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:36	EPA 200.7	HRD
Calcium	37.0	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:34	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-153

MHK0019-32 (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	BHK0091	11/7/22 6:45	11/7/22 19:23	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:23	EPA 300.0	CRL
Sulfate	5.07	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:23	EPA 300.0	CRL
Wet Chemistry										
pH	8.09		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 14:58	SM 4500-H+ B	CRL
Total Dissolved Solids	122	25.0	mg/L		1	BHK0088	11/7/22 8:57	11/7/22 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0087	11/7/22 6:45	11/7/22 6:45	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.38	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:33	EPA 200.8	CRL
Barium	17.2	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:33	EPA 200.8	CRL
Chromium	1.04	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:33	EPA 200.8	CRL
Molybdenum	0.785	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:33	EPA 200.8	CRL
Selenium	0.623	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:33	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:47	EPA 200.7	HRD
Calcium	25.3	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:46	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-154A

MHK0019-33 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	7.95	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:44	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:44	EPA 300.0	CRL
Sulfate	22.5	1.00	mg/L		1	BHK0091	11/7/22 6:45	11/7/22 19:44	EPA 300.0	CRL
Wet Chemistry										
pH	7.94		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 15:02	SM 4500-H+ B	CRL
Total Dissolved Solids	258	25.0	mg/L		1	BHK0178	11/9/22 9:31	11/9/22 9:31	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0177	11/9/22 7:23	11/9/22 7:23	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.35	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:37	EPA 200.8	CRL
Barium	43.2	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:37	EPA 200.8	CRL
Chromium	0.919	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:37	EPA 200.8	CRL
Molybdenum	0.684	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:37	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:37	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:51	EPA 200.7	HRD
Calcium	57.1	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:50	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-163

MHK0019-35 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	19.6	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 10:37	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 10:37	EPA 300.0	CRL
Sulfate	121	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 10:37	EPA 300.0	CRL
Wet Chemistry										
pH	7.91		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 15:19	SM 4500-H+ B	CRL
Total Dissolved Solids	520	25.0	mg/L		1	BHK0178	11/9/22 9:31	11/9/22 9:31	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0177	11/9/22 7:23	11/9/22 7:23	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.560	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:45	EPA 200.8	CRL
Barium	50.5	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:45	EPA 200.8	CRL
Chromium	10.4	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:45	EPA 200.8	CRL
Molybdenum	0.710	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:45	EPA 200.8	CRL
Selenium	25.0	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:45	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.372	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:59	EPA 200.7	HRD
Calcium	113	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 15:58	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-164

MHK0019-36 (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	BHK0179	11/9/22 6:34	11/9/22 10:57	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 10:57	EPA 300.0	CRL
Sulfate	55.1	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 10:57	EPA 300.0	CRL
Wet Chemistry										
pH	8.01		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 15:22	SM 4500-H+ B	CRL
Total Dissolved Solids	342	25.0	mg/L		1	BHK0178	11/9/22 9:31	11/9/22 9:31	SM 2540C	HSD
Total Suspended Solids	5.80	5.00	mg/L		1	BHK0177	11/9/22 7:23	11/9/22 7:23	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.544	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:57	EPA 200.8	CRL
Barium	44.5	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:57	EPA 200.8	CRL
Chromium	4.11	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:57	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:57	EPA 200.8	CRL
Selenium	7.16	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 12:57	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0693	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:03	EPA 200.7	HRD
Calcium	78.4	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:02	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

P-165

MHK0019-37 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	2.05	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:18	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:18	EPA 300.0	CRL
Sulfate	18.2	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:18	EPA 300.0	CRL
Wet Chemistry										
pH	7.86		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 15:26	SM 4500-H+ B	CRL
Total Dissolved Solids	242	25.0	mg/L		1	BHK0178	11/9/22 9:31	11/9/22 9:31	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0177	11/9/22 7:23	11/9/22 7:23	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:01	EPA 200.8	CRL
Barium	28.6	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:01	EPA 200.8	CRL
Chromium	1.44	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:01	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:01	EPA 200.8	CRL
Selenium	1.28	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:01	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0569	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:07	EPA 200.7	HRD
Calcium	57.4	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:06	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Duplicate CCR-P3

MHK0019-38 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	7.86	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:39	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:39	EPA 300.0	CRL
Sulfate	21.7	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:39	EPA 300.0	CRL
Wet Chemistry										
pH	7.95		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 15:30	SM 4500-H+ B	CRL
Total Dissolved Solids	258	25.0	mg/L		1	BHK0178	11/9/22 9:31	11/9/22 9:31	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0177	11/9/22 7:23	11/9/22 7:23	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.35	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:05	EPA 200.8	CRL
Barium	42.9	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:05	EPA 200.8	CRL
Chromium	0.845	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:05	EPA 200.8	CRL
Molybdenum	0.711	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:05	EPA 200.8	CRL
Selenium	0.585	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:05	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:11	EPA 200.7	HRD
Calcium	57.4	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:10	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Rinse CPR-P3

MHK0019-39 (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	BHK0179	11/9/22 6:34	11/9/22 11:59	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:59	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BHK0179	11/9/22 6:34	11/9/22 11:59	EPA 300.0	CRL
Wet Chemistry										
pH	6.29		pH Units	M_TTT	1	BHK0086	11/4/22 13:18	11/4/22 15:33	SM 4500-H+ B	CRL
Total Dissolved Solids	< 25.0	25.0	mg/L	M_ES	1	BHK0178	11/9/22 9:31	11/9/22 9:31	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_ES	1	BHK0177	11/9/22 7:23	11/9/22 7:23	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:09	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:09	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:09	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:09	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BHK0198	11/9/22 11:24	11/10/22 13:09	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:15	EPA 200.7	HRD
Calcium	< 1.50	1.50	mg/L		1	BHK0197	11/9/22 11:22	11/10/22 16:14	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0071 - Wet Prep										
Blank (BHK0071-BLK1)				Prepared & Analyzed: 11/04/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BHK0071-BLK2)				Prepared & Analyzed: 11/04/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BHK0071-BS1)				Prepared & Analyzed: 11/04/2022						
Chloride	24.700	1.00	mg/L	25.000		98.8	90-110			
Fluoride	2.4680	0.750	mg/L	2.5000		98.7	90-110			
Sulfate	24.471	1.00	mg/L	25.000		97.9	90-110			
LCS (BHK0071-BS2)				Prepared & Analyzed: 11/04/2022						
Chloride	24.952	1.00	mg/L	25.000		99.8	90-110			
Fluoride	2.5270	0.750	mg/L	2.5000		101	90-110			
Sulfate	24.673	1.00	mg/L	25.000		98.7	90-110			
LCS (BHK0071-BS3)				Prepared & Analyzed: 11/04/2022						
Chloride	25.064	1.00	mg/L	25.000		100	90-110			
Fluoride	2.5360	0.750	mg/L	2.5000		101	90-110			
Sulfate	24.786	1.00	mg/L	25.000		99.1	90-110			
Duplicate (BHK0071-DUP1)		**Source: MHK0019-03**		Prepared & Analyzed: 11/04/2022						
Chloride	1.6330	1.00	mg/L		1.6370			0.245	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	10.826	1.00	mg/L		10.998			1.58	20	

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414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0071 - Wet Prep										
Duplicate (BHK0071-DUP2)		**Source: MHK0019-04**		Prepared & Analyzed: 11/04/2022						
Chloride	18.770	1.00	mg/L		18.781			0.0586	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	53.900	1.00	mg/L		53.896			0.00742	20	
Matrix Spike (BHK0071-MS1)		**Source: MHK0019-03**		Prepared & Analyzed: 11/04/2022						
Chloride	26.283	1.11	mg/L	27.778	1.6370	88.7	90-110			M_MS
Fluoride	2.6278	0.833	mg/L	2.7778	<0.833	94.6	90-110			
Sulfate	35.149	1.11	mg/L	27.778	10.998	86.9	90-110			M_MS
Matrix Spike (BHK0071-MS2)		**Source: MHK0019-04**		Prepared & Analyzed: 11/04/2022						
Chloride	47.062	1.11	mg/L	27.778	18.781	102	90-110			
Fluoride	2.9844	0.833	mg/L	2.7778	<0.833	107	90-110			
Sulfate	82.022	1.11	mg/L	27.778	53.896	101	90-110			
Matrix Spike Dup (BHK0071-MSD1)		**Source: MHK0019-03**		Prepared & Analyzed: 11/04/2022						
Chloride	28.394	1.11	mg/L	27.778	1.6370	96.3	90-110	7.72	20	
Fluoride	2.8344	0.833	mg/L	2.7778	<0.833	102	90-110	7.57	20	
Sulfate	37.950	1.11	mg/L	27.778	10.998	97.0	90-110	7.66	20	
Matrix Spike Dup (BHK0071-MSD2)		**Source: MHK0019-04**		Prepared & Analyzed: 11/04/2022						
Chloride	46.067	1.11	mg/L	27.778	18.781	98.2	90-110	2.14	20	
Fluoride	2.8667	0.833	mg/L	2.7778	<0.833	103	90-110	4.03	20	
Sulfate	81.162	1.11	mg/L	27.778	53.896	98.2	90-110	1.05	20	
Batch BHK0091 - Wet Prep										
Blank (BHK0091-BLK1)				Prepared & Analyzed: 11/07/2022						
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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414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0091 - Wet Prep										
Blank (BHK0091-BLK2)				Prepared & Analyzed: 11/07/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BHK0091-BS1)				Prepared & Analyzed: 11/07/2022						
Chloride	24.983	1.00	mg/L	25.000		99.9	90-110			
Fluoride	2.5270	0.750	mg/L	2.5000		101	90-110			
Sulfate	24.829	1.00	mg/L	25.000		99.3	90-110			
LCS (BHK0091-BS2)				Prepared & Analyzed: 11/07/2022						
Chloride	25.095	1.00	mg/L	25.000		100	90-110			
Fluoride	2.5660	0.750	mg/L	2.5000		103	90-110			
Sulfate	24.898	1.00	mg/L	25.000		99.6	90-110			
LCS (BHK0091-BS3)				Prepared & Analyzed: 11/07/2022						
Chloride	25.087	1.00	mg/L	25.000		100	90-110			
Fluoride	2.5540	0.750	mg/L	2.5000		102	90-110			
Sulfate	24.869	1.00	mg/L	25.000		99.5	90-110			
Duplicate (BHK0091-DUP1)		**Source: MHK0019-16**		Prepared & Analyzed: 11/07/2022						
Chloride	2.4660	1.00	mg/L		2.8690			15.1	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	8.7300	1.00	mg/L		10.282			16.3	20	
Duplicate (BHK0091-DUP2)		**Source: MHK0019-17**		Prepared & Analyzed: 11/07/2022						
Chloride	27.998	1.00	mg/L		27.936			0.222	20	
Fluoride	<0.750	0.750	mg/L		0.066000				20	
Sulfate	49.544	1.00	mg/L		49.515			0.0585	20	

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414 Nicollet Mall, GO-2		**Reported:**
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Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0091 - Wet Prep										
Matrix Spike (BHK0091-MS1)		**Source: MHK0019-16**		Prepared & Analyzed: 11/07/2022						
Chloride	30.017	1.11	mg/L	27.778	2.8690	97.7	90-110			
Fluoride	2.8356	0.833	mg/L	2.7778	<0.833	102	90-110			
Sulfate	37.709	1.11	mg/L	27.778	10.282	98.7	90-110			
Matrix Spike (BHK0091-MS2)		**Source: MHK0019-17**		Prepared & Analyzed: 11/07/2022						
Chloride	56.669	1.11	mg/L	27.778	27.936	103	90-110			
Fluoride	3.0933	0.833	mg/L	2.7778	<0.833	111	90-110			M_MS
Sulfate	78.206	1.11	mg/L	27.778	49.515	103	90-110			
Matrix Spike Dup (BHK0091-MSD1)		**Source: MHK0019-16**		Prepared & Analyzed: 11/07/2022						
Chloride	30.430	1.11	mg/L	27.778	2.8690	99.2	90-110	1.37	20	
Fluoride	2.8700	0.833	mg/L	2.7778	<0.833	103	90-110	1.21	20	
Sulfate	38.120	1.11	mg/L	27.778	10.282	100	90-110	1.08	20	
Matrix Spike Dup (BHK0091-MSD2)		**Source: MHK0019-17**		Prepared & Analyzed: 11/07/2022						
Chloride	55.797	1.11	mg/L	27.778	27.936	100	90-110	1.55	20	
Fluoride	3.0033	0.833	mg/L	2.7778	<0.833	108	90-110	2.95	20	
Sulfate	77.382	1.11	mg/L	27.778	49.515	100	90-110	1.06	20	
Batch BHK0179 - Wet Prep										
Blank (BHK0179-BLK1)				Prepared & Analyzed: 11/09/2022						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BHK0179-BS1)				Prepared & Analyzed: 11/09/2022						
Chloride	24.793	1.00	mg/L	25.000		99.2	90-110			
Fluoride	2.5680	0.750	mg/L	2.5000		103	90-110			
Sulfate	24.600	1.00	mg/L	25.000		98.4	90-110			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0179 - Wet Prep										
LCS (BHK0179-BS2)				Prepared & Analyzed: 11/09/2022						
Chloride	24.784	1.00	mg/L	25.000		99.1	90-110			
Fluoride	2.5450	0.750	mg/L	2.5000		102	90-110			
Sulfate	24.393	1.00	mg/L	25.000		97.6	90-110			
Duplicate (BHK0179-DUP1)		**Source: MHK0056-01**		Prepared & Analyzed: 11/09/2022						
Chloride	13.334	1.00	mg/L		13.376			0.314	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	8.9550	1.00	mg/L		8.9890			0.379	20	
Matrix Spike (BHK0179-MS1)		**Source: MHK0056-01**		Prepared & Analyzed: 11/09/2022						
Chloride	41.143	1.11	mg/L	27.778	13.376	100	90-110			
Fluoride	2.8978	0.833	mg/L	2.7778	<0.833	104	90-110			
Sulfate	36.741	1.11	mg/L	27.778	8.9890	99.9	90-110			
Matrix Spike Dup (BHK0179-MSD1)		**Source: MHK0056-01**		Prepared & Analyzed: 11/09/2022						
Chloride	41.662	1.11	mg/L	27.778	13.376	102	90-110	1.25	20	
Fluoride	3.0233	0.833	mg/L	2.7778	<0.833	109	90-110	4.24	20	
Sulfate	37.219	1.11	mg/L	27.778	8.9890	102	90-110	1.29	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0061 - Wet Prep										
Blank (BHK0061-BLK1)				Prepared & Analyzed: 11/04/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHK0061-BS1)				Prepared & Analyzed: 11/04/2022						
Total Suspended Solids	98.000	5.00	mg/L	106.90		91.7	70-130			
Duplicate (BHK0061-DUP1)		**Source: MHK0004-25**		Prepared & Analyzed: 11/04/2022						
Total Suspended Solids	1.5000	12.5	mg/L		0.80000			60.9	20	M_D-RL, M_ES
Duplicate (BHK0061-DUP2)		**Source: MHK0019-02**		Prepared & Analyzed: 11/04/2022						
Total Suspended Solids	14.500	12.5	mg/L		12.000			18.9	20	
Batch BHK0062 - Wet Prep										
Blank (BHK0062-BLK1)				Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHK0062-BS1)				Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	110.00	25.0	mg/L	107.80		102	70-130			
Duplicate (BHK0062-DUP1)		**Source: MHK0004-25**		Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	276.00	25.0	mg/L		282.00			2.15	20	
Duplicate (BHK0062-DUP2)		**Source: MHK0019-02**		Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	1102.0	25.0	mg/L		1112.0			0.903	20	
Batch BHK0069 - Wet Prep										
LCS (BHK0069-BS1)				Prepared & Analyzed: 11/04/2022						
pH	7.0900		pH Units	7.0000		101	90-110			

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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 BHK0069 - Wet Prep										
LCS (BHK0069-BS2)				Prepared & Analyzed: 11/04/2022						
pH	7.1100		pH Units	7.0000		102	90-110			
Duplicate (BHK0069-DUP1)		**Source: MHK0019-01**		Prepared & Analyzed: 11/04/2022						
pH	7.4900		pH Units		7.5100			0.267	20	
Duplicate (BHK0069-DUP2)		**Source: MHK0019-11**		Prepared & Analyzed: 11/04/2022						
pH	7.7200		pH Units		7.7400			0.259	20	
Duplicate (BHK0069-DUP3)		**Source: MHK0019-21**		Prepared & Analyzed: 11/04/2022						
pH	7.6100		pH Units		7.6300			0.262	20	
Batch BHK0077 - Wet Prep										
Blank (BHK0077-BLK1)				Prepared & Analyzed: 11/05/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHK0077-BS1)				Prepared & Analyzed: 11/05/2022						
Total Suspended Solids	92.000	5.00	mg/L	106.90		86.1	70-130			
Duplicate (BHK0077-DUP1)		**Source: MHK0019-12**		Prepared & Analyzed: 11/05/2022						
Total Suspended Solids	372.00	25.0	mg/L		372.00			0.00	20	
Duplicate (BHK0077-DUP2)		**Source: MHK0019-13**		Prepared & Analyzed: 11/05/2022						
Total Suspended Solids	297.33	16.7	mg/L		290.00			2.50	20	
Batch BHK0078 - Wet Prep										
Blank (BHK0078-BLK1)				Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							

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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 BHK0078 - Wet Prep										
LCS (BHK0078-BS1)				Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	76.000	25.0	mg/L	107.80		70.5	70-130			
Duplicate (BHK0078-DUP1)			**Source: MHK0019-12**	Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	626.00	25.0	mg/L		616.00			1.61	20	
Duplicate (BHK0078-DUP2)			**Source: MHK0019-13**	Prepared & Analyzed: 11/05/2022						
Total Dissolved Solids	402.00	25.0	mg/L		402.00			0.00	20	
Batch BHK0086 - Wet Prep										
LCS (BHK0086-BS1)				Prepared & Analyzed: 11/04/2022						
pH	7.0900		pH Units	7.0000		101	90-110			
LCS (BHK0086-BS2)				Prepared & Analyzed: 11/04/2022						
pH	7.0900		pH Units	7.0000		101	90-110			
Duplicate (BHK0086-DUP1)			**Source: MHK0019-24**	Prepared & Analyzed: 11/04/2022						
pH	7.6400		pH Units		7.6900			0.652	20	
Duplicate (BHK0086-DUP2)			**Source: MHK0019-34**	Prepared & Analyzed: 11/04/2022						
pH	7.6400		pH Units		7.6400			0.00	20	
Batch BHK0087 - Wet Prep										
Blank (BHK0087-BLK1)				Prepared & Analyzed: 11/07/2022						
Total Suspended Solids	<5.00	5.00	mg/L							

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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 BHK0087 - Wet Prep										
LCS (BHK0087-BS1)				Prepared & Analyzed: 11/07/2022						
Total Suspended Solids	92.000	5.00	mg/L	106.90		86.1	70-130			
Duplicate (BHK0087-DUP1)		**Source: MHK0019-24**		Prepared & Analyzed: 11/07/2022						
Total Suspended Solids	<12.5	12.5	mg/L		<12.5				20	M_ES
Batch BHK0088 - Wet Prep										
Blank (BHK0088-BLK1)				Prepared & Analyzed: 11/07/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHK0088-BS1)				Prepared & Analyzed: 11/07/2022						
Total Dissolved Solids	112.00	25.0	mg/L	107.80		104	70-130			
Duplicate (BHK0088-DUP1)		**Source: MHK0019-24**		Prepared & Analyzed: 11/07/2022						
Total Dissolved Solids	452.00	25.0	mg/L		442.00			2.24	20	
Batch BHK0177 - Wet Prep										
Blank (BHK0177-BLK1)				Prepared & Analyzed: 11/09/2022						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BHK0177-BS1)				Prepared & Analyzed: 11/09/2022						
Total Suspended Solids	98.000	5.00	mg/L	106.90		91.7	70-130			
Duplicate (BHK0177-DUP1)		**Source: MHK0019-33**		Prepared & Analyzed: 11/09/2022						
Total Suspended Solids	<12.5	12.5	mg/L		0.40000				20	

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Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0177 - Wet Prep										
Duplicate (BHK0177-DUP2)		**Source: MHK0055-02**		Prepared & Analyzed: 11/09/2022						
Total Suspended Solids	0.70000	5.00	mg/L		1.1000			44.4	20	M_D-RL
Batch BHK0178 - Wet Prep										
Blank (BHK0178-BLK1)				Prepared & Analyzed: 11/09/2022						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BHK0178-BS1)				Prepared & Analyzed: 11/09/2022						
Total Dissolved Solids	118.00	25.0	mg/L	107.80		109	70-130			
Duplicate (BHK0178-DUP1)		**Source: MHK0019-33**		Prepared & Analyzed: 11/09/2022						
Total Dissolved Solids	256.00	25.0	mg/L		258.00			0.778	20	

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0193 - EPA 200.2, EPA 3005										
Blank (BHK0193-BLK1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Barium	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
LCS (BHK0193-BS1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Chromium	96.824	0.500	ug/L	100.00		96.8	85-115			
Selenium	94.390	0.500	ug/L	100.00		94.4	85-115			
Barium	98.770	0.500	ug/L	100.00		98.8	85-115			
Arsenic	97.840	0.500	ug/L	100.00		97.8	85-115			
Molybdenum	95.790	0.500	ug/L	100.00		95.8	85-115			
Duplicate (BHK0193-DUP1)		**Source: MHK0004-03**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Molybdenum	0.59858	0.500	ug/L		0.48900			20.2	20	
Chromium	1.3137	0.500	ug/L		1.2341			6.25	20	
Barium	51.312	0.500	ug/L		50.526			1.54	20	
Selenium	2.5299	0.500	ug/L		2.4796			2.01	20	
Arsenic	0.48552	0.500	ug/L		0.44088			9.64	20	
Duplicate (BHK0193-DUP2)		**Source: MHK0004-11**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Molybdenum	0.12414	0.500	ug/L		0.12541			1.02	20	
Arsenic	0.38216	0.500	ug/L		0.42824			11.4	20	
Barium	61.505	0.500	ug/L		60.400			1.81	20	
Chromium	1.1428	0.500	ug/L		1.1906			4.10	20	
Selenium	3.0001	0.500	ug/L		2.9588			1.39	20	
Matrix Spike (BHK0193-MS1)		**Source: MHK0004-03**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Chromium	102.50	0.500	ug/L	100.00	1.2341	101	75-125			
Barium	157.02	0.500	ug/L	100.00	50.526	106	75-125			
Molybdenum	101.87	0.500	ug/L	100.00	0.48900	101	75-125			
Selenium	100.97	0.500	ug/L	100.00	2.4796	98.5	75-125			
Arsenic	106.03	0.500	ug/L	100.00	0.44088	106	75-125			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0193 - EPA 200.2, EPA 3005										
Matrix Spike (BHK0193-MS2)		**Source: MHK0004-11**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Molybdenum	102.16	0.500	ug/L	100.00	0.12541	102	75-125			
Arsenic	104.93	0.500	ug/L	100.00	0.42824	104	75-125			
Selenium	100.33	0.500	ug/L	100.00	2.9588	97.4	75-125			
Barium	164.77	0.500	ug/L	100.00	60.400	104	75-125			
Chromium	104.39	0.500	ug/L	100.00	1.1906	103	75-125			
Matrix Spike Dup (BHK0193-MSD1)		**Source: MHK0004-03**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Chromium	103.97	0.500	ug/L	100.00	1.2341	103	75-125	1.43	20	
Selenium	101.65	0.500	ug/L	100.00	2.4796	99.2	75-125	0.675	20	
Molybdenum	103.75	0.500	ug/L	100.00	0.48900	103	75-125	1.82	20	
Barium	158.65	0.500	ug/L	100.00	50.526	108	75-125	1.03	20	
Arsenic	107.27	0.500	ug/L	100.00	0.44088	107	75-125	1.16	20	
Matrix Spike Dup (BHK0193-MSD2)		**Source: MHK0004-11**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Arsenic	106.09	0.500	ug/L	100.00	0.42824	106	75-125	1.10	20	
Molybdenum	102.49	0.500	ug/L	100.00	0.12541	102	75-125	0.330	20	
Barium	165.17	0.500	ug/L	100.00	60.400	105	75-125	0.245	20	
Chromium	100.86	0.500	ug/L	100.00	1.1906	99.7	75-125	3.44	20	
Selenium	101.90	0.500	ug/L	100.00	2.9588	98.9	75-125	1.55	20	
Batch BHK0198 - EPA 200.2, EPA 3005										
Blank (BHK0198-BLK1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Chromium	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0198 - EPA 200.2, EPA 3005										
LCS (BHK0198-BS1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Selenium	95.778	0.500	ug/L	100.00		95.8	85-115			
Barium	102.30	0.500	ug/L	100.00		102	85-115			
Molybdenum	98.569	0.500	ug/L	100.00		98.6	85-115			
Chromium	100.72	0.500	ug/L	100.00		101	85-115			
Arsenic	100.70	0.500	ug/L	100.00		101	85-115			
Duplicate (BHK0198-DUP1)		**Source: MHK0019-32**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Barium	17.120	0.500	ug/L		17.217			0.567	20	
Arsenic	1.3795	0.500	ug/L		1.3806			0.0784	20	
Chromium	0.97081	0.500	ug/L		1.0360			6.50	20	
Molybdenum	0.93489	0.500	ug/L		0.78471			17.5	20	
Selenium	0.64939	0.500	ug/L		0.62326			4.11	20	
Matrix Spike (BHK0198-MS1)		**Source: MHK0019-32**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Barium	119.73	0.500	ug/L	100.00	17.217	103	75-125			
Molybdenum	98.931	0.500	ug/L	100.00	0.78471	98.1	75-125			
Selenium	96.303	0.500	ug/L	100.00	0.62326	95.7	75-125			
Chromium	97.362	0.500	ug/L	100.00	1.0360	96.3	75-125			
Arsenic	101.17	0.500	ug/L	100.00	1.3806	99.8	75-125			
Matrix Spike Dup (BHK0198-MSD1)		**Source: MHK0019-32**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Barium	118.04	0.500	ug/L	100.00	17.217	101	75-125	1.42	20	
Selenium	96.269	0.500	ug/L	100.00	0.62326	95.6	75-125	0.0354	20	
Molybdenum	100.36	0.500	ug/L	100.00	0.78471	99.6	75-125	1.43	20	
Arsenic	103.85	0.500	ug/L	100.00	1.3806	102	75-125	2.62	20	
Chromium	101.43	0.500	ug/L	100.00	1.0360	100	75-125	4.09	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0192 - EPA 200.2, EPA 3005										
Blank (BHK0192-BLK1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.50	1.50	mg/L							
LCS (BHK0192-BS1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	97.611	1.50	mg/L				85-115			
Boron	0.98919	0.0500	mg/L	1.0000		98.9	85-115			
Duplicate (BHK0192-DUP1)		**Source: MHK0004-01**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	131.40	1.50	mg/L		129.37			1.56	20	
Boron	3.1603	0.0500	mg/L		3.0859			2.38	20	
Duplicate (BHK0192-DUP2)		**Source: MHK0004-02**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	60.094	1.50	mg/L		60.218			0.206	20	
Boron	0.040047	0.0500	mg/L		0.042554			6.07	20	
Matrix Spike (BHK0192-MS1)		**Source: MHK0004-01**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	226.71	1.50	mg/L		129.37		70-130			
Boron	4.1958	0.0500	mg/L	1.0000	3.0859	111	70-130			
Matrix Spike (BHK0192-MS2)		**Source: MHK0004-02**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	161.97	1.50	mg/L		60.218		70-130			
Boron	0.99800	0.0500	mg/L	1.0000	0.042554	95.5	70-130			
Matrix Spike Dup (BHK0192-MSD1)		**Source: MHK0004-01**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	227.86	1.50	mg/L		129.37		70-130	0.505	20	
Boron	4.1468	0.0500	mg/L	1.0000	3.0859	106	70-130	1.17	20	
Matrix Spike Dup (BHK0192-MSD2)		**Source: MHK0004-02**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Boron	0.98611	0.0500	mg/L	1.0000	0.042554	94.4	70-130	1.20	20	
Calcium	161.54	1.50	mg/L		60.218		70-130	0.264	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BHK0197 - EPA 200.2, EPA 3005										
Blank (BHK0197-BLK1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	<1.50	1.50	mg/L							
Boron	<0.0500	0.0500	mg/L							
LCS (BHK0197-BS1)				Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	101.52	1.50	mg/L	100.00		102	85-115			
Boron	0.95137	0.0500	mg/L	1.0000		95.1	85-115			
Duplicate (BHK0197-DUP1)		**Source: MHK0019-31**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Boron	0.038881	0.0500	mg/L		0.039899			2.58	20	
Calcium	36.928	1.50	mg/L		36.992			0.171	20	
Matrix Spike (BHK0197-MS1)		**Source: MHK0019-31**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	138.60	1.50	mg/L	100.00	36.992	102	70-130			
Boron	1.0052	0.0500	mg/L	1.0000	0.039899	96.5	70-130			
Matrix Spike Dup (BHK0197-MSD1)		**Source: MHK0019-31**		Prepared: 11/09/2022 Analyzed: 11/10/2022						
Calcium	136.04	1.50	mg/L	100.00	36.992	99.0	70-130	1.87	20	
Boron	1.0027	0.0500	mg/L	1.0000	0.039899	96.3	70-130	0.244	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
414 Nicollet Mall, GO-2		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/05/2022 11:37

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_ES	The reported value is an estimate. The amount of residue measured during analysis was outside of 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.
M_DIL	Sample was diluted. The MDL and MRL were raised due to the dilution.
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.

Page: 1 o 6

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C
Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	(1) ~~P-01A-2~~	WT	G	-	-	—	—											x	x							
2	P-03A	WT	G	-	-	11/2/22	0935											x								
3	P-03B	WT	G	-	-	11/2/22	0905											x								
4	P-04A -1	WT	G	-	-	11/2/22	1010											x								
5	P-05A -1 (2)	WT	G	-	-	11/2/22	NA											x								
6	(1) ~~P-17~~	WT	G	-	-	—	—												x	x						
7	(1) ~~P-22~~	WT	G	-	-	—	—											x								
8	P-23	WT	G	-	-	11/3/22	0940											x								
9	(1) ~~P-42~~	WT	G	-	-	—	—											x								
10	P-43	WT	G	-	-	11/1/22	1320											x								
11	(1) ~~P-50~~	WT	G	-	-	—	—											x								
12	(1) ~~P-50B~~	WT	G	-	-	—	—											x								

Additional Comments:

(1) Submitted 11/1/22 by SKR

(2) NO SAMPLE - ROS 11/4/22
pH strips: MH00138
Typ MD0084

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] Pace	11/4/22	1250	[signature] / XCEL	11/4/22	1250	3.0	(Y)/N	Y/N	Y/(N)
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
						Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Serena Ruthes
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 11/4/22

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.

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	Filtered (Y/N)	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	(1) ~~P-50D~~	WT	G	-	-																							
2	X P-56	WT	G	-	-	11/3/22	1115												x									
3	X P-60	WT	G	-	-	11/3/22	1250												x									
4	X P-62	WT	G	-	-	11/3/22	1150												x									
5	P-66	WT	G	-	-	11/1/22	1245												x									
6	P-88	WT	G	-	-	11/2/22	1210												x									
7	P-89-1	WT	G	-	-	11/2/22	1100												x									
8	P-90	WT	G	-	-	11/1/22	1355												x									
9	P-90A	WT	G	-	-	11/1/22	1430												x									
10	(1) ~~P-92A~~	WT	G	-	-														x									
11	(1) ~~P-92D~~	WT	G	-	-														x									
12	(1) ~~P-93A~~	WT	G	-	-														x									

Additional Comments:

(1) Submitted 11/12 by SKR
pH strips: H400136
Typ H400841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	11/4/22	1252	HC Xcel	11/4/22	1250

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
3.0	(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: Riley Jacobson + Steven Rautins
SIGNATURE of SAMPLER: Riley Jacobson
DATE Signed (MM / DD / YY): 11/4/22

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.

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	① ~~P-93D~~	WT	G	-	-													x								
2	P-94A	WT	G	-	-	11/2/22	1135											x								
3	X P-101A	WT	G	-	-	11/3/22	1045											x								
4	X P-101B	WT	G	-	-	11/3/22	105											x								
5	P-126	WT	G	-	-	11/1/22	1540											x								
6	P-126D	WT	G	-	-	11/1/22	1510											x								
7	P-127	WT	G	-	-	11/1/22	1610											x								
8	P-128	WT	G	-	-	11/1/22	1705											x								
9	P-128D	WT	G	-	-	11/1/22	1640											x								
10	P-129 ②	WT	G	-	-	11/3/22	NA											x								
11	P-130	WT	G	-	-	11/2/22	1435											x		x						
12	P-130D	WT	G	-	-	11/2/22	1410											x								

Additional Comments:

① Submitted @ 11/1/22 by SKR

② NO SAMPLE - ROS 11/4/22
pH Strips: M420139
Typ M400841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson	11/4/22	1250	HSO/Xcel	11/4/22	1250

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
3.0	(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: Riley Jacobson / Steven Hutton
SIGNATURE of SAMPLER: Riley Jacobson
DATE Signed (MM / DD / YY): 11/4/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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-P3	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-131	WT	G	-	-	11/2/22	1330											x			x					
2	P-131D	WT	G	-	-	11/2/22	1250											x								
3	P-132	WT	G	-	-	11/4/22	1032											x			x					
4	P-150 (2)	WT	G	-	-	11/3/22	NA														x					
5	P-151	WT	G	-	-	11/3/22	1410														x					
6	P-152A (2)	WT	G	-	-	11/3/22	NA																			
7	P-153	WT	G	-	-	11/3/22	1450											x	x	x	x					
8	P-154A	WT	G	-	-	11/4/22	1000														x					
9	(1) ~~P-155~~	WT	G	-	-																x					
10	(1) ~~P-156~~	WT	G	-	-																x					
11	P-157	WT	G	-	-	11/3/22	0820														x					
12	(1) ~~P-158~~	WT	G	-	-																x	x				

Additional Comments:

(1) Submitted 11/1/22 by SKR

(2) NO SAMPLE - RCS 11/3/22
pH strips: MH00130
Typ MH00841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] Pace	11/4/22	1250	[signature]	11/4/22	1250

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
3.0	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 + Serena Peters
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/4/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

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-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-162 (2)	WT	G	-	-	11/4/22	NA															x						
2	K P-163	WT	G	-	-	11/4/22	1055															x						
3	K P-164	WT	G	-	-	11/4/22	1000															x						
4	K P-165	WT	G	-	-	11/4/22	1110															x						
5	(1) ~~P-173~~	WT	G	-	-	—	—																x					
6	(1) ~~P-174~~	WT	G	-	-	—	—																x					
7	(1) ~~P-175~~	WT	G	-	-	—	—																x					
8	(1) ~~P-176~~	WT	G	-	-	—	—																x					
9	(1) ~~P-177~~	WT	G	-	-	—	—																x					
10	P-178A	WT	G	-	-	11/2/22	1520															x	x					
11	P-178B	WT	G	-	-	11/2/22	1545															x						
12	(1) ~~P-179A~~	WT	G	-	-	—	—															x						

Additional Comments:

(1) Submitted 11/1/22 by SKR
(2) NO SAMPLE - RGS 11/4/22
pH strips: MH00138
Typ MH00841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	11/4/22	1250	[illegible]	11/4/22	1250

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Several Partners
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/4/22

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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:	Brad Jacobson	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Brad Jacobson	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number		Pace Project Manager:	Brad Jacobson
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Fall 22	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, 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	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-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	(1) ~~P-179D~~	WT	G	-	-	—	—											x								
2	(1) ~~P-180A~~	WT	G	-	-	—	—											x								
3	(1) ~~P-180D~~	WT	G	-	-	—	—											x								
4	Duplicate NPDES	WT	G	-	-	11/1/22	1355											x								
5	Rinse NPDES	WT	G	-	-	11/1/22	1400											x								
6	(1) ~~Duplicate BAP~~	WT	G	-	-	—	—												x							
7	(1) ~~Rinse BAP~~	WT	G	-	-	—	—												x							
8	(1) ~~Duplicate BAP2~~	WT	G	-	-	—	—													x						
9	(1) ~~Rinse BAP2~~	WT	G	-	-	—	—													x						
10	Duplicate P3	WT	G	-	-	11/4/22	1000														x					
11	Rinse P3	WT	G	-	-	11/4/22	0955														x					
12				-	-																					

Additional Comments:

(1) Submitted 11/1/22 by SKR

pH Step 5: Method 3

Trip #400841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Riley Jacobson Pace	11/4/22	1250	Xcel	11/4/22	1250	3.0	(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:	Riley Jacobson + Several Helpers				
SIGNATURE of SAMPLER:		DATE Signed (MM / DD / YY)	11/4/22		

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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.

Page: 1 o 6

Section A – Required Client Information:

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

Section B – Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C – Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	① ~~P-01A-2~~	WT	G	-	-	—	—											x	x							
2	P-03A	WT	G	-	-	11/2/22	0935											x								
3	P-03B	WT	G	-	-	11/2/22	0905											x								
4	P-04A -1	WT	G	-	-	11/2/22	1010											x								
5	P-05A -1 ②	WT	G	-	-	11/2/22	NA											x								
6	① ~~P-17~~	WT	G	-	-	—	—												x	x						
7	① ~~P-22~~	WT	G	-	-	—	—											x								
8	P-23	WT	G	-	-	11/3/22	0840											x								
9	① ~~P-42~~	WT	G	-	-	—	—											x								
10	P-43	WT	G	-	-	11/1/22	1320											x								
11	① ~~P-50~~	WT	G	-	-	—	—											x								
12	① ~~P-50B~~	WT	G	-	-	—	—											x								

Additional Comments:

① Submitted 11/1/22 by SKR
② NO SAMPLE - RO 11/4/22
pit stops, MH 00138
Typ MH 00 84

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
[signature] / Pace	11/4/22	1250	[signature] / XCL	11/4/22	1250	3.0	(Y)/N	Y/N	Y/(N)
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
						Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Serena Rettig
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/4/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	Filtered (Y/N)	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	① ~~P-50D~~	WT	G	-	-	—	—																					
2	X P-56	WT	G	-	-	11/3/22	1115												x									
3	X P-60	WT	G	-	-	11/3/22	1250												x									
4	X P-62	WT	G	-	-	11/3/22	1150												x									
5	P-66	WT	G	-	-	11/1/22	1245												x									
6	P-88	WT	G	-	-	11/2/22	1210												x									
7	P-89-1	WT	G	-	-	11/2/22	1100												x									
8	P-90	WT	G	-	-	11/1/22	1355												x									
9	P-90A	WT	G	-	-	11/1/22	1430												x									
10	① ~~P-92A~~	WT	G	-	-	—	—												x									
11	① ~~P-92D~~	WT	G	-	-	—	—												x									
12	① ~~P-93A~~	WT	G	-	-	—	—												x									

Additional Comments:

① Submitted 11/1/22 by SKR
pH strips: H400136
Typ H400841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson Pace	11/4/22	1252	HC Xcel	11/4/22	1250

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
3.0	(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: Riley Jacobson + Steven Rautio
SIGNATURE of SAMPLER: Riley Jacobson
DATE Signed (MM / DD / YY): 11/4/22

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.

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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	Requested Analysis: GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	(REPORT) NPDES	(REPORT) CCR-BAP	(REPORT) CCR-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	(1) ~~P-93D~~	WT	G	-	-	—												x								
2	P-94A	WT	G	-	-	11/2/22	1135											x								
3	X P-101A	WT	G	-	-	11/3/22	1045											x								
4	X P-101B	WT	G	-	-	11/3/22	105											x								
5	P-126	WT	G	-	-	11/1/22	1540											x								
6	P-126D	WT	G	-	-	11/1/22	1510											x								
7	P-127	WT	G	-	-	11/1/22	1610											x								
8	P-128	WT	G	-	-	11/1/22	1705											x								
9	P-128D	WT	G	-	-	11/1/22	1640											x								
10	P-129 (2)	WT	G	-	-	11/3/22	NA											x								
11	P-130	WT	G	-	-	11/2/22	1435											x		x						
12	P-130D	WT	G	-	-	11/2/22	1410											x								

Additional Comments:

(1) Submitted @ 11/1/22 by SKR

(2) NO SAMPLE - ROS 11/4/22
pH Strips: M420139
Typ M400841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson	11/4/22	1250	HSO/Xcel	11/4/22	1250

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
3.0	(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: Riley Jacobson / Steven Hutton

SIGNATURE of SAMPLER: Riley Jacobson — DATE Signed (MM / DD / YY): 11/4/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	P-131	WT	G	-	-	11/2/22	1330											x			x					
2	P-131D	WT	G	-	-	11/2/22	1250											x								
3	P-132	WT	G	-	-	11/4/22	1032											x			x					
4	P-150 (2)	WT	G	-	-	11/3/22	NA														x					
5	P-151	WT	G	-	-	11/3/22	1410														x					
6	P-152A (2)	WT	G	-	-	11/3/22	NA																			
7	P-153	WT	G	-	-	11/3/22	1450											x	x	x	x					
8	P-154A	WT	G	-	-	11/4/22	1000														x					
9	(1) ~~P-155~~	WT	G	-	-																					
10	(1) ~~P-156~~	WT	G	-	-													x								
11	P-157	WT	G	-	-	11/3/22	0820											x								
12	(1) ~~P-158~~	WT	G	-	-													x	x							

Additional Comments:

(1) Submitted 11/1/22 by SKR

(2) NO SAMPLE - RCS 11/3/22
pH strips: MH00130
Typ MH00841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] Pace	11/4/22	1250	[signature]	11/4/22	1250

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
3.0	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 + Serena Fuchs
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 11/4/22

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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:	Brad Jacobson
Phone: (612) 597-7254	Fax:
Requested Due Date/TAT:	2 Weeks

Section B Required Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

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-P3, Residual Chlorine (Y/N)

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	GW-D	GW-CCR-BAP	GW-CCR-BAP2	GW-CCR-P3	Pace Project No. Lab I.D.
1	P-162 ②	WT	G	-	-	11/4/22	NA						x	
2	R P-163	WT	G	-	-	11/4/22	1055						x	
3	X P-164	WT	G	-	-	11/4/22	1000						x	
4	R P-165	WT	G	-	-	11/4/22	1110						x	
5	① ~~P-173~~	WT	G	-	-	—	—					x		
6	① ~~P-174~~	WT	G	-	-	—	—					x		
7	① ~~P-175~~	WT	G	-	-	—	—					x		
8	① ~~P-176~~	WT	G	-	-	—	—					x		
9	① ~~P-177~~	WT	G	-	-	—	—					x		
10	P-178A	WT	G	-	-	11/2/22	1520			x		x		
11	P-178B	WT	G	-	-	11/2/22	1545			x				
12	① ~~P-179A~~	WT	G	-	-	—	—			x				

Additional Comments:

① Submitted 11/1/22 by SKR
② NO SAMPLE - RDS 11/4/22
pH strips: MH00138
Typ MH00841:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley / Pace	11/4/22	1250	[illegible] / Pace	11/4/22	1250

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson + Severen Patts
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/4/22

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 6 of 6

Section A — **Required** Client Information:

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

Section B — **Required** Project Information:

Report To:	Brad Jacobson
Copy To:	Riley Jacobson
Purchase Order No.:	
Project Number	
Project Name:	Xcel Energy Sherco Ponds Fall 22

Section C — Invoice Information:

Attention:	Steve Davis
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Brad 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

Filtered (Y/N)

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-P3	Residual Chlorine (Y/N)	Pace Project No. Lab I.D.
1	① ~~P-179D~~	WT	G	-	-	—	—											x								
2	① ~~P-180A~~	WT	G	-	-	—	—											x								
3	① ~~P-180D~~	WT	G	-	-	—	—											x								
4	* Duplicate NPDES	WT	G	-	-	11/1/22	1355											x								
5	Rinse NPDES	WT	G	-	-	11/1/22	1400											x								
6	① ~~Duplicate BAP~~	WT	G	-	-	—	—												x							
7	① ~~Rinse BAP~~	WT	G	-	-	—	—												x							
8	① ~~Duplicate BAP2~~	WT	G	-	-	—	—													x						
9	① ~~Rinse BAP2~~	WT	G	-	-	—	—													x						
10	* Duplicate P3	WT	G	-	-	11/4/22	1000														x					
11	* Rinse P3	WT	G	-	-	11/4/22	0955														x					
12				-	-																					

Additional Comments:

① Submitted 11/1/22 by SKR

pH Strip 5': MH00738

Temp MH00841

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
Riley Jacobson Pace	11/4/22	1250	[signature] Xcel	11/4/22	1250	3.0	(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: Riley Jacobson + Severen Rains

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/4/22

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