

2019 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 28, 2020



15650 36th Ave N. Suite 110
Plymouth, MN 55446
Tel 952-346-3900
Fax 952-346-3901
www.carlsonmccain.com

ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

2019 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 Engineer 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:



Nicholas Bonow, P.E., P.G. #47510
Carlson McCain, Inc.

Date: January 28, 2020

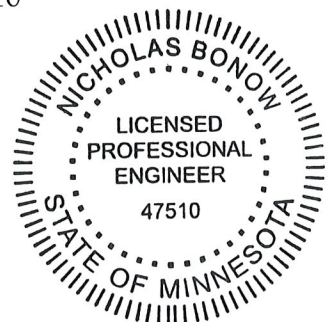


TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	ii
2. INTRODUCTION	1
2.1 Annual Groundwater Monitoring Report Requirements	1
3. SITE DESCRIPTION	3
3.1 Site Hydrogeology	3
4. MONITORING RESULTS	4
4.1 Compliance with §257.90(e)	4
4.1.1 Groundwater Monitoring System (§257.90(e)(1))	4
4.1.2 Well Installation or Decommissioning (§257.90(e)(2))	4
4.1.3 Summary of Monitoring Data (§257.90(e)(3))	4
4.1.4 Transition Between Monitoring Programs (§257.90(e)(4))	7
4.1.5 Other Information (§257.90(e)(5))	7
5. DISCUSSION	8
5.1 Key Actions Completed	8
5.2 Problems	8
5.2.1 Problems Encountered	8
5.2.2 Resolution of Problems	8
5.3 Key Activities for 2020	9
5.0 REFERENCES	10

TABLES

Table 1	CCR Groundwater Monitoring System
Table 2	Summary of Data Collected
Table 3	Count of Parameters Analyzed by Well
Table 4	Spring 2019 Groundwater Summary Data
Table 5	Fall 2019 Groundwater Summary Data

FIGURES

Figure 1	Site Location Map
Figure 2	CCR Groundwater Monitoring System
Figure 3	Water Table Elevation Contour Map - 04/21-24/2019
Figure 4	Water Table Elevation Contour Map - 10/21-24/2019

APPENDICES

Appendix A	Spring 2019 Assessment Monitoring Event Laboratory Report and Field Datasheets
Appendix B	Fall 2019 Assessment Monitoring Event Laboratory Report and Field Datasheets

1. EXECUTIVE SUMMARY

Groundwater monitoring was conducted for Scrubber Solids Pond No. 3 at the Sherburne County Generating Plant during monitoring year 2019 to comply with the requirements of U.S. Code of Federal Regulations, Title 40, Section 257.95 (i.e. assessment monitoring). Assessment monitoring was initiated for the Scrubber Solids Pond No. 3 during the 2018 monitoring year and continued during the 2019 monitoring year with routine assessment monitoring events occurring during the spring and fall of the year. Statistical analysis performed on 2019 groundwater data indicates no exceedances of groundwater protection standards. Concentrations of certain constituents continue to exceed background; therefore, Scrubber Solids Pond No. 3 will continue with assessment monitoring going into 2020. No additional notifications or assessment of corrective measures are required at this time.

2. INTRODUCTION

This report presents the documentation of the status of groundwater monitoring and corrective action for the year 2019 (YR2019) 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 YR2019.

This report has been prepared in general accordance with the reporting procedures outlined in the Sherco Scrubber Solids Pond No. 3 CCR Groundwater Sampling Plan (NSPM, 2018). Any deviations from the requirements of the Groundwater Sampling Plan are described in subsequent sections of this report.

2.1 Annual Groundwater Monitoring Report Requirements

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

“For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

- (1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;*
- (2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;*
- (3) In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;*
- (4) A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and*

(5) Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.

Section 3.6.2 of the CCR Groundwater Sampling Plan (NSPM, 2018) also includes a list of items to be included in the annual report that is similar to items 1 through 5 above, with the addition of a water table contour map using data collected from the current year.

In this report, Section 2 (Site Description) briefly describes the site location and hydrogeologic setting, Section 3 (Monitoring Results) discusses the reporting requirements of the CCR Sampling Plan and §257.90(e), and Section 4 (Discussion) summarizes key actions completed in YR2019, describes any problems reported in YR2019 and the actions to resolve the problems, and key activities projected for 2020.

3. 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 No. 3 to become operational 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.

3.1 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 physiogeographic region. The site consists of moderate to highly permeable alluvial deposits above and below a low-permeability glacial till. Precambrian granite, the first bed rock encountered, is considered impermeable. Groundwater flows 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. 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 toward the west-southwest and towards the Mississippi River.

4. MONITORING RESULTS

Section 3.1 below presents the monitoring results obtained during YR2019 in terms of the specific requirements of §257.90(e) that are to be included in this report.

4.1 Compliance with §257.90(e)

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

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

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

No monitoring wells that are part of the groundwater monitoring system for Pond 3 were installed or decommissioned during YR2019.

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

Monitoring data collected during YR2019 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 2019 monitoring data is provided on Table 4 and a summary of the fall 2019 monitoring data 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 Pond 3 during YR2018, and assessment monitoring continued in 2019. Pursuant to the assessment monitoring requirements listed in §257.95, the following groundwater sampling events were conducted during YR2019:

- All wells in the Pond 3 groundwater monitoring system were sampled during the spring monitoring event conducted on April 24 and 25, 2019. 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.
- All wells in the Pond 3 groundwater monitoring system were sampled during the fall monitoring event conducted on October 21 and 22, 2019, and samples were analyzed for all Appendix III constituents and only those Appendix IV constituents detected during the spring 2019 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 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-151A, 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).
- 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 and the groundwater protection standard for each Appendix IV constituent are summarized on the following page.

[The remainder of this page intentionally left blank]

	Parameter	Background Range	Groundwater Protection Standard
Appendix III Parameters	Boron, total (mg/L)	<0.050 to 63.2	NA
	Calcium, total (mg/L)	25 to 212	NA
	Chloride, total (mg/L)	<1.0 to 37.8	NA
	Fluoride, total (mg/L)	<0.750	NA
	pH (lab) (pH)	7.34 to 8.2	NA
	Sulfate, total (mg/L)	2.53 to 43.6	NA
	Total Dissolved Solids (mg/L)	86 to 496	NA
Appendix IV Parameters	Antimony, total (mg/L)	<0.0005	0.006
	Arsenic, total (mg/L)	<0.0005 to 0.0121	0.01
	Barium, total (mg/L)	<0.05 to 0.356	2
	Beryllium, total (mg/L)	<0.0005	0.004
	Cadmium, total (mg/L)	<0.0005	0.05
	Chromium, total (mg/L)	0.0005 to 0.0639	0.1
	Cobalt, total (mg/L)	<0.0005 to 0.0298	0.006
	Fluoride, total (mg/L)	<0.750	4
	Lead, total (mg/L)	<0.0005 to 0.0121	0.015
	Lithium Total (mg/L)	<0.05 ¹	0.04 ¹
	Mercury, total (mg/L)	<0.0002	0.002
	Molybdenum, total (mg/L)	<0.0005 to 0.0024	0.1
	Radium, 226 and 228 combined (pCi/L)	<0.905 to 2.74	5
	Selenium, total (mg/L)	<0.0005 to 0.0033	0.05
	Thallium, total (mg/L)	<0.0005	0.002

¹ All 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 has 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 YR2019 monitoring data using the procedures described in Pond 3's Statistical Analysis Plan (NSPM, 2017), 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 concentrations 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 2019 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 additional water level piezometers near Pond 3. 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 towards the Mississippi river.

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

Pond 3 transitioned from the detection monitoring program (§257.94) to the assessment monitoring program (§257.95) as described in Technical Memorandums dated January 15, 2018 (Carlson McCain, 2018a) and April 13, 2018 (Carlson McCain, 2018c). Based on the results of the statistical analysis of the monitoring data from the initial detection monitoring event completed in October 2017, NSPM determined that one or more monitoring wells exhibited a statistically significant increase (SSI) for one or more Appendix III constituent. The following table lists each monitoring well in which an SSI was identified, and the constituent which exhibited the SSI:

Monitoring Well	Constituents Exhibiting SSIs – October 2017
P-132	Sulfate
P-162	Boron, Sulfate
P-163	Boron, Sulfate

Since the initial transition to assessment monitoring program (§257.95) during YR2018, Pond 3 has not transitioned between monitoring programs and continues monitoring for the assessment monitoring program.

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

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

5. DISCUSSION

§257.90(e) states that “For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year.”

Pursuant to the rule requirements, Section 4.1 below discusses the key actions completed for the groundwater monitoring program at 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.

5.1 Key Actions Completed

Key actions that were completed during YR2019 include the following items:

- The 2018 Annual CCR Groundwater Monitoring and Corrective Report (Carlson McCain, 2019) was completed and placed on the Pond 3’s publicly available website by January 31, 2019.
- Monitoring wells were sampled during the spring event conducted on April 24 and 25, 2019 and analyzed for all Appendix III and Appendix IV constituents as required by §257.95(d)(1);
- Monitoring wells were sampled during the fall event conducted on October 21 and 22, 2019 and analyzed for all Appendix III constituents and only those Appendix IV constituents that were detected during the spring 2019 event as part of semiannual sampling required by §257.95(d)(1);
- Laboratory reports and field datasheets for the spring and fall sampling events were placed in the operating record on July 11, 2019 and December 31, 2019, respectively;
- Pursuant to §257.95(d)(2), groundwater protection standards are established for all Appendix IV constituents; and
- Statistical evaluation of the monitoring data was conducted to demonstrate compliance with §257.95(e) through (g).

5.2 Problems

5.2.1 Problems Encountered

No significant problems with the groundwater monitoring system, or deviations from the CCR Groundwater Sampling Plan were reported at the facility during YR2019. No corrective action was required at the facility during YR2019.

5.2.2 Resolution of Problems

No significant problems with the groundwater monitoring system, or deviations from the CCR Groundwater Sampling Plan requiring resolution were reported at the facility during YR2019.

5.3 Key Activities for 2020

The following key actions are anticipated at Pond 3 in the year 2020:

1. Routine, semi-annual assessment monitoring events at monitoring system wells are planned in the spring between March 15 and May 15, 2019 and in the fall between September 15 and November 15, 2019.
2. 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, 2019. 2018 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 30, 2019.

NSPM, 2017. Statistical Analysis Plan, Scrubber Solids Pond No. 3, Northern States Power Company, a Minnesota Corporation, October 16, 2017.

NSPM, 2018. Scrubber Solids Pond No. 3 CCR Ground Water Sampling Plan Revision #1. Northern States Power Company, a Minnesota Corporation, December 27, 2018.

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)	Elevation Top of Screen	Elevation Bottom of Screen	Monitoring Status	Hydrologic Location
			Easting	Northing							
P-130	722085	5/12/05	2031446.8	865871.1	965.59	Vertical	10	931	921	Routine Semi-annual	Up-gradient
P-131	722086	5/16/05	2033046.4	865133.3	966.03	Vertical	10	931	921	Routine Semi-annual	Up-gradient
P-132	722087	5/11/05	2031594.6	862211.7	955.96	Vertical	10	931	921	Routine Semi-annual	Down-Gradient
P-150	806320	10/7/14	2032983.1	867047.3	964.41	Vertical	10	938	928	Routine Semi-annual	Up-gradient
P-151	806315	10/9/14	2032644.2	865848.2	942.44	Vertical	10	932	922	Routine Semi-annual	Up-gradient
P-152A	806318	10/10/14	2031471.6	866696.4	965.87	Vertical	10	934	924	Routine Semi-annual	Up-gradient
P-153	806314	10/13/14	2032310.4	864158.5	944.94	Vertical	10	931	921	Routine Semi-annual	Up-gradient
P-154A	806316	10/15/14	2032966.3	862868.4	961.44	Vertical	10	922	912	Routine Semi-annual	Up-gradient
P-162	822156	7/25/16	2030610	864631.7	1020.9	Angled	20	929	916	Routine Semi-annual	Down-Gradient
P-163	822157	7/19/16	2030604	863992	1024.98	Angled	20	927	914	Routine Semi-annual	Down-Gradient
P-164	822158	7/14/16	2030610	863059.5	1020.49	Angled	20	928	916	Routine Semi-annual	Down-Gradient
P-165	822159	7/12/16	2030714	862215.8	957.13	Vertical	10	927	917	Routine Semi-annual	Down-Gradient

*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 2019 ¹	Fall 2019 ²
P-130	2	4/24/2019	10/21/2019
P-131	2	4/24/2019	10/21/2019
P-150	2	4/24/2019	10/21/2019
P-151	2	4/24/2019	10/21/2019
P-152A	2	4/24/2019	10/21/2019
P-153	2	4/24/2019	10/22/2019
P-154A	2	4/24/2019	10/22/2019

Downgradient Wells			
Well ID	Number of Samples	Sample Dates	
		Spring 2019 ¹	Fall 2019 ²
P-132	2	4/24/2019	10/21/2019
P-162	2	4/24/2019	10/22/2019
P-163	2	4/25/2019	10/22/2019
P-164	2	4/25/2019	10/22/2019
P-165	2	4/24/2019	10/22/2019

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 2019 as required by §257.95(d)(1).

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	2	2	2	2	2	2	2	2	2
Calcium, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Chloride, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Fluoride, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
pH (lab) (pH)	2	2	2	2	2	2	2	2	2	2	2	2
Sulfate, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Total Dissolved Solids (mg/L)	2	2	2	2	2	2	2	2	2	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	1	1	1	1	1	1	1	1	1
Arsenic, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Barium, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Beryllium, total (mg/L)	1	1	1	1	1	1	1	1	1	1	1	1
Cadmium, total (mg/L)	1	1	1	1	1	1	1	1	1	1	1	1
Chromium, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Cobalt, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Lead, total (mg/L)	1	1	1	1	1	1	1	1	1	1	1	1
Lithium Total (mg/L)	1	1	1	1	1	1	1	1	1	1	1	1
Mercury, total (mg/L)	1	1	1	1	1	1	1	1	1	1	1	1
Molybdenum, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Selenium, total (mg/L)	2	2	2	2	2	2	2	2	2	2	2	2
Thallium, total (mg/L)	1	1	1	1	1	1	1	1	1	1	1	1
Radium, 226 and 228 combined (pCi/L)	2	2	2	2	2	2	2	2	2	2	2	2

Table 4
Spring 2019 Groundwater Summary Data
Scrubber Solids Pond No. 3

Appendix III Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
			4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/25/2019	4/25/2019	4/25/2019	4/24/2019
Boron, total	mg/L	NA	<0.0500	<0.0500	0.0726	<0.0500	<0.0500	0.0537	<0.0500	<0.0500	0.236	0.053	<0.0500	<0.0500
Calcium, total	mg/L	NA	132	90.7	114	70.7	81.7	60.3	30.1	83.3	123	90.4	77.8	84.9
Chloride, total	mg/L	NA	<1.000	21.5	2.68	73.1	27.6	<1.000	<1.000	19.1	28.2	30.6	10.2	10.2
Fluoride, total	mg/L	NA	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500
pH, Lab	pH	NA	7.57	7.81	7.76	7.8	7.91	7.97	8.13	8.05	7.82	7.94	8.03	7.98
Sulfate, total	mg/L	NA	12.2	23.8	77	4.89	31.5	7.9	3.39	45.1	105	62.4	34.1	29.3
Total Dissolved Solids	mg/L	NA	448	328	420	300	296	188	116	330	600	358	296	284

Appendix IV Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
			4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/25/2019	4/25/2019	4/25/2019	4/24/2019
Antimony, total	mg/L	0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic, total	mg/L	0.01	0.0007	0.0007	0.0005	0.0007	0.0006	<0.0005	0.001	0.0015	0.0007	0.0008	0.0007	0.0006
Barium, total	mg/L	2	0.0949	0.0807	0.0429	0.0591	0.056	0.0354	0.0151	0.0542	0.066	0.0391	0.0411	0.0342
Beryllium, total	mg/L	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Cadmium,total	mg/L	0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium, total	mg/L	0.1	0.0014	0.0009	0.0017	0.0009	0.0016	0.0007	0.0007	0.0007	0.0108	0.0084	0.0092	0.0014
Cobalt, total	mg/L	0.006	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Fluoride, total	mg/L	4	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500
Lead, total	mg/L	0.015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium, total	mg/L	0.04	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150	<0.0150
Mercury, total	mg/L	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, total	mg/L	0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.001	0.0043	0.0007	0.0006	<0.0005
Selenium, total	mg/L	0.05	<0.0005	0.0007	0.0012	<0.0005	0.0005	<0.0005	0.0005	0.0006	0.0038	0.0054	0.0019	0.001
Thallium, total	mg/L	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Radium, 226 and 228 con	pCi/L	5	1.29	<0.951	<1.390	<1.360	<1.150	3.12	<1.100	1.21	<1.170	<1.060	<1.540	1.17

Field Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
			4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/25/2019	4/25/2019	4/25/2019	4/24/2019
ORP	mV	NA	198	160	198	164	143	184	190	177	134	166	185	190
Oxygen, dissolved	mg/L	NA	7.2	8.2	7.7	8.8	8.3	8.8	9.9	3.3	2.7	4.6	3.8	8.1
pH, field	pH	NA	7.1	7.5	7.3	7.6	7.4	7.4	7.7	7.7	7.5	7.2	7.3	7.5
Specific Cond, field	µmhos/cm	NA	740	560	660	400	490	350	180	450	890	620	520	490
Static Water Level	ft	NA	37.05	34.7	29.29	32.03	11.43	37.35	16.13	32.78	148.78	158.15	151.93	31.03
Temperature	degrees C	NA	11	11	10	11	9.5	10.5	9.5	10	11	12.5	12.5	11
Turbidity, field	NTU	NA	2.3	1.9	1.2	2.2	6.8	1.6	1.8	2.8	9.3	3.2	1.7	2.3
Water Level Elevation	ft	NA	928.54	931.33	926.67	932.38	931.01	928.52	928.81	928.66	--	--	--	926.1

GWPS = Groundwater Protection Standard

Two dashed lines = Not Analyzed

NA = Not Applicable

Downgradient Well

Table 5
Fall 2019 Groundwater Summary Data
Scrubber Solids Pond No. 3

Appendix III Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
			10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019
Boron, total	mg/L	NA	<0.0500	<0.0500	0.0954	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.195	0.0704	<0.0500	<0.0500
Calcium, total	mg/L	NA	104	78.3	103	58.6	50.9	49.4	27.4	74.9	113	81.4	77.2	65.1
Chloride, total	mg/L	NA	<1.000	23.2	2.61	74.6	15.5	<1.000	1.18	18.6	27.9	33.8	10.4	3.27
Fluoride, total	mg/L	NA	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500	<0.7500
pH, Lab	pH	NA	7.5	7.88	7.72	7.86	7.99	7.94	8.18	7.99	7.9	8.09	8.08	7.93
Sulfate, total	mg/L	NA	8.69	26.8	88.6	5.67	15.5	7.71	10.2	44.4	113	63.8	34.1	17.5
Total Dissolved Solids	mg/L	NA	376	314	430	298	200	178	116	320	590	374	310	248

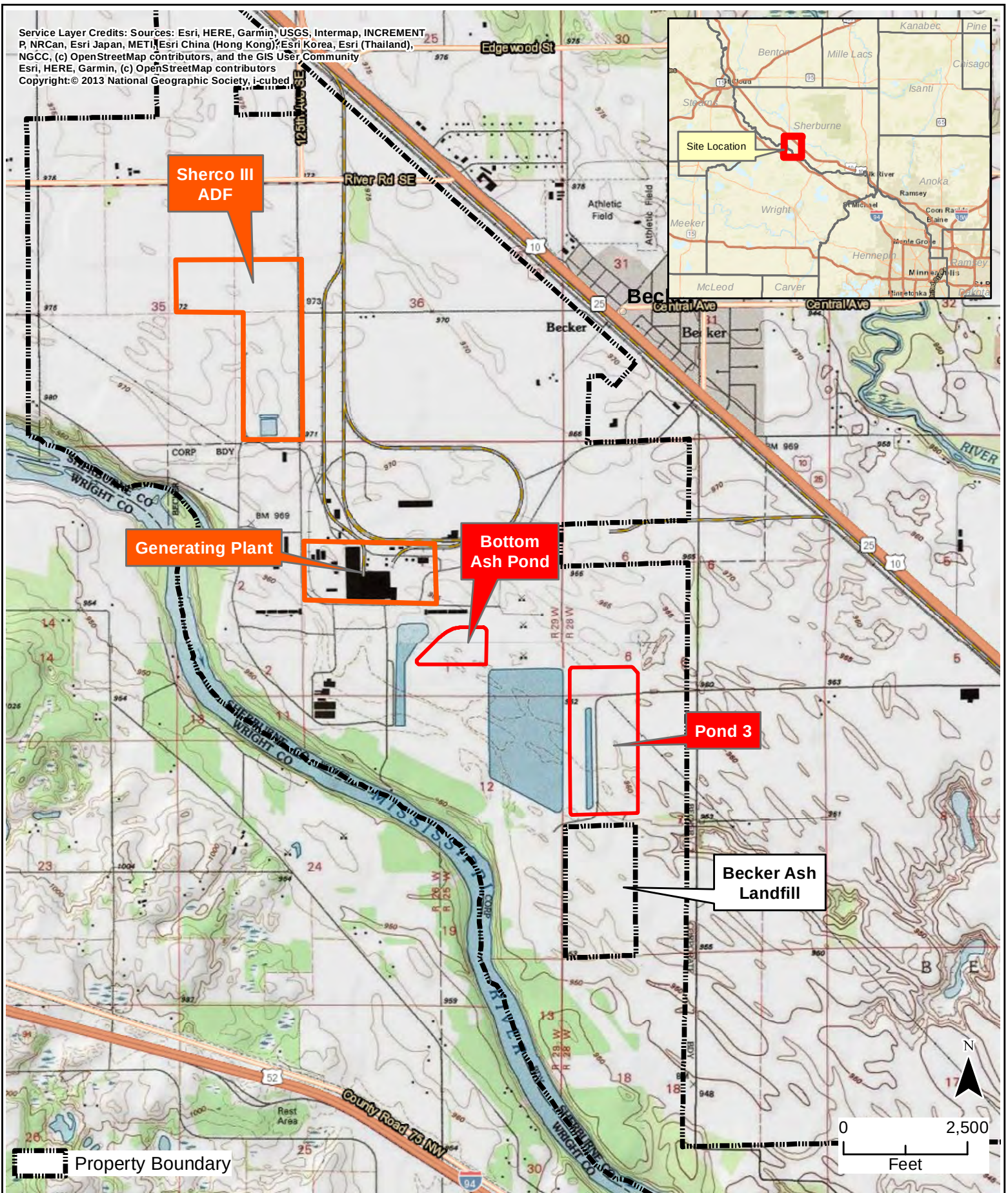
Appendix IV Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
			10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019
Antimony, total	mg/L	0.006	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	mg/L	0.01	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0011	<0.0005	0.0007	<0.0005	<0.0005
Barium, total	mg/L	2	0.0817	0.0768	0.0435	0.0575	0.0413	0.0322	0.0166	0.052	0.0625	0.0441	0.042	0.0289
Beryllium, total	mg/L	0.004	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	mg/L	0.005	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	mg/L	0.1	0.0008	0.0008	0.0013	0.0006	0.0009	0.0005	<0.0005	0.0006	0.0095	0.0197	0.0058	0.002
Cobalt, total	mg/L	0.006	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005
Fluoride, total	mg/L	4	--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	mg/L	0.015	--	--	--	--	--	--	--	--	--	--	--	--
Lithium, total	mg/L	0.04	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	mg/L	0.002	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum, total	mg/L	0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0006	0.003	0.001	<0.0005	<0.0005
Selenium, total	mg/L	0.05	<0.0005	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	0.0017	<0.0005	0.0046	0.0035	0.0016	0.0008
Thallium, total	mg/L	0.002	--	--	--	--	--	--	--	--	--	--	--	--
Radium, 226 and 228 con	pCi/L	5	<1.550	<1.560	<1.410	<1.470	<1.500	<1.260	<1.480	<1.450	<1.260	<1.660	<1.500	<1.640

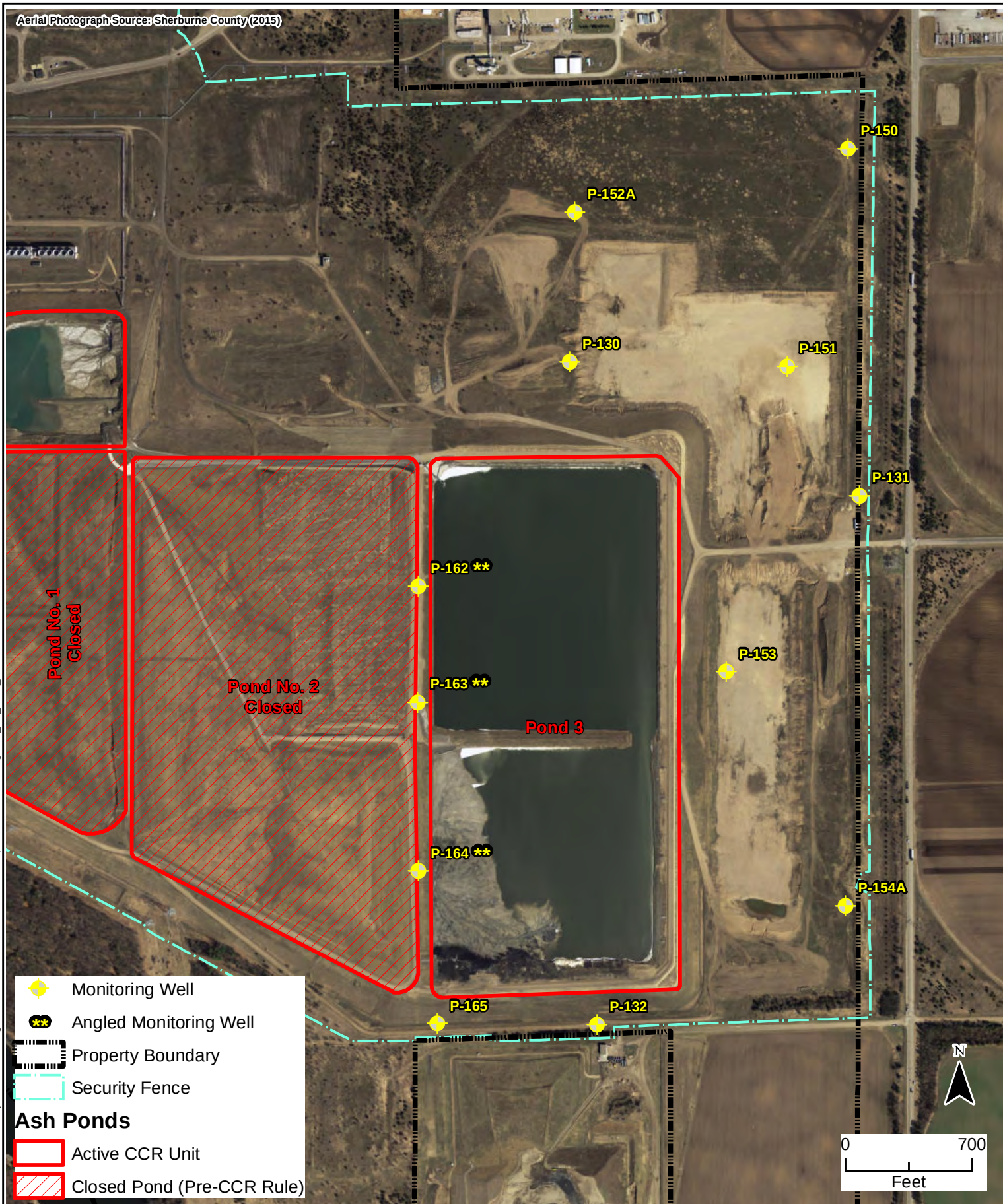
Field Parameters														
Parameter	Units	GWPS	Well ID and Sample Date											
			P-130	P-131	P-132	P-150	P-151	P-152A	P-153	P-154A	P-162	P-163	P-164	P-165
			10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/21/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019	10/22/2019
ORP	mV	NA	216	157	197	177	195	221	192	184	210	212	187	187
Oxygen, dissolved	mg/L	NA	7.6	8.9	9.3	8.6	8.8	9.5	9.5	3.4	3	5.3	3.8	7.2
pH, field	pH	NA	7.1	7.5	7.2	7.6	7.6	7.6	7.8	7.8	7.5	7.5	7.8	7.6
Specific Cond, field	µmhos/cm	NA	690	580	710	570	400	340	200	570	930	660	550	440
Static Water Level	ft	NA	35.13	32.73	27.47	29.83	9.55	35.11	14.28	30.71	148.78	158.15	151.93	29.77
Temperature	degrees C	NA	10.5	10	9.5	10.5	11	9.5	10	9.5	9.5	10	10.5	10.5
Turbidity, field	NTU	NA	3.8	4.6	3.7	6.1	7.2	3	3.8	3.5	13.2	47	29.6	4.6
Water Level Elevation	ft	NA	930.46	933.3	928.49	934.58	932.89	930.76	930.66	930.73	--	--	--	927.36

GWPS = Groundwater Protection Standard
NA = Not Applicable

Two dashed lines = Not Analyzed
Downgradient Well

Figures





- Monitoring Well
- Angled Monitoring Well
- Property Boundary
- Security Fence
- Ash Ponds**
 - Active CCR Unit
 - Closed Pond (Pre-CCR Rule)



Document Path: P:\Projects\XCELL\6559 Ash Operations and Mgmt\Sherco\2019 CCR Annual GW Reports\Pond 3\GIS\Figure3_P3_Spring19Contours.mxd



Appendix A

Spring 2019 Assessment Monitoring Event Field Datasheets and Laboratory Reports

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-130 Labeled P130

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 46.84 Feet

Static water level measurement before purging (Start Depth) 37.05 Feet

Static water level measurement at time of sampling (Final Depth) 37.05 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 9.79 Feet

Time Purged 0910-0943 One Casing Volume 1.6 Gallons

Pump Rate 0.15 GPM / LPM Volume Purged 4.95 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 0950

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.1 (units) D.O. 7.2 (mg/l)

Spec. Cond. 740 (umhos/cm) Turbidity 2.3 (NTU)

Temp. 11.0 (°C) Eh 198 (mV)

Other NA

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

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

Weather Conditions During Sampling: 46° + cloudy, wind S10

Sample Description: clear + odorless

Observations: DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0921	7.1	730	11.0	7.2	NA	197	1.65
0932	7.1	740	11.0	7.2	NA	198	3.30
0943	7.1	740	11.0	7.2	NA	198	4.95

DTA 4/24/19

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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

Static water level measurement before purging (Start Depth) 34.70 Feet

Static water level measurement at time of sampling (Final Depth) 34.70 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 13.85 Feet

Time Purged 1530-1606 One Casing Volume 2.3 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 7.2 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1610

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 8.2 (mg/l)

Spec. Cond. 560 (µmhos/cm) Turbidity 1.9 (NTU)

Temp. 11.0 (°C) Eh 160 (mV)

Other NA

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

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

Weather Conditions During Sampling: 63° & sunny, wind SW 15

Sample Description: clear & odorless

Observations: DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1542	7.5	560	11.0	8.4	NA	155	2.4
1554	7.5	560	11.0	8.3	NA	158	4.8
1606	7.5	560	11.0	8.2	NA	160	7.2
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds Spring ²⁰¹⁹ Project No. 19-01918

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) 29.29 Feet

Static water level measurement at time of sampling (Final Depth) 29.29 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 7.22 Feet

Time Purged 1115 - 1139 One Casing Volume 1.2 Gallons

Pump Rate 0.15 GPM / LPM Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1150

Sampling Equip. above pump

Meter ID mps-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.3 (units) D.O. 7.7 (mg/l)

Spec. Cond. 660 (µmhos/cm) Turbidity 1.2 (NTU)

Temp. 10.0 (°C) Eh 198 (mV)

Other NA

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

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

Weather Conditions During Sampling: 49° + cloudy, wind SW 10

Sample Description: clear + odorless

Observations: _____

DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1123	7.3	660	10.0	7.8	NA	200	1.2
1131	7.3	660	10.0	7.7	NA	199	2.4
1139	7.3	660	10.0	7.7	NA	198	3.6
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-150 Labeled 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) 32.03 Feet

Static water level measurement at time of sampling (Final Depth) 32.03 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 4.63 Feet

Time Purged 1325-1343 One Casing Volume 0.8 Gallons

Pump Rate 0.15 (GPM) / LPM Volume Purged 2.7 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1400

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.6 (units) D.O. 8.8 (mg/l)

Spec. Cond. 400 (µmhos/cm) Turbidity 2.2 (NTU)

Temp. 11.0 (°C) Eh 164 (mV)

Other NA

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

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

Weather Conditions During Sampling: 58° + partly cloudy, wind SW 15

Sample Description: clear + odorless

Observations: collected duplicate CCR-P3 at this well.

DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1331	7.7	400	11.5	8.9	NA	165	0.9
1337	7.6	400	11.0	8.8	NA	164	1.8
1343	7.6	400	11.0	8.8	NA	164	2.7
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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) 11.43 Feet

Static water level measurement at time of sampling (Final Depth) 11.43 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 8.73 Feet

Time Purged 1430-1500 One Casing Volume 1.4 Gallons

Pump Rate 0.15 (GPM) LPM Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1510

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.4 (units) D.O. 8.3 (mg/l)

Spec. Cond. 490 (µmhos/cm) Turbidity 6.8 (NTU)

Temp. 9.5 (°C) Eh 143 (mV)

Other NA

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

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

Weather Conditions During Sampling: 60° + partly cloudy, wind SW 15-20

Sample Description: clear + odorless

Observations: DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1440	7.3	480	9.5	8.5	NA	161	1.5
1450	7.4	490	9.5	8.4	NA	150	3.0
1500	7.4	490	9.5	8.3	NA	143	4.5

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-152A Labeled 806318

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 42.18 Feet

Static water level measurement before purging (Start Depth) 37.35 Feet

Static water level measurement at time of sampling (Final Depth) 37.35 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 4.83 Feet

Time Purged 0820-0838 One Casing Volume 0.8 Gallons

Pump Rate 0.15 GPM LPM Volume Purged 2.7 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 0850

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.4 (units) D.O. 8.8 (mg/l)

Spec. Cond. 350 (µmhos/cm) Turbidity 1.6 (NTU)

Temp. 10.5 (°C) Eh 184 (mV)

Other NA

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

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

Weather Conditions During Sampling: 45° + cloudy, wind 510

Sample Description: clear + odorless

Observations: collected Rinse CCR - P3 Blank at this well.

DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0826	7.3	350	10.5	8.8	NA	185	0.9
0832	7.4	350	10.5	8.8	NA	184	1.8
0838	7.4	350	10.5	8.8	NA	184	2.7
<u>DTA 4/24/19</u>							

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-153 Labeled 806314

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) 16.13 Feet

Static water level measurement at time of sampling (Final Depth) 16.13 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 7.50 Feet

Time Purged 1630-1654 One Casing Volume 1.2 Gallons

Pump Rate 0.15 GPM LPM Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1700

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.7 (units) D.O. 9.9 (mg/l)

Spec. Cond. 180 (µmhos/cm) Turbidity 1.8 (NTU)

Temp. 9.5 (°C) Eh 190 (mV)

Other NA

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

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

Weather Conditions During Sampling: 65° + sunny, wind SW 15

Sample Description: clear & odorless

Observations: DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1638	7.8	180	9.5	9.7	NA	185	1.2
1646	7.8	180	9.5	9.9	NA	188	2.4
1654	7.7	180	9.5	9.9	NA	190	3.6
<u>DTA 4/24/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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

Static water level measurement before purging (Start Depth) 32.78 Feet

Static water level measurement at time of sampling (Final Depth) 32.78 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 4/24/19

Water Column 16.75 Feet

Time Purged 1010-1052

One Casing Volume 2.7 Gallons

Pump Rate 0.2 (GPM) LPM

Volume Purged 8.4 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1100

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.7 (units) D.O. 3.3 (mg/l)

Spec. Cond. 450 (µmhos/cm) Turbidity 2.8 (NTU)

Temp. 10.0 (°C) Eh 177 (mV)

Other NA

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

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

Weather Conditions During Sampling: 48° + cloudy, wind SW 10

Sample Description: clear + odorless

Observations: DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1024	7.8	430	10.0	1.0	NA	177	2.8
1038	7.7	450	10.0	3.0	NA	177	5.6
1052	7.7	450	10.0	3.3	NA	177	8.4

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-162 Labeled 822156

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 Feet (estimate)

Static water level measurement before purging (Start Depth) 148.78 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 148.78 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump Pump ID NA

Date Purged 4/25/19 Water Column 17.22 Feet

Time Purged 1510-1540 One Casing Volume 2.8 Gallons

Pump Rate 0.3 GPM LPM Volume Purged 9.0 Gallons

Field Sampling Data

Date Sampled 4/25/19

Time Sampled 1550

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 2.7 (mg/l)

Spec. Cond. 890 (µmhos/cm) Turbidity 9.3 (NTU)

Temp. 11.0 (°C) Eh 134 (mV)

Other NA

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

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

Weather Conditions During Sampling: 68° + sunny, wind SW 20

Sample Description: clear + odorless

Observations: DJA 4/25/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1520	7.5	900	11.0	2.8	NA	138	3.0
1530	7.5	900	11.0	2.7	NA	135	6.0
1540	7.5	890	11.0	2.7	NA	134	9.0
<u>DJA 4/25/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/25/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-163 Labeled 822/157

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 176 Feet (estimate)

Static water level measurement before purging (Start Depth) 158.15 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 158.15 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump Pump ID NA

Date Purged 4/25/19 Water Column 17.85 Feet

Time Purged 1610-1640 One Casing Volume 2.9 Gallons

Pump Rate 0.3 (GPM) LPM Volume Purged 9.0 Gallons

Field Sampling Data

Date Sampled 4/25/19

Time Sampled 1650

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.2 (units) D.O. 4.6 (mg/l)

Spec. Cond. 620 (umhos/cm) Turbidity 3.2 (NTU)

Temp. 12.5 (°C) Eh 166 (mV)

Other NA

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

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

Weather Conditions During Sampling: 68° + sunny, wind W 20

Sample Description: clear & odorless

Observations: DTA 4/25/19

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1620	7.3	610	12.0	4.8	NA	168	3.0
1630	7.3	620	12.5	4.7	NA	166	6.0
1640	7.2	620	12.5	4.6	NA	166	9.0
<u>DTA 4/25/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/25/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-164 Labeled 822158

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 Feet (estimate)

Static water level measurement before purging (Start Depth) 151.93 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 151.93 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump Pump ID NA

Date Purged 4/25/19 Water Column 14.07 Feet

Time Purged 1705-1729 One Casing Volume 2.3 Gallons

Pump Rate 0.3 GPM / LPM Volume Purged 7.2 Gallons

Field Sampling Data

Date Sampled 4/25/19

Time Sampled 1740

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.3 (units) D.O. 3.8 (mg/l)

Spec. Cond. 520 (umhos/cm) Turbidity 1.7 (NTU)

Temp. 12.5 (°C) Eh 185 (mV)

Other NA

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

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

Weather Conditions During Sampling: 69° + sunny, wind NW 20

Sample Description: clear + odorless

Observations: DJA 4/25/19

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1713	7.4	520	12.5	3.9	NA	191	2.4
1721	7.4	520	12.5	3.9	NA	187	4.8
1729	7.3	520	12.5	3.8	NA	185	7.2
<u>DJA 4/25/19</u>							

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/25/19

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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) 31.03 Feet

Static water level measurement at time of sampling (Final Depth) 31.03 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 9.29 Feet

Time Purged 1205-1235 One Casing Volume 1.5 Gallons

Pump Rate 0.15 GPM LPM Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1240

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 8.1 (mg/l)

Spec. Cond. 490 (µmhos/cm) Turbidity 2.3 (NTU)

Temp. 11.0 (°C) Eh 190 (mV)

Other NA

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

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

Weather Conditions During Sampling: 53° + cloudy, wind SW 10

Sample Description: clear + odorless

Observations: DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1215	7.5	490	11.0	8.1	NA	192	1.5
1225	7.5	490	11.0	8.1	NA	191	3.0
1235	7.5	490	11.0	8.1	NA	190	4.5
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-130 Labeled P130

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 46.84 Feet

Static water level measurement before purging (Start Depth) 37.05 Feet

Static water level measurement at time of sampling (Final Depth) 37.05 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 4/24/19

Water Column 9.79 Feet

Time Purged 0910-0943

One Casing Volume 1.6 Gallons

Pump Rate 0.15 GPM / LPM

Volume Purged 4.95 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 0950

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.1 (units) D.O. 7.2 (mg/l)

Spec. Cond. 740 (µmhos/cm) Turbidity 2.3 (NTU)

Temp. 11.0 (°C) Eh 198 (mV)

Other NA

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

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

Weather Conditions During Sampling: 46° + cloudy, wind S10

Sample Description: clear + odorless

Observations: DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0921	7.1	730	11.0	7.2	NA	197	1.65
0932	7.1	740	11.0	7.2	NA	198	3.30
0943	7.1	740	11.0	7.2	NA	198	4.95

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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

Static water level measurement before purging (Start Depth) 34.70 Feet

Static water level measurement at time of sampling (Final Depth) 34.70 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 13.85 Feet

Time Purged 1530-1606 One Casing Volume 2.3 Gallons

Pump Rate 0.2 GPM LPM Volume Purged 7.2 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1610

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 8.2 (mg/l)

Spec. Cond. 560 (µmhos/cm) Turbidity 1.9 (NTU)

Temp. 11.0 (°C) Eh 160 (mV)

Other NA

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

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

Weather Conditions During Sampling: 63° & sunny, wind SW 15

Sample Description: clear & odorless

Observations: DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1542	7.5	560	11.0	8.4	NA	155	2.4
1554	7.5	560	11.0	8.3	NA	158	4.8
1606	7.5	560	11.0	8.2	NA	160	7.2
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds Spring ²⁰¹⁹ Project No. 19-01918

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) 29.29 Feet

Static water level measurement at time of sampling (Final Depth) 29.29 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 7.22 Feet

Time Purged 1115 - 1139 One Casing Volume 1.2 Gallons

Pump Rate 0.15 GPM / LPM Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1150

Sampling Equip. above pump

Meter ID mps-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.3 (units) D.O. 7.7 (mg/l)

Spec. Cond. 660 (µmhos/cm) Turbidity 1.2 (NTU)

Temp. 10.0 (°C) Eh 198 (mV)

Other NA

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

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

Weather Conditions During Sampling: 49° + cloudy, wind SW 10

Sample Description: clear + odorless

Observations: _____

DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1123	7.3	660	10.0	7.8	NA	200	1.2
1131	7.3	660	10.0	7.7	NA	199	2.4
1139	7.3	660	10.0	7.7	NA	198	3.6
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-150 Labeled 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) 32.03 Feet

Static water level measurement at time of sampling (Final Depth) 32.03 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 4.63 Feet

Time Purged 1325-1343 One Casing Volume 0.8 Gallons

Pump Rate 0.15 (GPM) / LPM Volume Purged 2.7 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1400

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.6 (units) D.O. 8.8 (mg/l)

Spec. Cond. 400 (µmhos/cm) Turbidity 2.2 (NTU)

Temp. 11.0 (°C) Eh 164 (mV)

Other NA

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

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

Weather Conditions During Sampling: 58° + partly cloudy, wind SW 15

Sample Description: clear + odorless

Observations: collected duplicate CCR-P3 at this well.

DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1331	7.7	400	11.5	8.9	NA	165	0.9
1337	7.6	400	11.0	8.8	NA	164	1.8
1343	7.6	400	11.0	8.8	NA	164	2.7
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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) 11.43 Feet

Static water level measurement at time of sampling (Final Depth) 11.43 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 4/24/19

Water Column 8.73 Feet

Time Purged 1430-1500

One Casing Volume 1.4 Gallons

Pump Rate 0.15 (GPM) LPM

Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1510

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.4 (units) D.O. 8.3 (mg/l)

Spec. Cond. 490 (µmhos/cm) Turbidity 6.8 (NTU)

Temp. 9.5 (°C) Eh 143 (mV)

Other NA

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

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

Weather Conditions During Sampling: 60° + partly cloudy, wind SW 15-20

Sample Description: clear + odorless

Observations: DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1440	7.3	480	9.5	8.5	NA	161	1.5
1450	7.4	490	9.5	8.4	NA	150	3.0
1500	7.4	490	9.5	8.3	NA	143	4.5

DJA 4/24/19

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-152A Labeled 806318

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 42.18 Feet

Static water level measurement before purging (Start Depth) 37.35 Feet

Static water level measurement at time of sampling (Final Depth) 37.35 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 4.83 Feet

Time Purged 0820-0838 One Casing Volume 0.8 Gallons

Pump Rate 0.15 GPM LPM Volume Purged 2.7 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 0850

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.4 (units) D.O. 8.8 (mg/l)

Spec. Cond. 350 (µmhos/cm) Turbidity 1.6 (NTU)

Temp. 10.5 (°C) Eh 184 (mV)

Other NA

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

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

Weather Conditions During Sampling: 45° + cloudy, wind 510

Sample Description: clear + odorless

Observations: collected Rinse CCR - P3 Blank at this well.

DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0826	7.3	350	10.5	8.8	NA	185	0.9
0832	7.4	350	10.5	8.8	NA	184	1.8
0838	7.4	350	10.5	8.8	NA	184	2.7
<u>DTA 4/24/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-153 Labeled 806314

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) 16.13 Feet

Static water level measurement at time of sampling (Final Depth) 16.13 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 7.50 Feet

Time Purged 1630-1654 One Casing Volume 1.2 Gallons

Pump Rate 0.15 GPM LPM Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1700

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.7 (units) D.O. 9.9 (mg/l)

Spec. Cond. 180 (µmhos/cm) Turbidity 1.8 (NTU)

Temp. 9.5 (°C) Eh 190 (mV)

Other NA

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

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

Weather Conditions During Sampling: 65° + sunny, wind SW 15

Sample Description: clear & odorless

Observations: DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1638	7.8	180	9.5	9.7	NA	185	1.2
1646	7.8	180	9.5	9.9	NA	188	2.4
1654	7.7	180	9.5	9.9	NA	190	3.6
<u>DTA 4/24/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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

Static water level measurement before purging (Start Depth) 32.78 Feet

Static water level measurement at time of sampling (Final Depth) 32.78 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 4/24/19

Water Column 16.75 Feet

Time Purged 1010-1052

One Casing Volume 2.7 Gallons

Pump Rate 0.2 (GPM) LPM

Volume Purged 8.4 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1100

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.7 (units) D.O. 3.3 (mg/l)

Spec. Cond. 450 (µmhos/cm) Turbidity 2.8 (NTU)

Temp. 10.0 (°C) Eh 177 (mV)

Other NA

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

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

Weather Conditions During Sampling: 48° + cloudy, wind SW 10

Sample Description: clear + odorless

Observations: DTA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1024	7.8	430	10.0	1.0	NA	177	2.8
1038	7.7	450	10.0	3.0	NA	177	5.6
1052	7.7	450	10.0	3.3	NA	177	8.4

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 4/24/19

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-162 Labeled 822156

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 Feet (estimate)

Static water level measurement before purging (Start Depth) 148.78 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 148.78 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump Pump ID NA

Date Purged 4/25/19 Water Column 17.22 Feet

Time Purged 1510-1540 One Casing Volume 2.8 Gallons

Pump Rate 0.3 GPM LPM Volume Purged 9.0 Gallons

Field Sampling Data

Date Sampled 4/25/19

Time Sampled 1550

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 2.7 (mg/l)

Spec. Cond. 890 (µmhos/cm) Turbidity 9.3 (NTU)

Temp. 11.0 (°C) Eh 134 (mV)

Other NA

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

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

Weather Conditions During Sampling: 68° + sunny, wind SW 20

Sample Description: clear + odorless

Observations: DJA 4/25/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1520	7.5	900	11.0	2.8	NA	138	3.0
1530	7.5	900	11.0	2.7	NA	135	6.0
1540	7.5	890	11.0	2.7	NA	134	9.0
<u>DJA 4/25/19</u>							

Samples chilled immediately after collection ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/25/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-163 Labeled 822/157

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 176 Feet (estimate)

Static water level measurement before purging (Start Depth) 158.15 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 158.15 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump Pump ID NA

Date Purged 4/25/19 Water Column 17.85 Feet

Time Purged 1610-1640 One Casing Volume 2.9 Gallons

Pump Rate 0.3 (GPM) LPM Volume Purged 9.0 Gallons

Field Sampling Data

Date Sampled 4/25/19

Time Sampled 1650

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.2 (units) D.O. 4.6 (mg/l)

Spec. Cond. 620 (umhos/cm) Turbidity 3.2 (NTU)

Temp. 12.5 (°C) Eh 166 (mV)

Other NA

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

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

Weather Conditions During Sampling: 68° + sunny, wind W 20

Sample Description: clear & odorless

Observations: DTA 4/25/19

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1620	7.3	610	12.0	4.8	NA	168	3.0
1630	7.3	620	12.5	4.7	NA	166	6.0
1640	7.2	620	12.5	4.6	NA	166	9.0
<u>DTA 4/25/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/25/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

Monitoring Point ID P-164 Labeled 822158

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 Feet (estimate)

Static water level measurement before purging (Start Depth) 151.93 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 151.93 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump Pump ID NA

Date Purged 4/25/19 Water Column 14.07 Feet

Time Purged 1705-1729 One Casing Volume 2.3 Gallons

Pump Rate 0.3 GPM / LPM Volume Purged 7.2 Gallons

Field Sampling Data

Date Sampled 4/25/19

Time Sampled 1740

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.3 (units) D.O. 3.8 (mg/l)

Spec. Cond. 520 (umhos/cm) Turbidity 1.7 (NTU)

Temp. 12.5 (°C) Eh 185 (mV)

Other NA

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

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

Weather Conditions During Sampling: 69° + sunny, wind NW 20

Sample Description: clear + odorless

Observations: DJA 4/25/19

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1713	7.4	520	12.5	3.9	NA	191	2.4
1721	7.4	520	12.5	3.9	NA	187	4.8
1729	7.3	520	12.5	3.8	NA	185	7.2
<u>DJA 4/25/19</u>							

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/25/19

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Spring ²⁰¹⁹ Project No. 19-01918

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) 31.03 Feet

Static water level measurement at time of sampling (Final Depth) 31.03 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/24/19 Water Column 9.29 Feet

Time Purged 1205-1235 One Casing Volume 1.5 Gallons

Pump Rate 0.15 GPM LPM Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 4/24/19

Time Sampled 1240

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 8.1 (mg/l)

Spec. Cond. 490 (µmhos/cm) Turbidity 2.3 (NTU)

Temp. 11.0 (°C) Eh 190 (mV)

Other NA

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

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

Weather Conditions During Sampling: 53° + cloudy, wind SW 10

Sample Description: clear + odorless

Observations: DJA 4/24/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1215	7.5	490	11.0	8.1	NA	192	1.5
1225	7.5	490	11.0	8.1	NA	191	3.0
1235	7.5	490	11.0	8.1	NA	190	4.5
<u>DJA 4/24/19</u>							

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 4/24/19



Amended Report

Original Report ID: MED0226, MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958



Minneapolis Testing Laboratory

1518 Chestnut Ave N

Minneapolis, MN 55043

Certification #MN-027-053-197

WI-999071150

Christine Keefe, Supervisor (612) 630-4506

22 January 2020

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco Ponds Spring

cc: Corrected report format. HSD 7/23/19.
Added P-130, P-132 to report. HSD
1/22/20

Enclosed are the results of analyses for samples received by the laboratory on 04/25/2019 05:51-04/26/2019 09:00. If you have any questions concerning this report, please feel free to contact me.

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

Sincerely,

Steve Davis

Project Manager

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-130		MED0225-28	Water	04/24/2019 9:50	04/25/2019 5:51
P-132		MED0225-29	Water	04/24/2019 11:50	04/25/2019 5:51
Rinse CCR-P3		MED0226-01	Water	04/24/2019 8:10	04/25/2019 5:51
P-152A		MED0226-02	Water	04/24/2019 8:50	04/25/2019 5:51
P-154A		MED0226-03	Water	04/24/2019 11:00	04/25/2019 5:51
P-165		MED0226-04	Water	04/24/2019 12:40	04/25/2019 5:51
P-150		MED0235-01	Water	04/24/2019 14:00	04/26/2019 9:00
Duplicate CCR-P3		MED0235-02	Water	04/24/2019 14:00	04/26/2019 9:00
P-151		MED0235-03	Water	04/24/2019 15:10	04/26/2019 9:00
P-131		MED0235-04	Water	04/24/2019 16:10	04/26/2019 9:00
P-153		MED0235-05	Water	04/24/2019 17:00	04/26/2019 9:00
P-162		MED0235-16	Water	04/25/2019 15:50	04/26/2019 9:00
P-163		MED0235-17	Water	04/25/2019 16:50	04/26/2019 9:00
P-164		MED0235-18	Water	04/25/2019 17:40	04/26/2019 9:00

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-130

MED0225-28 (Water) - Chain of Custody Number: 2273459/2273457

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	BED0545	4/26/19 6:42	4/26/19 13:29	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0545	4/26/19 6:42	4/26/19 13:29	EPA 300.0	CRL
Sulfate	12.2	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 13:29	EPA 300.0	CRL

Wet Chemistry

pH	7.57		pH Units	M_TTT	1	BED0511	4/25/19 7:18	4/25/19 11:51	SM 4500-H+ B	CRL
Total Dissolved Solids	448	20.0	mg/L		1	BED0562	4/28/19 8:55	4/28/19 8:55	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0561	4/28/19 7:00	4/28/19 7:00	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.690	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Barium	94.9	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Chromium	1.39	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:16	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:38	EPA 200.7	HRD
Calcium	132	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:36	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:36	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-130

MED0225-28 (Water) - Chain of Custody Number: 2273459/2273457

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury	< 0.200	0.200	ug/L		1	BEE0042	5/2/19 8:29	5/2/19 13:38	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-132

MED0225-29 (Water) - Chain of Custody Number: 2273459/2273457

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

Anions by Ion Chromatography

Chloride	2.68	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 15:32	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0545	4/26/19 6:42	4/26/19 15:32	EPA 300.0	CRL
Sulfate	77.0	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 15:32	EPA 300.0	CRL

Wet Chemistry

pH	7.76		pH Units	M_TTT	1	BED0511	4/25/19 7:18	4/25/19 11:58	SM 4500-H+ B	CRL
Total Dissolved Solids	420	20.0	mg/L		1	BED0562	4/28/19 8:55	4/28/19 8:55	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0561	4/28/19 7:00	4/28/19 7:00	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.521	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Barium	42.9	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Chromium	1.70	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Selenium	1.22	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:20	EPA 200.8	CRL

Total Metals by ICP

Boron	0.0726	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:43	EPA 200.7	HRD
Calcium	114	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:42	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:42	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-132

MED0225-29 (Water) - Chain of Custody Number: 2273459/2273457

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury	< 0.200	0.200	ug/L	1	BEE0042	5/2/19	8:29	5/2/19 13:39	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Rinse CCR-P3

MED0226-01 (Water) - Chain of Custody Number: 2273454

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	BED0545	4/26/19 6:42	4/26/19 15:52	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0545	4/26/19 6:42	4/26/19 15:52	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 15:52	EPA 300.0	CRL

Wet Chemistry

pH	6.07		pH Units	M_TTT	1	BED0511	4/25/19 7:18	4/25/19 12:01	SM 4500-H+ B	CRL
Total Dissolved Solids	< 20.0	20.0	mg/L		1	BED0562	4/28/19 8:55	4/28/19 8:55	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0561	4/28/19 7:00	4/28/19 7:00	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:32	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:00	EPA 200.7	HRD
Calcium	< 1.25	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:58	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 10:58	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Rinse CCR-P3
MED0226-01 (Water) - Chain of Custody Number: 2273454

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BEE0042	5/2/19 8:29	5/2/19 13:41	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-152A

MED0226-02 (Water) - Chain of Custody Number: 2273454

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	BED0545	4/26/19 6:42	4/26/19 16:13	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:13	EPA 300.0	CRL
Sulfate	7.90	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:13	EPA 300.0	CRL

Wet Chemistry

pH	7.97		pH Units	M_TTT	1	BED0511	4/25/19 7:18	4/25/19 12:15	SM 4500-H+ B	CRL
Total Dissolved Solids	188	20.0	mg/L		1	BED0568	4/29/19 8:48	4/29/19 8:48	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0567	4/29/19 6:57	4/29/19 6:57	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Barium	35.4	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Chromium	0.669	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:36	EPA 200.8	CRL

Total Metals by ICP

Boron	0.0537	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:05	EPA 200.7	HRD
Calcium	60.3	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:03	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:03	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-152A

MED0226-02 (Water) - Chain of Custody Number: 2273454

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

Mercury

Mercury	< 0.200	0.200	ug/L		1	BEE0042	5/2/19 8:29	5/2/19 13:46	EPA 245.1/7470A	HRD
---------	---------	-------	------	--	---	---------	-------------	--------------	-----------------	-----

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-154A

MED0226-03 (Water) - Chain of Custody Number: 2273454

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

Anions by Ion Chromatography

Chloride	19.1	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:33	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:33	EPA 300.0	CRL
Sulfate	45.1	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:33	EPA 300.0	CRL

Wet Chemistry

pH	8.05		pH Units	M_TTT	1	BED0511	4/25/19 7:18	4/25/19 12:18	SM 4500-H+ B	CRL
Total Dissolved Solids	330	20.0	mg/L		1	BED0568	4/29/19 8:48	4/29/19 8:48	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0567	4/29/19 6:57	4/29/19 6:57	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	1.47	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Barium	54.2	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Chromium	0.673	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Molybdenum	0.973	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Selenium	0.631	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:40	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:10	EPA 200.7	HRD
Calcium	83.3	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:08	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:08	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-154A

MED0226-03 (Water) - Chain of Custody Number: 2273454

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

Mercury

Mercury	< 0.200	0.200	ug/L		1	BEE0042	5/2/19 8:29	5/2/19 13:48	EPA 245.1/7470A	HRD
---------	---------	-------	------	--	---	---------	-------------	--------------	-----------------	-----

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-165

MED0226-04 (Water) - Chain of Custody Number: 2273454

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

Anions by Ion Chromatography

Chloride	10.2	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:54	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:54	EPA 300.0	CRL
Sulfate	29.3	1.00	mg/L		1	BED0545	4/26/19 6:42	4/26/19 16:54	EPA 300.0	CRL

Wet Chemistry

pH	7.98		pH Units	M_TTT	1	BED0511	4/25/19 7:18	4/25/19 12:22	SM 4500-H+ B	CRL
Total Dissolved Solids	284	20.0	mg/L		1	BED0568	4/29/19 8:48	4/29/19 8:48	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0567	4/29/19 6:57	4/29/19 6:57	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.602	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Barium	34.2	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Chromium	1.44	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Selenium	1.02	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:43	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:15	EPA 200.7	HRD
Calcium	84.9	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:13	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:13	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-165

MED0226-04 (Water) - Chain of Custody Number: 2273454

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury	< 0.200	0.200	ug/L		1	BEE0042	5/2/19 8:29	5/2/19 13:50	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-150

MED0235-01 (Water) - Chain of Custody Number: 2273455/2273453

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

Anions by Ion Chromatography

Chloride	73.1	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:07	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:07	EPA 300.0	CRL
Sulfate	4.89	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:07	EPA 300.0	CRL

Wet Chemistry

pH	7.80		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 11:30	SM 4500-H+ B	CRL
Total Dissolved Solids	300	20.0	mg/L		1	BED0584	4/30/19 8:58	4/30/19 8:58	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0583	4/30/19 7:22	4/30/19 7:22	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.675	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Barium	59.1	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Chromium	0.891	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:47	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:20	EPA 200.7	HRD
Calcium	70.7	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:18	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:18	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-150

MED0235-01 (Water) - Chain of Custody Number: 2273455/2273453

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

Mercury

Mercury	< 0.200	0.200	ug/L		1	BEE0158	5/8/19 8:25	5/8/19 13:19	EPA 245.1/7470A	HRD
---------	---------	-------	------	--	---	---------	-------------	--------------	-----------------	-----

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Duplicate CCR-P3
MED0235-02 (Water) - Chain of Custody Number: 2273455/2273453

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

Anions by Ion Chromatography

Chloride	77.5	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:27	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:27	EPA 300.0	CRL
Sulfate	5.13	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:27	EPA 300.0	CRL

Wet Chemistry

pH	7.81		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 11:34	SM 4500-H+ B	CRL
Total Dissolved Solids	290	20.0	mg/L		1	BED0584	4/30/19 8:58	4/30/19 8:58	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0583	4/30/19 7:22	4/30/19 7:22	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.704	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Barium	58.0	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Chromium	0.674	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:51	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:25	EPA 200.7	HRD
Calcium	70.4	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:23	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:23	EPA 200.7	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Duplicate CCR-P3

MED0235-02 (Water) - Chain of Custody Number: 2273455/2273453

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

Mercury

Mercury	< 0.200	0.200	ug/L	1	BEE0158	5/8/19	8:25	5/8/19 13:21	EPA 245.1/7470A	HRD
---------	---------	-------	------	---	---------	--------	------	--------------	-----------------	-----

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-151

MED0235-03 (Water) - Chain of Custody Number: 2273455/2273453

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

Anions by Ion Chromatography

Chloride	27.6	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:48	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:48	EPA 300.0	CRL
Sulfate	31.5	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 14:48	EPA 300.0	CRL

Wet Chemistry

pH	7.91		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 11:37	SM 4500-H+ B	CRL
Total Dissolved Solids	296	20.0	mg/L		1	BED0584	4/30/19 8:58	4/30/19 8:58	SM 2540C	HSD
Total Suspended Solids	9.20	4.00	mg/L		1	BED0583	4/30/19 7:22	4/30/19 7:22	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.638	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Barium	56.0	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Cobalt	1.17	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Chromium	1.60	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Selenium	0.542	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:55	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:30	EPA 200.7	HRD
Calcium	81.7	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:28	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:28	EPA 200.7	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-151

MED0235-03 (Water) - Chain of Custody Number: 2273455/2273453

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

Mercury

Mercury	< 0.200	0.200	ug/L		1	BEE0158	5/8/19 8:25	5/8/19 13:23	EPA 245.1/7470A	HRD
---------	---------	-------	------	--	---	---------	-------------	--------------	-----------------	-----

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-131

MED0235-04 (Water) - Chain of Custody Number: 2273455/2273453

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

Anions by Ion Chromatography

Chloride	21.5	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 15:08	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0569	4/29/19 7:12	4/29/19 15:08	EPA 300.0	CRL
Sulfate	23.8	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 15:08	EPA 300.0	CRL

Wet Chemistry

pH	7.81		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 11:44	SM 4500-H+ B	CRL
Total Dissolved Solids	328	20.0	mg/L		1	BED0584	4/30/19 8:58	4/30/19 8:58	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0583	4/30/19 7:22	4/30/19 7:22	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.735	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Barium	80.7	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Chromium	0.941	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Selenium	0.695	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 8:59	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:35	EPA 200.7	HRD
Calcium	90.7	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:33	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:33	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-131

MED0235-04 (Water) - Chain of Custody Number: 2273455/2273453

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury	< 0.200	0.200	ug/L		1	BEE0158	5/8/19 8:25	5/8/19 13:24	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-153

MED0235-05 (Water) - Chain of Custody Number: 2273455/2273453

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	BED0569	4/29/19 7:12	4/29/19 15:29	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BED0569	4/29/19 7:12	4/29/19 15:29	EPA 300.0	CRL
Sulfate	3.39	1.00	mg/L		1	BED0569	4/29/19 7:12	4/29/19 15:29	EPA 300.0	CRL

Wet Chemistry

pH	8.13		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 11:47	SM 4500-H+ B	CRL
Total Dissolved Solids	116	20.0	mg/L		1	BED0584	4/30/19 8:58	4/30/19 8:58	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0583	4/30/19 7:22	4/30/19 7:22	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	1.04	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Barium	15.1	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Chromium	0.726	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Molybdenum	0.718	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Selenium	0.502	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0564	4/28/19 7:27	4/30/19 9:03	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:40	EPA 200.7	HRD
Calcium	30.1	1.25	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:38	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0563	4/28/19 7:22	5/1/19 11:38	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-153

MED0235-05 (Water) - Chain of Custody Number: 2273455/2273453

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

Mercury

Mercury	< 0.200	0.200	ug/L		1	BEE0158	5/8/19 8:25	5/8/19 13:26	EPA 245.1/7470A	HRD
---------	---------	-------	------	--	---	---------	-------------	--------------	-----------------	-----

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-162

MED0235-16 (Water) - Chain of Custody Number: 2273455/2273453

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

Anions by Ion Chromatography

Chloride	28.2	1.00	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 11:49	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 11:49	EPA 300.0	CRL
Sulfate	105	1.00	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 11:49	EPA 300.0	CRL

Wet Chemistry

pH	7.82		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 12:47	SM 4500-H+ B	CRL
Total Dissolved Solids	600	20.0	mg/L		1	BED0622	5/1/19 9:16	5/1/19 9:16	SM 2540C	HSD
Total Suspended Solids	4.40	4.00	mg/L		1	BED0621	5/1/19 7:27	5/1/19 7:27	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.734	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Barium	66.0	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Chromium	10.8	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Molybdenum	4.27	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Selenium	3.83	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BED0571	4/29/19 8:32	4/30/19 11:56	EPA 200.8	CRL

Total Metals by ICP

Boron	0.236	0.0500	mg/L		1	BED0570	4/29/19 8:29	4/30/19 15:38	EPA 200.7	HRD
Calcium	123	1.25	mg/L		1	BED0570	4/29/19 8:29	4/30/19 15:36	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BED0570	4/29/19 8:29	4/30/19 15:36	EPA 200.7	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-162

MED0235-16 (Water) - Chain of Custody Number: 2273455/2273453

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L	1	BEE0302	5/14/19	9:01	5/14/19 14:45	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-163

MED0235-17 (Water) - Chain of Custody Number: 2273455/2273453

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

Anions by Ion Chromatography

Chloride	30.6	1.00	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 12:10	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 12:10	EPA 300.0	CRL
Sulfate	62.4	1.00	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 12:10	EPA 300.0	CRL

Wet Chemistry

pH	7.94		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 12:50	SM 4500-H+ B	CRL
Total Dissolved Solids	358	20.0	mg/L		1	BED0622	5/1/19 9:16	5/1/19 9:16	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0621	5/1/19 7:27	5/1/19 7:27	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.795	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Barium	39.1	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Chromium	8.43	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Molybdenum	0.682	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Selenium	5.40	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:12	EPA 200.8	CRL

Total Metals by ICP

Boron	0.0530	0.0500	mg/L		1	BEE0089	5/6/19 9:30	5/14/19 11:53	EPA 200.7	HRD
Calcium	90.4	1.25	mg/L		1	BEE0089	5/6/19 9:30	5/14/19 11:51	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BEE0089	5/6/19 9:30	5/14/19 11:51	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-163

MED0235-17 (Water) - Chain of Custody Number: 2273455/2273453

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury	< 0.200	0.200	ug/L	1	BEE0302	5/14/19	9:01	5/14/19 14:47	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-164

MED0235-18 (Water) - Chain of Custody Number: 2273455/2273453

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

Anions by Ion Chromatography

Chloride	10.2	1.00	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 12:30	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 12:30	EPA 300.0	CRL
Sulfate	34.1	1.00	mg/L		1	BEE0002	5/1/19 6:33	5/1/19 12:30	EPA 300.0	CRL

Wet Chemistry

pH	8.03		pH Units	M_TTT	1	BED0556	4/26/19 10:37	4/26/19 12:54	SM 4500-H+ B	CRL
Total Dissolved Solids	296	20.0	mg/L		1	BED0622	5/1/19 9:16	5/1/19 9:16	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BED0621	5/1/19 7:27	5/1/19 7:27	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.651	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Barium	41.1	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Chromium	9.18	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Molybdenum	0.631	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Selenium	1.92	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BEE0090	5/6/19 9:38	5/7/19 11:16	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEE0089	5/6/19 9:30	5/14/19 11:58	EPA 200.7	HRD
Calcium	77.8	1.25	mg/L		1	BEE0089	5/6/19 9:30	5/14/19 11:56	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BEE0089	5/6/19 9:30	5/14/19 11:56	EPA 200.7	HRD



Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

P-164

MED0235-18 (Water) - Chain of Custody Number: 2273455/2273453

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury	< 0.200	0.200	ug/L		1	BEE0302	5/14/19 9:01	5/14/19 14:48	EPA 245.1/7470A	HRD

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	01/22/2020 06:59

Anions by Ion Chromatography - Quality Control

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

Batch BED0512 - Wet Prep

Blank (BED0512-BLK1)				Prepared & Analyzed: 04/25/2019						
Chloride	<1.00	1.00	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BED0512-BLK2)				Prepared & Analyzed: 04/25/2019						
Chloride	<1.00	1.00	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BED0512-BS1)				Prepared & Analyzed: 04/25/2019						
Chloride	24.5	1.00	mg/L	25.026		97.7	90-110			
Sulfate	49.1	1.00	mg/L	50.150		97.8	90-110			
LCS (BED0512-BS2)				Prepared & Analyzed: 04/25/2019						
Chloride	24.6	1.00	mg/L	25.026		98.4	90-110			
Sulfate	49.5	1.00	mg/L	50.150		98.7	90-110			
LCS (BED0512-BS3)				Prepared & Analyzed: 04/25/2019						
Chloride	24.4	1.00	mg/L	25.026		97.6	90-110			
Sulfate	49.0	1.00	mg/L	50.150		97.7	90-110			
Duplicate (BED0512-DUP1)				Source: MED0225-02		Prepared & Analyzed: 04/25/2019				
Chloride	10.2	1.00	mg/L		10.3			1.37	20	
Sulfate	40.0	1.00	mg/L		40.4			1.09	20	
Duplicate (BED0512-DUP2)				Source: MED0225-03		Prepared & Analyzed: 04/25/2019				
Chloride	10.2	1.00	mg/L		10.1			0.779	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	60.6	1.00	mg/L		59.9			1.04	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Anions by Ion Chromatography - Quality Control

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

Batch BED0512 - Wet Prep

Matrix Spike (BED0512-MS1)		Source: MED0225-02		Prepared & Analyzed: 04/25/2019						
Chloride	39.8	1.25	mg/L	31.283	10.3	94.2	80-120			
Sulfate	99.4	1.25	mg/L	62.688	40.4	94.0	80-120			
Matrix Spike (BED0512-MS2)		Source: MED0225-03		Prepared & Analyzed: 04/25/2019						
Chloride	40.5	1.25	mg/L	31.283	10.1	97.2	80-120			
Sulfate	121	1.25	mg/L	62.688	59.9	97.7	80-120			
Matrix Spike Dup (BED0512-MSD1)		Source: MED0225-02		Prepared & Analyzed: 04/25/2019						
Chloride	40.7	1.25	mg/L	31.283	10.3	97.2	80-120	2.35	20	
Sulfate	101	1.25	mg/L	62.688	40.4	97.3	80-120	2.02	20	
Matrix Spike Dup (BED0512-MSD2)		Source: MED0225-03		Prepared & Analyzed: 04/25/2019						
Chloride	41.1	1.25	mg/L	31.283	10.1	99.0	80-120	1.37	20	
Sulfate	122	1.25	mg/L	62.688	59.9	98.8	80-120	0.557	20	

Batch BED0545 - Wet Prep

Blank (BED0545-BLK1)		Prepared & Analyzed: 04/26/2019								
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BED0545-BS1)		Prepared & Analyzed: 04/26/2019								
Chloride	25.1	1.00	mg/L	25.026		100	90-110			
Fluoride	3.34	0.750	mg/L	2.5000		134	90-110			M_LCS-H
Sulfate	50.3	1.00	mg/L	50.150		100	90-110			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Anions by Ion Chromatography - Quality Control

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

Batch BED0545 - Wet Prep

LCS (BED0545-BS2)

Prepared & Analyzed: 04/26/2019

Chloride	24.5	1.00	mg/L	25.026		97.7	90-110			
Fluoride	3.38	0.750	mg/L	2.5000		135	90-110			M_LCS-H
Sulfate	49.2	1.00	mg/L	50.150		98.2	90-110			

LCS (BED0545-BS3)

Prepared & Analyzed: 04/26/2019

Chloride	24.5	1.00	mg/L	25.026		97.8	90-110			
Fluoride	3.39	0.750	mg/L	2.5000		135	90-110			M_LCS-H
Sulfate	49.2	1.00	mg/L	50.150		98.2	90-110			

Duplicate (BED0545-DUP1)

Source: MED0230-01

Prepared & Analyzed: 04/26/2019

Chloride	7.72	1.00	mg/L		7.86			1.77	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	6.04	1.00	mg/L		6.41			6.02	20	

Duplicate (BED0545-DUP2)

Source: MED0230-02

Prepared & Analyzed: 04/26/2019

Chloride	7.80	1.00	mg/L		7.88			1.01	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	6.30	1.00	mg/L		6.37			1.10	20	

Matrix Spike (BED0545-MS1)

Source: MED0230-01

Prepared & Analyzed: 04/26/2019

Chloride	39.4	1.25	mg/L	31.283	7.86	101	80-120			
Fluoride	4.29	0.938	mg/L	3.1250	<0.938	137	80-120			M_MS
Sulfate	69.0	1.25	mg/L	62.688	6.41	99.8	80-120			

Matrix Spike (BED0545-MS2)

Source: MED0230-02

Prepared & Analyzed: 04/26/2019

Chloride	39.4	1.25	mg/L	31.283	7.88	101	80-120			
Fluoride	4.31	0.938	mg/L	3.1250	<0.938	138	80-120			M_MS
Sulfate	68.7	1.25	mg/L	62.688	6.37	99.4	80-120			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	01/22/2020 06:59

Anions by Ion Chromatography - Quality Control

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

Batch BED0545 - Wet Prep

Matrix Spike Dup (BED0545-MSD1)			Source: MED0230-01		Prepared & Analyzed: 04/26/2019					
Chloride	39.5	1.25	mg/L	31.283	7.86	101	80-120	0.418	20	
Fluoride	4.44	0.938	mg/L	3.1250	<0.938	142	80-120	3.43	20	M_MS
Sulfate	69.7	1.25	mg/L	62.688	6.41	101	80-120	0.977	20	

Matrix Spike Dup (BED0545-MSD2)			Source: MED0230-02		Prepared & Analyzed: 04/26/2019					
Chloride	39.5	1.25	mg/L	31.283	7.88	101	80-120	0.326	20	
Fluoride	4.46	0.938	mg/L	3.1250	<0.938	143	80-120	3.36	20	M_MS
Sulfate	69.2	1.25	mg/L	62.688	6.37	100	80-120	0.787	20	

Batch BED0569 - Wet Prep

Blank (BED0569-BLK1)			Prepared & Analyzed: 04/29/2019							
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

Blank (BED0569-BLK2)			Prepared & Analyzed: 04/29/2019							
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

LCS (BED0569-BS1)			Prepared & Analyzed: 04/29/2019							
Chloride	24.8	1.00	mg/L	25.026		99.0	90-110			
Fluoride	3.23	0.750	mg/L	2.5000		129	90-110			M_LCS-H
Sulfate	46.3	1.00	mg/L	50.150		92.4	90-110			

LCS (BED0569-BS2)			Prepared & Analyzed: 04/29/2019							
Chloride	24.4	1.00	mg/L	25.026		97.4	90-110			
Fluoride	3.36	0.750	mg/L	2.5000		134	90-110			M_LCS-H
Sulfate	45.5	1.00	mg/L	50.150		90.8	90-110			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Anions by Ion Chromatography - Quality Control

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

Batch BED0569 - Wet Prep

LCS (BED0569-BS3)			Prepared & Analyzed: 04/29/2019							
Chloride	24.3	1.00	mg/L	25.026		97.3	90-110			M_LCS-H
Fluoride	3.36	0.750	mg/L	2.5000		134	90-110			
Sulfate	45.2	1.00	mg/L	50.150		90.1	90-110			

Duplicate (BED0569-DUP1)			Source: MED0230-06		Prepared & Analyzed: 04/29/2019					
Chloride	8.20	1.00	mg/L		8.26			0.777	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	5.94	1.00	mg/L		5.88			1.10	20	

Duplicate (BED0569-DUP2)			Source: MED0230-07		Prepared & Analyzed: 04/29/2019					
Chloride	7.79	1.00	mg/L		7.90			1.31	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	6.27	1.00	mg/L		6.28			0.0478	20	

Matrix Spike (BED0569-MS1)			Source: MED0230-06		Prepared & Analyzed: 04/29/2019					
Chloride	38.1	1.25	mg/L	31.283	8.26	95.5	80-120			M_MS
Fluoride	3.90	0.938	mg/L	3.1250	<0.938	125	80-120			
Sulfate	61.4	1.25	mg/L	62.688	5.88	88.5	80-120			

Matrix Spike (BED0569-MS2)			Source: MED0230-07		Prepared & Analyzed: 04/29/2019					
Chloride	38.8	1.25	mg/L	31.283	7.90	98.6	80-120			M_MS
Fluoride	4.20	0.938	mg/L	3.1250	<0.938	134	80-120			
Sulfate	63.4	1.25	mg/L	62.688	6.28	91.2	80-120			

Matrix Spike Dup (BED0569-MSD1)			Source: MED0230-06		Prepared & Analyzed: 04/29/2019					
Chloride	39.0	1.25	mg/L	31.283	8.26	98.2	80-120	2.20	20	M_MS
Fluoride	4.29	0.938	mg/L	3.1250	<0.938	137	80-120	9.43	20	
Sulfate	63.3	1.25	mg/L	62.688	5.88	91.6	80-120	3.08	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Anions by Ion Chromatography - Quality Control

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

Batch BED0569 - Wet Prep

Matrix Spike Dup (BED0569-MSD2)	Source: MED0230-07			Prepared & Analyzed: 04/29/2019						
Chloride	38.7	1.25	mg/L	31.283	7.90	98.4	80-120	0.200	20	
Fluoride	4.35	0.938	mg/L	3.1250	<0.938	139	80-120	3.36	20	M_MS
Sulfate	63.5	1.25	mg/L	62.688	6.28	91.2	80-120	0.0611	20	

Batch BEE0002 - Wet Prep

Blank (BEE0002-BLK1)	Prepared & Analyzed: 05/01/2019									
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

Blank (BEE0002-BLK2)	Prepared & Analyzed: 05/01/2019									
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

LCS (BEE0002-BS1)	Prepared & Analyzed: 05/01/2019									
Chloride	25.2	1.00	mg/L	25.026		101	90-110			
Fluoride	3.41	0.750	mg/L	2.5000		136	90-110			M_LCS-H
Sulfate	51.3	1.00	mg/L	50.150		102	90-110			

LCS (BEE0002-BS2)	Prepared & Analyzed: 05/01/2019									
Chloride	24.3	1.00	mg/L	25.026		97.2	90-110			
Fluoride	3.36	0.750	mg/L	2.5000		134	90-110			M_LCS-H
Sulfate	49.3	1.00	mg/L	50.150		98.2	90-110			

LCS (BEE0002-BS3)	Prepared & Analyzed: 05/01/2019									
Chloride	24.5	1.00	mg/L	25.026		98.0	90-110			
Fluoride	3.31	0.750	mg/L	2.5000		132	90-110			M_LCS-H
Sulfate	49.6	1.00	mg/L	50.150		98.9	90-110			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Anions by Ion Chromatography - Quality Control

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

Batch BEE0002 - Wet Prep

Duplicate (BEE0002-DUP1)	Source: MED0235-16			Prepared & Analyzed: 05/01/2019						
Chloride	28.0	1.00	mg/L		28.2			0.634	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	105	1.00	mg/L		105			0.325	20	

Duplicate (BEE0002-DUP2)	Source: MED0235-18			Prepared & Analyzed: 05/01/2019						
Chloride	10.1	1.00	mg/L		10.2			1.37	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	33.6	1.00	mg/L		34.1			1.42	20	

Matrix Spike (BEE0002-MS1)	Source: MED0235-16			Prepared & Analyzed: 05/01/2019						
Chloride	58.4	1.25	mg/L	31.283	28.2	96.7	80-120			
Fluoride	3.98	0.938	mg/L	3.1250	<0.938	127	80-120			M_MS
Sulfate	166	1.25	mg/L	62.688	105	96.6	80-120			

Matrix Spike (BEE0002-MS2)	Source: MED0235-18			Prepared & Analyzed: 05/01/2019						
Chloride	41.2	1.25	mg/L	31.283	10.2	98.8	80-120			
Fluoride	4.16	0.938	mg/L	3.1250	<0.938	133	80-120			M_MS
Sulfate	96.2	1.25	mg/L	62.688	34.1	99.0	80-120			

Matrix Spike Dup (BEE0002-MSD1)	Source: MED0235-16			Prepared & Analyzed: 05/01/2019						
Chloride	58.8	1.25	mg/L	31.283	28.2	97.9	80-120	0.672	20	
Fluoride	4.22	0.938	mg/L	3.1250	<0.938	135	80-120	5.82	20	M_MS
Sulfate	168	1.25	mg/L	62.688	105	99.1	80-120	0.932	20	

Matrix Spike Dup (BEE0002-MSD2)	Source: MED0235-18			Prepared & Analyzed: 05/01/2019						
Chloride	41.5	1.25	mg/L	31.283	10.2	99.8	80-120	0.705	20	
Fluoride	4.32	0.938	mg/L	3.1250	<0.938	138	80-120	3.89	20	M_MS
Sulfate	96.9	1.25	mg/L	62.688	34.1	100	80-120	0.732	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis 250 Marquette Plaza Minneapolis MN, 55401	Project Name/Location: Sherco Ponds Spring Project Manager: Eric Ealy	Reported: 01/22/2020 06:59
--	--	-------------------------------

Wet Chemistry - Quality Control

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

Batch BED0509 - Wet Prep

Blank (BED0509-BLK1)				Prepared & Analyzed: 04/25/2019						
Total Suspended Solids	<4.00	4.00	mg/L							
Duplicate (BED0509-DUP1)				Source: MED0225-02		Prepared & Analyzed: 04/25/2019				
Total Suspended Solids	38.4	4.00	mg/L		35.2			8.70	20	

Batch BED0510 - Wet Prep

Blank (BED0510-BLK1)				Prepared & Analyzed: 04/25/2019						
Total Dissolved Solids	<20.0	20.0	mg/L							
Duplicate (BED0510-DUP1)				Source: MED0225-02		Prepared & Analyzed: 04/25/2019				
Total Dissolved Solids	314	20.0	mg/L		318			1.27	20	

Batch BED0511 - Wet Prep

LCS (BED0511-BS1)				Prepared & Analyzed: 04/25/2019						
pH	7.05		pH Units	7.0000		101	90-110			
LCS (BED0511-BS2)				Prepared & Analyzed: 04/25/2019						
pH	7.04		pH Units	7.0000		101	90-110			
Duplicate (BED0511-DUP1)				Source: MED0225-02		Prepared & Analyzed: 04/25/2019				
pH	7.76		pH Units	7.81				0.642	20	
Duplicate (BED0511-DUP2)				Source: MED0225-11		Prepared & Analyzed: 04/25/2019				
pH	7.64		pH Units	7.63				0.131	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	01/22/2020 06:59

Wet Chemistry - Quality Control

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

Batch BED0511 - Wet Prep

Duplicate (BED0511-DUP3)		Source: MED0225-21		Prepared & Analyzed: 04/25/2019						
pH	7.49		pH Units		7.48			0.134	20	
Duplicate (BED0511-DUP4)		Source: MED0226-02		Prepared & Analyzed: 04/25/2019						
pH	7.91		pH Units		7.97			0.756	20	

Batch BED0528 - Wet Prep

Blank (BED0528-BLK1)		Prepared & Analyzed: 04/26/2019								
Total Suspended Solids	<4.00	4.00	mg/L							
Duplicate (BED0528-DUP1)		Source: MED0225-11		Prepared & Analyzed: 04/26/2019						
Total Suspended Solids	0.800	4.00	mg/L		0.400			66.7	20	M_D-RL

Batch BED0529 - Wet Prep

Blank (BED0529-BLK1)		Prepared & Analyzed: 04/26/2019								
Total Dissolved Solids	<20.0	20.0	mg/L							
Duplicate (BED0529-DUP1)		Source: MED0225-11		Prepared & Analyzed: 04/26/2019						
Total Dissolved Solids	660	20.0	mg/L		660			0.00	20	

Batch BED0556 - Wet Prep

LCS (BED0556-BS1)		Prepared & Analyzed: 04/26/2019								
pH	7.05		pH Units	7.0000		101	90-110			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis 250 Marquette Plaza Minneapolis MN, 55401	Project Name/Location: Sherco Ponds Spring Project Manager: Eric Ealy	Reported: 01/22/2020 06:59
--	--	-------------------------------

Wet Chemistry - Quality Control

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

Batch BED0556 - Wet Prep

LCS (BED0556-BS2)					Prepared & Analyzed: 04/26/2019					
pH	7.06		pH Units	7.0000		101	90-110			
Duplicate (BED0556-DUP1)					Source: MED0235-01 Prepared & Analyzed: 04/26/2019					
pH	7.74		pH Units		7.80			0.772	20	
Duplicate (BED0556-DUP2)					Source: MED0235-11 Prepared & Analyzed: 04/26/2019					
pH	7.67		pH Units		7.68			0.130	20	

Batch BED0561 - Wet Prep

Blank (BED0561-BLK1)					Prepared & Analyzed: 04/28/2019					
Total Suspended Solids	<4.00	4.00	mg/L							
Duplicate (BED0561-DUP1)					Source: MED0225-21 Prepared & Analyzed: 04/28/2019					
Total Suspended Solids	0.400	4.00	mg/L		<4.00				20	

Batch BED0562 - Wet Prep

Blank (BED0562-BLK1)					Prepared & Analyzed: 04/28/2019					
Total Dissolved Solids	<20.0	20.0	mg/L							
Duplicate (BED0562-DUP1)					Source: MED0225-21 Prepared & Analyzed: 04/28/2019					
Total Dissolved Solids	1230	20.0	mg/L		1260			1.93	20	

Batch BED0567 - Wet Prep

Blank (BED0567-BLK1)					Prepared & Analyzed: 04/29/2019					
Total Suspended Solids	<4.00	4.00	mg/L							

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis 250 Marquette Plaza Minneapolis MN, 55401	Project Name/Location: Sherco Ponds Spring Project Manager: Eric Ealy	Reported: 01/22/2020 06:59
--	--	-------------------------------

Wet Chemistry - Quality Control

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

Batch BED0567 - Wet Prep

Duplicate (BED0567-DUP1)	Source: MED0226-02		Prepared & Analyzed: 04/29/2019							
Total Suspended Solids	<4.00	4.00	mg/L		<4.00				20	

Batch BED0568 - Wet Prep

Blank (BED0568-BLK1)	Prepared & Analyzed: 04/29/2019									
Total Dissolved Solids	<20.0	20.0	mg/L							
Duplicate (BED0568-DUP1)	Source: MED0226-02		Prepared & Analyzed: 04/29/2019							
Total Dissolved Solids	180	20.0	mg/L		188			4.35	20	

Batch BED0583 - Wet Prep

Blank (BED0583-BLK1)	Prepared & Analyzed: 04/30/2019									
Total Suspended Solids	<4.00	4.00	mg/L							
Duplicate (BED0583-DUP1)	Source: MED0230-08		Prepared & Analyzed: 04/30/2019							
Total Suspended Solids	11.2	4.00	mg/L		11.6			3.51	20	
Duplicate (BED0583-DUP2)	Source: MED0230-09		Prepared & Analyzed: 04/30/2019							
Total Suspended Solids	11.2	4.00	mg/L		11.6			3.51	20	

Batch BED0584 - Wet Prep

Blank (BED0584-BLK1)	Prepared & Analyzed: 04/30/2019									
Total Dissolved Solids	<20.0	20.0	mg/L							

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis 250 Marquette Plaza Minneapolis MN, 55401	Project Name/Location: Sherco Ponds Spring Project Manager: Eric Ealy	Reported: 01/22/2020 06:59
--	--	-------------------------------

Wet Chemistry - Quality Control

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

Batch BED0584 - Wet Prep

Duplicate (BED0584-DUP1)	Source: MED0230-08		Prepared & Analyzed: 04/30/2019							
Total Dissolved Solids	136	20.0	mg/L		134			1.48	20	
Duplicate (BED0584-DUP2)	Source: MED0230-09		Prepared & Analyzed: 04/30/2019							
Total Dissolved Solids	144	20.0	mg/L		144			0.00	20	

Batch BED0621 - Wet Prep

Blank (BED0621-BLK1)	Prepared & Analyzed: 05/01/2019									
Total Suspended Solids	<4.00	4.00	mg/L							
Duplicate (BED0621-DUP1)	Source: MED0235-11		Prepared & Analyzed: 05/01/2019							
Total Suspended Solids	0.800	4.00	mg/L		0.400			66.7	20	M_D-RL
Duplicate (BED0621-DUP2)	Source: MED0242-02		Prepared & Analyzed: 05/01/2019							
Total Suspended Solids	103	6.67	mg/L		93.1			9.80	20	

Batch BED0622 - Wet Prep

Blank (BED0622-BLK1)	Prepared & Analyzed: 05/01/2019									
Total Dissolved Solids	<20.0	20.0	mg/L							
Duplicate (BED0622-DUP1)	Source: MED0235-11		Prepared & Analyzed: 05/01/2019							
Total Dissolved Solids	362	20.0	mg/L		372			2.72	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICPMS - Quality Control

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

Batch BED0564 - EPA 200.2, EPA 3005

Blank (BED0564-BLK1)

Prepared: 04/28/2019 Analyzed: 04/30/2019

Antimony	<0.500	0.500	ug/L
Chromium	<0.500	0.500	ug/L
Molybdenum	<0.500	0.500	ug/L
Thallium	<0.500	0.500	ug/L
Beryllium	<0.500	0.500	ug/L
Selenium	<0.500	0.500	ug/L
Cadmium	<0.500	0.500	ug/L
Arsenic	<0.500	0.500	ug/L
Lead	<0.500	0.500	ug/L
Barium	<0.500	0.500	ug/L
Cobalt	<0.500	0.500	ug/L

LCS (BED0564-BS1)

Prepared: 04/28/2019 Analyzed: 04/30/2019

Arsenic	97.5	0.500	ug/L	100.00	97.5	85-115
Barium	99.0	0.500	ug/L	100.00	99.0	85-115
Chromium	99.8	0.500	ug/L	100.00	99.8	85-115
Lead	95.2	0.500	ug/L	100.00	95.2	85-115
Beryllium	100	0.500	ug/L	100.00	100	85-115
Thallium	96.3	0.500	ug/L	100.00	96.3	85-115
Cadmium	97.6	0.500	ug/L	100.00	97.6	85-115
Molybdenum	100	0.500	ug/L	100.00	100	85-115
Cobalt	97.6	0.500	ug/L	100.00	97.6	85-115
Selenium	99.1	0.500	ug/L	100.00	99.1	85-115
Antimony	99.8	0.500	ug/L	100.00	99.8	85-115

Duplicate (BED0564-DUP1)

Source: MED0226-02

Prepared: 04/28/2019 Analyzed: 04/30/2019

Chromium	0.654	0.500	ug/L	0.669	2.27	20	
Thallium	0.0779	0.500	ug/L	0.00343	183	20	M_D-RL
Molybdenum	0.197	0.500	ug/L	0.119	49.6	20	M_D-RL
Arsenic	0.454	0.500	ug/L	0.453	0.249	20	
Barium	35.5	0.500	ug/L	35.4	0.291	20	
Beryllium	0.138	0.500	ug/L	<0.500		20	
Cadmium	<0.500	0.500	ug/L	<0.500		20	
Lead	0.0666	0.500	ug/L	0.0373	56.3	20	M_D-RL
Cobalt	0.488	0.500	ug/L	0.493	1.05	20	
Selenium	0.332	0.500	ug/L	0.447	29.5	20	M_D-RL
Antimony	0.110	0.500	ug/L	<0.500		20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICPMS - Quality Control

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

Batch BED0564 - EPA 200.2, EPA 3005

Duplicate (BED0564-DUP2)	Source: MED0226-03			Prepared: 04/28/2019 Analyzed: 04/30/2019						
Barium	54.0	0.500	ug/L		54.2			0.401	20	
Molybdenum	0.965	0.500	ug/L		0.973			0.741	20	
Beryllium	<0.500	0.500	ug/L		<0.500				20	
Cadmium	<0.500	0.500	ug/L		<0.500				20	
Cobalt	0.124	0.500	ug/L		0.118			5.53	20	
Chromium	0.630	0.500	ug/L		0.673			6.56	20	
Thallium	0.00965	0.500	ug/L		<0.500				20	
Selenium	0.565	0.500	ug/L		0.631			11.0	20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Lead	0.0342	0.500	ug/L		0.0309			10.1	20	
Arsenic	1.36	0.500	ug/L		1.47			7.56	20	

Matrix Spike (BED0564-MS1)	Source: MED0226-02			Prepared: 04/28/2019 Analyzed: 04/30/2019						
Chromium	102	0.500	ug/L	100.00	0.669	102	70-130			
Molybdenum	102	0.500	ug/L	100.00	0.119	102	70-130			
Cobalt	99.7	0.500	ug/L	100.00	0.493	99.2	70-130			
Cadmium	101	0.500	ug/L	100.00	<0.500	101	70-130			
Arsenic	101	0.500	ug/L	100.00	0.453	100	70-130			
Beryllium	101	0.500	ug/L	100.00	<0.500	101	70-130			
Lead	92.0	0.500	ug/L	100.00	0.0373	92.0	70-130			
Barium	130	0.500	ug/L	100.00	35.4	95.0	70-130			
Thallium	95.2	0.500	ug/L	100.00	0.00343	95.2	70-130			
Antimony	98.1	0.500	ug/L	100.00	<0.500	98.1	70-130			
Selenium	101	0.500	ug/L	100.00	0.447	101	70-130			

Matrix Spike (BED0564-MS2)	Source: MED0226-03			Prepared: 04/28/2019 Analyzed: 04/30/2019						
Arsenic	106	0.500	ug/L	100.00	1.47	104	70-130			
Cobalt	103	0.500	ug/L	100.00	0.118	103	70-130			
Thallium	102	0.500	ug/L	100.00	<0.500	102	70-130			
Chromium	108	0.500	ug/L	100.00	0.673	107	70-130			
Cadmium	101	0.500	ug/L	100.00	<0.500	101	70-130			
Barium	159	0.500	ug/L	100.00	54.2	105	70-130			
Molybdenum	105	0.500	ug/L	100.00	0.973	104	70-130			
Antimony	107	0.500	ug/L	100.00	<0.500	107	70-130			
Selenium	102	0.500	ug/L	100.00	0.631	102	70-130			
Beryllium	100	0.500	ug/L	100.00	<0.500	100	70-130			
Lead	99.1	0.500	ug/L	100.00	0.0309	99.1	70-130			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICPMS - Quality Control

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

Batch BED0564 - EPA 200.2, EPA 3005

Matrix Spike Dup (BED0564-MSD1)		Source: MED0226-02		Prepared: 04/28/2019 Analyzed: 04/30/2019						
Lead	97.4	0.500	ug/L	100.00	0.0373	97.4	70-130	5.68	20	
Antimony	103	0.500	ug/L	100.00	<0.500	103	70-130	4.49	20	
Beryllium	102	0.500	ug/L	100.00	<0.500	102	70-130	0.946	20	
Cobalt	103	0.500	ug/L	100.00	0.493	103	70-130	3.57	20	
Arsenic	104	0.500	ug/L	100.00	0.453	104	70-130	3.82	20	
Barium	138	0.500	ug/L	100.00	35.4	102	70-130	5.44	20	
Thallium	98.4	0.500	ug/L	100.00	0.00343	98.4	70-130	3.33	20	
Molybdenum	103	0.500	ug/L	100.00	0.119	103	70-130	0.312	20	
Chromium	105	0.500	ug/L	100.00	0.669	104	70-130	2.15	20	
Cadmium	103	0.500	ug/L	100.00	<0.500	103	70-130	1.99	20	
Selenium	99.5	0.500	ug/L	100.00	0.447	99.1	70-130	1.94	20	

Matrix Spike Dup (BED0564-MSD2)		Source: MED0226-03		Prepared: 04/28/2019 Analyzed: 04/30/2019						
Barium	160	0.500	ug/L	100.00	54.2	106	70-130	0.467	20	
Beryllium	104	0.500	ug/L	100.00	<0.500	104	70-130	4.17	20	
Arsenic	109	0.500	ug/L	100.00	1.47	107	70-130	2.85	20	
Thallium	101	0.500	ug/L	100.00	<0.500	101	70-130	1.25	20	
Cadmium	98.7	0.500	ug/L	100.00	<0.500	98.7	70-130	2.17	20	
Lead	99.3	0.500	ug/L	100.00	0.0309	99.2	70-130	0.153	20	
Antimony	104	0.500	ug/L	100.00	<0.500	104	70-130	2.34	20	
Molybdenum	107	0.500	ug/L	100.00	0.973	106	70-130	2.40	20	
Selenium	101	0.500	ug/L	100.00	0.631	100	70-130	1.78	20	
Chromium	105	0.500	ug/L	100.00	0.673	104	70-130	2.73	20	
Cobalt	102	0.500	ug/L	100.00	0.118	102	70-130	1.12	20	

Batch BED0571 - EPA 200.2, EPA 3005

Blank (BED0571-BLK1)		Prepared: 04/29/2019 Analyzed: 04/30/2019								
Cadmium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Lead	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							

Xcel Energy Minneapolis Testing Lab

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

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICPMS - Quality Control

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

Batch BED0571 - EPA 200.2, EPA 3005

LCS (BED0571-BS1)

Prepared: 04/29/2019 Analyzed: 04/30/2019

Barium	101	0.500	ug/L	100.00		101	85-115			
Selenium	99.8	0.500	ug/L	100.00		99.8	85-115			
Antimony	100	0.500	ug/L	100.00		100	85-115			
Thallium	98.7	0.500	ug/L	100.00		98.7	85-115			
Cadmium	103	0.500	ug/L	100.00		103	85-115			
Lead	96.8	0.500	ug/L	100.00		96.8	85-115			
Molybdenum	102	0.500	ug/L	100.00		102	85-115			
Chromium	104	0.500	ug/L	100.00		104	85-115			
Cobalt	103	0.500	ug/L	100.00		103	85-115			
Beryllium	95.9	0.500	ug/L	100.00		95.9	85-115			
Arsenic	98.4	0.500	ug/L	100.00		98.4	85-115			

Duplicate (BED0571-DUP1)

Source: MED0235-16

Prepared: 04/29/2019 Analyzed: 04/30/2019

Molybdenum	4.18	0.500	ug/L		4.27			2.01	20	
Thallium	0.0810	0.500	ug/L		0.0117			150	20	M_D-RL
Lead	0.105	0.500	ug/L		0.0606			53.9	20	M_D-RL
Selenium	3.84	0.500	ug/L		3.83			0.326	20	
Chromium	9.34	0.500	ug/L		10.8			14.2	20	
Arsenic	0.695	0.500	ug/L		0.734			5.49	20	
Cadmium	<0.500	0.500	ug/L		<0.500				20	
Antimony	0.126	0.500	ug/L		0.0737			52.2	20	M_D-RL
Beryllium	0.216	0.500	ug/L		0.0109			181	20	M_D-RL
Cobalt	0.420	0.500	ug/L		0.450			6.91	20	
Barium	66.2	0.500	ug/L		66.0			0.359	20	

Matrix Spike (BED0571-MS1)

Source: MED0235-16

Prepared: 04/29/2019 Analyzed: 04/30/2019

Chromium	114	0.500	ug/L	100.00	10.8	103	70-130			
Lead	92.9	0.500	ug/L	100.00	0.0606	92.8	70-130			
Thallium	96.0	0.500	ug/L	100.00	0.0117	96.0	70-130			
Selenium	103	0.500	ug/L	100.00	3.83	99.1	70-130			
Antimony	102	0.500	ug/L	100.00	0.0737	102	70-130			
Cobalt	104	0.500	ug/L	100.00	0.450	103	70-130			
Molybdenum	108	0.500	ug/L	100.00	4.27	104	70-130			
Arsenic	105	0.500	ug/L	100.00	0.734	104	70-130			
Barium	171	0.500	ug/L	100.00	66.0	105	70-130			
Cadmium	102	0.500	ug/L	100.00	<0.500	102	70-130			
Beryllium	97.8	0.500	ug/L	100.00	0.0109	97.8	70-130			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	01/22/2020 06:59

Total Metals by ICPMS - Quality Control

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

Batch BED0571 - EPA 200.2, EPA 3005

Matrix Spike Dup (BED0571-MSD1)		Source: MED0235-16		Prepared: 04/29/2019 Analyzed: 04/30/2019						
Thallium	95.0	0.500	ug/L	100.00	0.0117	95.0	70-130	1.04	20	
Barium	168	0.500	ug/L	100.00	66.0	102	70-130	1.78	20	
Arsenic	105	0.500	ug/L	100.00	0.734	104	70-130	0.109	20	
Chromium	114	0.500	ug/L	100.00	10.8	104	70-130	0.480	20	
Antimony	100	0.500	ug/L	100.00	0.0737	100	70-130	2.02	20	
Selenium	104	0.500	ug/L	100.00	3.83	100	70-130	1.08	20	
Lead	91.2	0.500	ug/L	100.00	0.0606	91.1	70-130	1.83	20	
Molybdenum	108	0.500	ug/L	100.00	4.27	104	70-130	0.0610	20	
Beryllium	94.6	0.500	ug/L	100.00	0.0109	94.6	70-130	3.26	20	
Cobalt	102	0.500	ug/L	100.00	0.450	101	70-130	1.60	20	
Cadmium	99.4	0.500	ug/L	100.00	<0.500	99.4	70-130	2.32	20	

Batch BEE0090 - EPA 200.2, EPA 3005

Blank (BEE0090-BLK1)		Prepared: 05/06/2019 Analyzed: 05/07/2019								
Barium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Lead	<0.500	0.500	ug/L							
Cadmium	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICPMS - Quality Control

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

Batch BEE0090 - EPA 200.2, EPA 3005

LCS (BEE0090-BS1)					Prepared: 05/06/2019 Analyzed: 05/07/2019					
Thallium	101	0.500	ug/L	100.00		101	85-115			
Lead	100	0.500	ug/L	100.00		100	85-115			
Beryllium	104	0.500	ug/L	100.00		104	85-115			
Arsenic	99.8	0.500	ug/L	100.00		99.8	85-115			
Selenium	100	0.500	ug/L	100.00		100	85-115			
Barium	101	0.500	ug/L	100.00		101	85-115			
Antimony	98.3	0.500	ug/L	100.00		98.3	85-115			
Chromium	102	0.500	ug/L	100.00		102	85-115			
Cadmium	98.4	0.500	ug/L	100.00		98.4	85-115			
Molybdenum	99.9	0.500	ug/L	100.00		99.9	85-115			
Cobalt	103	0.500	ug/L	100.00		103	85-115			

Duplicate (BEE0090-DUP1)					Source: MED0235-18		Prepared: 05/06/2019 Analyzed: 05/07/2019			
Chromium	9.00	0.500	ug/L		9.18		1.95	20		
Arsenic	0.632	0.500	ug/L		0.651		2.97	20		
Antimony	0.0823	0.500	ug/L		0.0459		56.9	20	M_D-RL	
Lead	0.0527	0.500	ug/L		0.0299		55.1	20	M_D-RL	
Cadmium	<0.500	0.500	ug/L		<0.500			20		
Beryllium	0.144	0.500	ug/L		<0.500			20		
Cobalt	0.194	0.500	ug/L		0.195		0.408	20		
Molybdenum	0.653	0.500	ug/L		0.631		3.53	20		
Barium	41.3	0.500	ug/L		41.1		0.348	20		
Selenium	1.83	0.500	ug/L		1.92		5.18	20		
Thallium	0.0511	0.500	ug/L		<0.500			20		

Matrix Spike (BEE0090-MS1)					Source: MED0235-18		Prepared: 05/06/2019 Analyzed: 05/07/2019			
Selenium	103	0.500	ug/L	100.00	1.92	101	70-130			
Cobalt	101	0.500	ug/L	100.00	0.195	101	70-130			
Cadmium	95.6	0.500	ug/L	100.00	<0.500	95.6	70-130			
Lead	92.7	0.500	ug/L	100.00	0.0299	92.6	70-130			
Arsenic	106	0.500	ug/L	100.00	0.651	105	70-130			
Antimony	101	0.500	ug/L	100.00	0.0459	101	70-130			
Chromium	110	0.500	ug/L	100.00	9.18	100	70-130			
Beryllium	102	0.500	ug/L	100.00	<0.500	102	70-130			
Molybdenum	105	0.500	ug/L	100.00	0.631	105	70-130			
Barium	144	0.500	ug/L	100.00	41.1	103	70-130			
Thallium	98.1	0.500	ug/L	100.00	<0.500	98.1	70-130			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	01/22/2020 06:59

Total Metals by ICPMS - Quality Control

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

Batch BEE0090 - EPA 200.2, EPA 3005

Matrix Spike Dup (BEE0090-MSD1)	Source: MED0235-18			Prepared: 05/06/2019 Analyzed: 05/07/2019						
Barium	145	0.500	ug/L	100.00	41.1	104	70-130	0.505	20	
Molybdenum	103	0.500	ug/L	100.00	0.631	102	70-130	2.66	20	
Antimony	102	0.500	ug/L	100.00	0.0459	102	70-130	1.25	20	
Lead	94.3	0.500	ug/L	100.00	0.0299	94.3	70-130	1.76	20	
Thallium	98.7	0.500	ug/L	100.00	<0.500	98.7	70-130	0.580	20	
Selenium	103	0.500	ug/L	100.00	1.92	101	70-130	0.237	20	
Cadmium	96.8	0.500	ug/L	100.00	<0.500	96.8	70-130	1.29	20	
Beryllium	101	0.500	ug/L	100.00	<0.500	101	70-130	1.37	20	
Cobalt	101	0.500	ug/L	100.00	0.195	101	70-130	0.117	20	
Chromium	115	0.500	ug/L	100.00	9.18	106	70-130	4.61	20	
Arsenic	106	0.500	ug/L	100.00	0.651	105	70-130	0.345	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICP - Quality Control

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

Batch BED0563 - EPA 200.2, EPA 3005

Blank (BED0563-BLK1)				Prepared: 04/28/2019 Analyzed: 05/01/2019						
Lithium	<0.0150	0.0150	mg/L							
Calcium	<1.25	1.25	mg/L							
Boron	<0.0500	0.0500	mg/L							

LCS (BED0563-BS1)				Prepared: 04/28/2019 Analyzed: 05/01/2019						
Calcium	108	1.25	mg/L	100.00		108	85-115			
Boron	1.02	0.0500	mg/L	1.0000		102	85-115			
Lithium	1.04	0.0150	mg/L	1.0000		104	85-115			

Duplicate (BED0563-DUP1)				Source: MED0225-28		Prepared: 04/28/2019 Analyzed: 05/01/2019				
Boron	0.0285	0.0500	mg/L		0.0330			14.8	20	
Calcium	124	1.25	mg/L		132			5.94	20	
Lithium	0.00524	0.0150	mg/L		0.00522			0.346	20	

Duplicate (BED0563-DUP2)				Source: MED0225-29		Prepared: 04/28/2019 Analyzed: 05/01/2019				
Boron	0.0679	0.0500	mg/L		0.0726			6.72	20	
Calcium	111	1.25	mg/L		114			2.17	20	
Lithium	0.00418	0.0150	mg/L		<0.0150				20	

Matrix Spike (BED0563-MS1)				Source: MED0225-28		Prepared: 04/28/2019 Analyzed: 05/01/2019				
Calcium	248	1.25	mg/L	100.00	132	116	70-130			
Lithium	1.12	0.0150	mg/L	1.0000	0.00522	111	70-130			
Boron	1.14	0.0500	mg/L	1.0000	0.0330	111	70-130			

Matrix Spike (BED0563-MS2)				Source: MED0225-29		Prepared: 04/28/2019 Analyzed: 05/01/2019				
Lithium	1.12	0.0150	mg/L	1.0000	<0.0150	112	70-130			
Calcium	232	1.25	mg/L	100.00	114	118	70-130			
Boron	1.20	0.0500	mg/L	1.0000	0.0726	113	70-130			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICP - Quality Control

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

Batch BED0563 - EPA 200.2, EPA 3005

Matrix Spike Dup (BED0563-MSD1)		Source: MED0225-28		Prepared: 04/28/2019 Analyzed: 05/01/2019						
Lithium	1.13	0.0150	mg/L	1.0000	0.00522	113	70-130	1.25	20	
Calcium	252	1.25	mg/L	100.00	132	120	70-130	1.51	20	
Boron	1.17	0.0500	mg/L	1.0000	0.0330	114	70-130	2.78	20	

Matrix Spike Dup (BED0563-MSD2)		Source: MED0225-29		Prepared: 04/28/2019 Analyzed: 05/01/2019						
Lithium	1.15	0.0150	mg/L	1.0000	<0.0150	115	70-130	2.60	20	
Calcium	236	1.25	mg/L	100.00	114	122	70-130	1.63	20	
Boron	1.22	0.0500	mg/L	1.0000	0.0726	115	70-130	1.92	20	

Batch BED0570 - EPA 200.2, EPA 3005

Blank (BED0570-BLK1)		Prepared: 04/29/2019 Analyzed: 04/30/2019								
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
Calcium	<1.25	1.25	mg/L							

LCS (BED0570-BS1)		Prepared: 04/29/2019 Analyzed: 04/30/2019								
Calcium	107	1.25	mg/L	100.00		107	85-115			
Boron	1.02	0.0500	mg/L	1.0000		102	85-115			
Lithium	1.05	0.0150	mg/L	1.0000		105	85-115			

Duplicate (BED0570-DUP1)		Source: MED0235-15		Prepared: 04/29/2019 Analyzed: 04/30/2019						
Lithium	<0.0150	0.0150	mg/L		<0.0150				20	
Calcium	62.3	1.25	mg/L		61.6			1.13	20	
Boron	0.134	0.0500	mg/L		0.134			0.0656	20	

Matrix Spike (BED0570-MS1)		Source: MED0235-15		Prepared: 04/29/2019 Analyzed: 04/30/2019						
Calcium	172	1.25	mg/L	100.00	61.6	110	70-130			
Boron	1.17	0.0500	mg/L	1.0000	0.134	104	70-130			
Lithium	1.06	0.0150	mg/L	1.0000	<0.0150	106	70-130			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Total Metals by ICP - Quality Control

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

Batch BED0570 - EPA 200.2, EPA 3005

Matrix Spike Dup (BED0570-MSD1)		Source: MED0235-15		Prepared: 04/29/2019 Analyzed: 04/30/2019						
Boron	1.17	0.0500	mg/L	1.0000	0.134	103	70-130	0.0943	20	
Lithium	1.05	0.0150	mg/L	1.0000	<0.0150	105	70-130	0.0913	20	
Calcium	171	1.25	mg/L	100.00	61.6	110	70-130	0.226	20	

Batch BEE0089 - EPA 200.2, EPA 3005

Blank (BEE0089-BLK1)		Prepared: 05/06/2019 Analyzed: 05/14/2019								
Lithium	<0.0150	0.0150	mg/L							
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.25	1.25	mg/L							

LCS (BEE0089-BS1)		Prepared: 05/06/2019 Analyzed: 05/14/2019								
Calcium	106	1.25	mg/L	100.00		106	85-115			
Lithium	1.04	0.0150	mg/L	1.0000		104	85-115			
Boron	1.01	0.0500	mg/L	1.0000		101	85-115			

Duplicate (BEE0089-DUP1)		Source: MED0235-17		Prepared: 05/06/2019 Analyzed: 05/14/2019						
Boron	0.0504	0.0500	mg/L		0.0530			4.93	20	
Calcium	86.7	1.25	mg/L		90.4			4.21	20	
Lithium	0.00513	0.0150	mg/L		<0.0150				20	

Matrix Spike (BEE0089-MS1)		Source: MED0235-17		Prepared: 05/06/2019 Analyzed: 05/14/2019						
Boron	1.09	0.0500	mg/L	1.0000	0.0530	104	70-130			
Lithium	1.05	0.0150	mg/L	1.0000	<0.0150	105	70-130			
Calcium	198	1.25	mg/L	100.00	90.4	108	70-130			

Matrix Spike Dup (BEE0089-MSD1)		Source: MED0235-17		Prepared: 05/06/2019 Analyzed: 05/14/2019						
Boron	1.10	0.0500	mg/L	1.0000	0.0530	105	70-130	0.714	20	
Lithium	1.05	0.0150	mg/L	1.0000	<0.0150	105	70-130	0.169	20	
Calcium	198	1.25	mg/L	100.00	90.4	108	70-130	0.200	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
 FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Mercury - Quality Control

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

Batch BEE0042 - EPA 245.1, EPA 7470A

Blank (BEE0042-BLK1)				Prepared & Analyzed: 05/02/2019						
Mercury	<0.200	0.200	ug/L							
LCS (BEE0042-BS1)				Prepared & Analyzed: 05/02/2019						
Mercury	2.77	0.200	ug/L	3.0030		92.4	85-115			
Duplicate (BEE0042-DUP1)				Source: MED0168-13		Prepared & Analyzed: 05/02/2019				
Mercury	<0.200	0.200	ug/L		<0.200				20	
Duplicate (BEE0042-DUP2)				Source: MED0168-15		Prepared & Analyzed: 05/02/2019				
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BEE0042-MS1)				Source: MED0168-13		Prepared & Analyzed: 05/02/2019				
Mercury	2.75	0.200	ug/L	3.0030	<0.200	91.7	70-130			
Matrix Spike (BEE0042-MS2)				Source: MED0168-15		Prepared & Analyzed: 05/02/2019				
Mercury	2.70	0.200	ug/L	3.0030	<0.200	89.9	70-130			
Matrix Spike Dup (BEE0042-MSD1)				Source: MED0168-13		Prepared & Analyzed: 05/02/2019				
Mercury	2.69	0.200	ug/L	3.0030	<0.200	89.7	70-130	2.20	20	
Matrix Spike Dup (BEE0042-MSD2)				Source: MED0168-15		Prepared & Analyzed: 05/02/2019				
Mercury	2.71	0.200	ug/L	3.0030	<0.200	90.2	70-130	0.248	20	

Batch BEE0158 - EPA 245.1, EPA 7470A

Blank (BEE0158-BLK1)				Prepared & Analyzed: 05/08/2019						
Mercury	<0.200	0.200	ug/L							

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	Reported:
250 Marquette Plaza		01/22/2020 06:59
Minneapolis MN, 55401	Project Manager: Eric Ealy	

Mercury - Quality Control

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

Batch BEE0158 - EPA 245.1, EPA 7470A

LCS (BEE0158-BS1)				Prepared & Analyzed: 05/08/2019						
Mercury	2.78	0.200	ug/L	3.0030		92.6	85-115			
Duplicate (BEE0158-DUP1)				Source: MED0230-06 Prepared & Analyzed: 05/08/2019						
Mercury	<0.200	0.200	ug/L	<0.200				20		
Duplicate (BEE0158-DUP2)				Source: MED0230-07 Prepared & Analyzed: 05/08/2019						
Mercury	<0.200	0.200	ug/L	<0.200				20		
Matrix Spike (BEE0158-MS1)				Source: MED0230-06 Prepared & Analyzed: 05/08/2019						
Mercury	2.70	0.200	ug/L	3.0030	<0.200	90.0	70-130			
Matrix Spike (BEE0158-MS2)				Source: MED0230-07 Prepared & Analyzed: 05/08/2019						
Mercury	2.80	0.200	ug/L	3.0030	<0.200	93.3	70-130			
Matrix Spike Dup (BEE0158-MSD1)				Source: MED0230-06 Prepared & Analyzed: 05/08/2019						
Mercury	2.69	0.200	ug/L	3.0030	<0.200	89.5	70-130	0.546	20	
Matrix Spike Dup (BEE0158-MSD2)				Source: MED0230-07 Prepared & Analyzed: 05/08/2019						
Mercury	2.66	0.200	ug/L	3.0030	<0.200	88.7	70-130	5.08	20	

Batch BEE0302 - EPA 245.1, EPA 7470A

Blank (BEE0302-BLK1)				Prepared & Analyzed: 05/14/2019						
Mercury	<0.200	0.200	ug/L							
LCS (BEE0302-BS1)				Prepared & Analyzed: 05/14/2019						
Mercury	2.70	0.200	ug/L	3.0030		89.8	85-115			

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Ponds Spring	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	01/22/2020 06:59

Mercury - Quality Control

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

Batch BEE0302 - EPA 245.1, EPA 7470A

Duplicate (BEE0302-DUP1)		Source: MEE0007-03		Prepared & Analyzed: 05/14/2019						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BEE0302-MS1)		Source: MEE0007-03		Prepared & Analyzed: 05/14/2019						
Mercury	2.66	0.200	ug/L	3.0030	<0.200	88.6	70-130			
Matrix Spike Dup (BEE0302-MSD1)		Source: MEE0007-03		Prepared & Analyzed: 05/14/2019						
Mercury	2.59	0.200	ug/L	3.0030	<0.200	86.4	70-130	2.50	20	

Amended Report

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

Original Report ID: MED0226,MED0235 Xcel General Report - CCR
FINAL 05 17 2019 0958

Environmental Services-Water Minneapolis
250 Marquette Plaza
Minneapolis MN, 55401

Project Name/Location: Sherco Ponds Spring
Project Manager: Eric Ealy

Reported:
01/22/2020 06:59

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_LCS-H	The recovery of this analyte in the LCS was above the control limits. The sample result may be biased high.
M_D-RL	The RPD for the sample duplicate was outside of QC acceptance limits due to <RL.
Z	Non Accredited Analyte
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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: <u>Xcel Energy</u> Address: <u>Environmental Services</u> MP-7 Email To: Phone: Fax: Requested Due Date/TAT:		Section B Required Project Information: Report To: <u>David Katzner</u> Copy To: Purchase Order No.: Project Name: <u>Sherco Ponds</u> Project Number: <u>Spring 2019</u>		Section C Invoice Information: Attention: <u>Steve Davis</u> Company Name: Address: Pace Quote Reference: Pace Project Manager: Pace Profile #:	
Page: <u>1</u> of <u>5</u> 2273459		REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER			
Site Location STATE:		Requested Analysis Filtered (Y/N)			

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
					COMPOSITE START	COMPOSITE END/GRAB					Residual Chlorine (Y/N)	Analysis Test	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1	Rinse NPDES		WT			DATE	TIME	4/22/19	0955	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ADDITIONAL COMMENTS <u>David Anderson Pace</u> <u>4/24/19 1245</u> <u>4/25/19 0545</u> pH strips: MDD0402		RELINQUISHED BY / AFFILIATION DATE TIME		ACCEPTED BY / AFFILIATION DATE TIME		SAMPLE CONDITIONS Received on Sealed Cooler Samples Intact	
SIGNATURE of SAMPLER: <u>David Anderson</u> PRINT Name of SAMPLER: <u>David Anderson</u> DATE Signed (MM/DD/YY): <u>4/22/19</u>		SIGNATURE of SAMPLER: <u>David Anderson</u> PRINT Name of SAMPLER: <u>David Anderson</u> DATE Signed (MM/DD/YY): <u>4/22/19</u>		Temp in °C <u>5.7°C</u> M/4/08/11		Received on Sealed Cooler Samples Intact	



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:	David Katzner	Attention:	Steve Davis
Address:	Environmental Services	Copy To:		Company Name:	
Email To:	MP-7	Purchase Order No.:		Address:	
Phone:		Project Name:	Shetco Ponds	Pace Quote Reference:	
Fax:		Project Number:	Spring 2019	Pace Project Manager:	
Requested Due Date/TAT:		Pace Profile #:			

Page: 3 of 5	2273454	
REGULATORY AGENCY		
☐ NPDES	☐ GROUND WATER	☐ DRINKING WATER
☐ UST	☐ RCRA	☐ OTHER
Site Location		
STATE:		

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	MATRIX CODE (see valid codes to left)	DATE		TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME							
1	P-56	Drinking Water			WT	WT	4/23/19	1620		4/24/19	1245	W	4/24/19	1245	
2	P-62	Waste Water			WT	WT	4/23/19	1715		4/24/19	1245	W	4/24/19	1245	
3	P-60	Product			WT	WT	4/23/19	1800		4/24/19	1245	W	4/24/19	1245	
4	Rinse CCR - P3	Soil/Solid			WT	WT	4/24/19	0810		4/25/19	0551	W	4/25/19	0551	
5	P-152A	Oil			WT	WT	4/24/19	0850		4/25/19	0551	W	4/25/19	0551	
6	P-130	Wipe			WT	WT	4/24/19	0950		4/25/19	0551	W	4/25/19	0551	
7	P-154A	Air			WT	WT	4/24/19	1100		4/25/19	0551	W	4/25/19	0551	
8	P-132	Tissue			WT	WT	4/24/19	1150		4/25/19	0551	W	4/25/19	0551	
9	P-165	Other			WT	WT	4/24/19	1240		4/25/19	0551	W	4/25/19	0551	
10															
11															
12															

Section E SAMPLER NAME AND SIGNATURE		Section F SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	David Anderson	PRINT Name of SAMPLER:	David Anderson
SIGNATURE of SAMPLER:	[Signature]	SIGNATURE of SAMPLER:	[Signature]
DATE Signed (MM/DD/YYYY):	4/24/19	DATE Signed (MM/DD/YYYY):	4/24/19

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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: <u>Xcel Energy</u> Address: <u>Environmental Services</u> Email To: <u>mp-7</u> Phone: _____ Fax: _____ Requested Due Date/TAT: _____		Section B Required Project Information: Report To: <u>David Katzner</u> Copy To: _____ Purchase Order No.: _____ Project Name: <u>Shetco Ponds,</u> Project Number: <u>Spring 2019</u>		Section C Invoice Information: Attention: <u>Steve Davis</u> Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
Regulatory Agency: _____ NPDES ☐ GROUND WATER ☐ DRINKING WATER UST ☐ RCRA ☐ OTHER _____ Site Location: _____ STATE: _____		Page: <u>4</u> of <u>5</u> 2273455			

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE DW Drinking Water WT Water WW Waste Water P Product SL Soil/Solid OL Oil WP Wipe AR Air TS Tissue OT Other	SAMPLE ID (A-Z, 0-9 / -)	Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	RELINQUISHED BY / AFFILIATION		DATE	TIME	/ ACCEPTED BY / AFFILIATION	DATE	TIME	Requested Analysis Filtered (Y/N)												Pace Project No. / Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
					COMPOSITE START	COMPOSITE END/GRAB		DATE	TIME						DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME		DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME

ADDITIONAL COMMENTS <u>Shetco Ponds: mDoolor</u>		RELINQUISHED BY / AFFILIATION <u>David Anderson</u>		DATE <u>4/24/14</u>		TIME <u>0900</u>		ACCEPTED BY / AFFILIATION <u>David Anderson</u>		DATE <u>4/24/14</u>		TIME <u>0900</u>		SAMPLE CONDITIONS Received on Ice (Y/N) <u>Y</u> Custody Sealed Cooler (Y/N) <u>Y</u> Samples Intact (Y/N) <u>Y</u>	
---	--	--	--	------------------------	--	---------------------	--	--	--	------------------------	--	---------------------	--	--	--

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:	David Katznet	Attention:	Steve Davis
Address:	Environmental Services	Copy To:		Company Name:	
	MP-7			Address:	
Email To:		Purchase Order No.:		Pace Quote Reference:	
Phone:		Project Name:	Sherco Ponds	Pace Project Manager:	
Fax:		Project Number:	Spring 2019	Pace Profile #:	
Requested Due Date/TAT:					

Page: 2 of 5
2273457

REGULATORY AGENCY			
☐ NPDES	☐ GROUND WATER	☐ DRINKING WATER	
☐ UST	☐ RCRA	☐ OTHER	
Site Location			
STATE:			

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Y/N	Requested Analysis Filtered (Y/N)				Pace Project No./ Lab I.D.		
					COMPOSITE START		COMPOSITE END/GRAB					DATE	TIME	DATE	TIME		DATE	TIME
					DATE	TIME	DATE	TIME										
1	P-94A		WT			4/22/19	1820		3									
2	P-90		WT			4/23/19	0840		3									
3	P-90A						0910		3									
4	P-127						0950		3									
5	P-128						1025		3									
6	P-129						1105		3									
7	P-126						1150		3									
8	P-03A						1240		3									
9	P-05A						1330		3									
10	P-04A						1410		3									
11	P-89-1						1450		3									
12	P-88						1530		3									
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS			
			Sandy Anderson / Xcel		4/24/19		1245		Xcel		4/24/19		1245					
			Xcel		4/25/19		0545		Xcel		4/25/19		0551					
									OK strips: 4000407									

ORIGINAL

SAMPLER NAME AND SIGNATURE	PRINT Name of SAMPLER:	David Anderson	DATE Signed (MM/DD/YYYY):	4/23/19	Temp in °C S.7	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	SIGNATURE of SAMPLER:	<i>David Anderson</i>						

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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

Section A Requested Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: <u>Xcel Energy</u>	Report To: <u>David Katznet</u>	Company Name: <u>Steve Davis</u>	Attention: <u>Steve Davis</u>	Page: <u>5</u> of <u>5</u>	2273453
Address: <u>Environmental Services</u>	Copy To:	Company Name:	Attention:		
Email To: <u>MP-7</u>	Purchase Order No.:	Address:		REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____	
Phone: _____	Project Name: <u>Sherco Ponds,</u>	Pace Quote Reference:	Pace Project Manager:	Site Location	STATE: _____
Fax: _____	Project Number: <u>SDP19 2019</u>	Pace Profile #:			
Requested Due Date/TAT: _____					

[illegible]

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:	David Katzner	Attention:	Steve Davis
Address:	Environmental Services	Copy To:		Company Name:	
	mp-7			Address:	
Email To:		Purchase Order No.:		Pace Quote Reference:	
Phone:		Project Name:	Sherco Ponds	Pace Project Manager:	
		Project Number:	Septina 2019	Pace Profile #:	
Requested Due Date/TAT:					

Page: 3 of 5
2273454

REGULATORY AGENCY			
☐ NPDES	☐ GROUND WATER	☐ DRINKING WATER	
☐ UST	☐ RCRA	☐ OTHER	
Site Location			
STATE:			

[illegible]

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

—

David Anderson

DATE Signed (MM/DD/YY):	4/24/19
----------------------------	---------

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
5.7°C			

May 20, 2019

Dave Anderson
Pace Analytical Services - Field Svcs Division
1700 Elm Street, Suite 200
Minneapolis, MN 55414

RE: Project: 19-01918, Xcel Energy-Sherco P
Pace Project No.: 30291817

Dear Dave Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on April 30, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Pennsylvania Certification IDs

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30291817001	Rinse CCR-P3	Water	04/24/19 08:10	04/30/19 11:40
30291817002	P-152A	Water	04/24/19 08:50	04/30/19 11:40
30291817003	P-130	Water	04/24/19 09:50	04/30/19 11:40
30291817004	P-154A	Water	04/24/19 11:00	04/30/19 11:40
30291817005	P-132	Water	04/24/19 11:50	04/30/19 11:40
30291817006	P-165	Water	04/24/19 12:40	04/30/19 11:40
30291817007	P-150	Water	04/24/19 14:00	04/30/19 11:40
30291817008	Duplicate CCR-P3	Water	04/24/19 14:00	04/30/19 11:40
30291817009	P-151	Water	04/24/19 15:10	04/30/19 11:40
30291817010	P-131	Water	04/24/19 16:10	04/30/19 11:40
30291817011	P-153	Water	04/24/19 17:00	04/30/19 11:40
30291817012	P-17	Water	04/24/19 18:35	04/30/19 11:40
30291817013	P-23	Water	04/25/19 09:00	04/30/19 11:40
30291817014	Rinse CCR BAP	Water	04/25/19 09:15	04/30/19 11:40
30291817015	P-158	Water	04/25/19 10:00	04/30/19 11:40
30291817016	P-157	Water	04/25/19 10:50	04/30/19 11:40
30291817017	Duplicate CCR-BAP	Water	04/25/19 10:50	04/30/19 11:40
30291817018	P-22	Water	04/25/19 12:00	04/30/19 11:40
30291817019	P-155	Water	04/25/19 12:50	04/30/19 11:40
30291817020	P-01A-1	Water	04/25/19 13:50	04/30/19 11:40
30291817021	P-156	Water	04/25/19 14:50	04/30/19 11:40
30291817022	P-162	Water	04/25/19 15:50	04/30/19 11:40
30291817023	P-163	Water	04/25/19 16:50	04/30/19 11:40
30291817024	P-164	Water	04/25/19 17:40	04/30/19 11:40

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30291817001	Rinse CCR-P3	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817002	P-152A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817003	P-130	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817004	P-154A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817005	P-132	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817006	P-165	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817007	P-150	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817008	Duplicate CCR-P3	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817009	P-151	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817010	P-131	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817011	P-153	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817012	P-17	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817013	P-23	EPA 903.1	MK1	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30291817014	Rinse CCR BAP	EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
30291817015	P-158	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817016	P-157	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
30291817017	Duplicate CCR-BAP	EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
30291817018	P-22	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817019	P-155	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
30291817020	P-01A-1	EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
30291817021	P-156	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30291817022	P-162	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
30291817023	P-163	EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
30291817024	P-164	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Pace-MN Field Services Division

Date: May 20, 2019

General Information:

24 samples were analyzed for EPA 903.1. 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:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Pace-MN Field Services Division

Date: May 20, 2019

General Information:

24 samples were analyzed for EPA 904.0. 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:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Method: Total Radium Calculation

Description: Total Radium 228+226

Client: Pace-MN Field Services Division

Date: May 20, 2019

General Information:

24 samples were analyzed for Total Radium Calculation. 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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Sample: Rinse CCR-P3		Lab ID: 30291817001	Collected: 04/24/19 08:10	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.228 ± 0.500 (0.903) C:NA T:90%	pCi/L	05/16/19 10:44	13982-63-3	
Radium-228	EPA 904.0	-0.187 ± 0.358 (0.868) C:77% T:80%	pCi/L	05/09/19 15:37	15262-20-1	
Total Radium	Total Radium Calculation	0.228 ± 0.858 (1.77)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-152A		Lab ID: 30291817002	Collected: 04/24/19 08:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0535 ± 0.315 (0.643) C:NA T:99%	pCi/L	05/16/19 10:44	13982-63-3	
Radium-228	EPA 904.0	3.07 ± 0.817 (0.870) C:73% T:82%	pCi/L	05/09/19 15:37	15262-20-1	
Total Radium	Total Radium Calculation	3.12 ± 1.13 (1.51)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-130		Lab ID: 30291817003	Collected: 04/24/19 09:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.790 ± 0.516 (0.529) C:NA T:79%	pCi/L	05/16/19 10:44	13982-63-3	
Radium-228	EPA 904.0	0.500 ± 0.365 (0.714) C:84% T:83%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	1.29 ± 0.881 (1.24)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-154A		Lab ID: 30291817004	Collected: 04/24/19 11:00	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.424 ± 0.298 (0.144) C:NA T:97%	pCi/L	05/16/19 10:44	13982-63-3	
Radium-228	EPA 904.0	0.787 ± 0.383 (0.663) C:86% T:86%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	1.21 ± 0.681 (0.807)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-132		Lab ID: 30291817005	Collected: 04/24/19 11:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.199 ± 0.391 (0.702) C:NA T:98%	pCi/L	05/16/19 10:44	13982-63-3	
Radium-228	EPA 904.0	0.0442 ± 0.301 (0.690) C:85% T:83%	pCi/L	05/09/19 15:38	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P
Pace Project No.: 30291817

Sample: P-132		Lab ID: 30291817005	Collected: 04/24/19 11:50	Received: 04/30/19 11:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC)	Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	0.243 ± 0.692 (1.39)		pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-165		Lab ID: 30291817006	Collected: 04/24/19 12:40	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.11 ± 0.513 (0.389) C:NA T:97%	pCi/L	05/16/19 10:44	13982-63-3	
Radium-228	EPA 904.0	0.0636 ± 0.326 (0.741) C:85% T:85%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	1.17 ± 0.839 (1.13)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-150		Lab ID: 30291817007	Collected: 04/24/19 14:00	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.731 ± 0.535 (0.737) C:NA T:89%	pCi/L	05/16/19 10:44	13982-63-3	
Radium-228	EPA 904.0	0.484 ± 0.326 (0.620) C:84% T:90%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	1.22 ± 0.861 (1.36)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: Duplicate CCR-P3		Lab ID: 30291817008	Collected: 04/24/19 14:00	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.359 ± 0.304 (0.377) C:NA T:97%	pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	0.449 ± 0.335 (0.658) C:86% T:87%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	0.808 ± 0.639 (1.04)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-151		Lab ID: 30291817009	Collected: 04/24/19 15:10	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.748 ± 0.473 (0.535) C:NA T:94%	pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	0.248 ± 0.294 (0.617) C:78% T:83%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	0.996 ± 0.767 (1.15)	pCi/L	05/16/19 14:13	7440-14-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Sample: P-131		Lab ID: 30291817010	Collected: 04/24/19 16:10	Received: 04/30/19 11:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.434 ± 0.340 (0.399) C:NA T:95%		pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	0.347 ± 0.281 (0.552) C:82% T:90%		pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	0.781 ± 0.621 (0.951)		pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-153		Lab ID: 30291817011	Collected: 04/24/19 17:00	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.471 ± 0.369 (0.433) C:NA T:82%	pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	0.346 ± 0.328 (0.667) C:82% T:80%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	0.817 ± 0.697 (1.10)	pCi/L	05/16/19 14:13	7440-14-4	

Sample: P-17		Lab ID: 30291817012	Collected: 04/24/19 18:35	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	-0.0489 ± 0.223 (0.527) C:NA T:97%	pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	-0.0447 ± 0.231 (0.559) C:82% T:90%	pCi/L	05/09/19 15:38	15262-20-1	
Total Radium	Total Radium Calculation	0.000 ± 0.454 (1.09)	pCi/L	05/16/19 14:14	7440-14-4	

Sample: P-23		Lab ID: 30291817013	Collected: 04/25/19 09:00	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.609 ± 0.426 (0.514) C:NA T:92%	pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	0.279 ± 0.326 (0.682) C:76% T:78%	pCi/L	05/09/19 15:39	15262-20-1	
Total Radium	Total Radium Calculation	0.888 ± 0.752 (1.20)	pCi/L	05/16/19 14:14	7440-14-4	

Sample: Rinse CCR BAP		Lab ID: 30291817014	Collected: 04/25/19 09:15	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.477 ± 0.379 (0.493) C:NA T:93%	pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	0.718 ± 0.402 (0.712) C:81% T:73%	pCi/L	05/09/19 15:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Sample: Rinse CCR BAP		Lab ID: 30291817014	Collected: 04/25/19 09:15	Received: 04/30/19 11:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	1.20 ± 0.781 (1.21)		pCi/L	05/16/19 14:14	7440-14-4	

Sample: P-158		Lab ID: 30291817015	Collected: 04/25/19 10:00	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.738 ± 0.584 (0.852) C:NA T:83%	pCi/L	05/16/19 11:03	13982-63-3	
Radium-228	EPA 904.0	0.0916 ± 0.313 (0.707) C:80% T:79%	pCi/L	05/09/19 15:39	15262-20-1	
Total Radium	Total Radium Calculation	0.830 ± 0.897 (1.56)	pCi/L	05/16/19 14:14	7440-14-4	

Sample: P-157		Lab ID: 30291817016	Collected: 04/25/19 10:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.552 ± 0.386 (0.466) C:NA T:97%	pCi/L	05/16/19 11:18	13982-63-3	
Radium-228	EPA 904.0	0.364 ± 0.368 (0.756) C:75% T:78%	pCi/L	05/09/19 15:39	15262-20-1	
Total Radium	Total Radium Calculation	0.916 ± 0.754 (1.22)	pCi/L	05/16/19 14:14	7440-14-4	

Sample: Duplicate CCR-BAP		Lab ID: 30291817017	Collected: 04/25/19 10:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.115 ± 0.276 (0.533) C:NA T:89%	pCi/L	05/16/19 11:18	13982-63-3	
Radium-228	EPA 904.0	-0.191 ± 0.268 (0.683) C:82% T:76%	pCi/L	05/09/19 15:39	15262-20-1	
Total Radium	Total Radium Calculation	0.115 ± 0.544 (1.22)	pCi/L	05/16/19 14:14	7440-14-4	

Sample: P-22		Lab ID: 30291817018	Collected: 04/25/19 12:00	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.885 ± 0.488 (0.434) C:NA T:90%	pCi/L	05/16/19 11:18	13982-63-3	
Radium-228	EPA 904.0	0.416 ± 0.351 (0.697) C:78% T:77%	pCi/L	05/09/19 15:39	15262-20-1	
Total Radium	Total Radium Calculation	1.30 ± 0.839 (1.13)	pCi/L	05/16/19 14:14	7440-14-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Sample: P-155		Lab ID: 30291817019	Collected: 04/25/19 12:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.523 ± 0.473 (0.697) C:NA T:84%	pCi/L	05/16/19 11:18	13982-63-3	
Radium-228	EPA 904.0	1.34 ± 0.802 (1.47) C:78% T:38%	pCi/L	05/09/19 15:39	15262-20-1	
Total Radium	Total Radium Calculation	1.86 ± 1.28 (2.17)	pCi/L	05/16/19 14:14	7440-14-4	

Sample: P-01A-1		Lab ID: 30291817020	Collected: 04/25/19 13:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.481 ± 0.357 (0.446) C:NA T:97%	pCi/L	05/16/19 11:18	13982-63-3	
Radium-228	EPA 904.0	0.408 ± 0.336 (0.672) C:87% T:84%	pCi/L	05/09/19 15:39	15262-20-1	
Total Radium	Total Radium Calculation	0.889 ± 0.693 (1.12)	pCi/L	05/16/19 14:14	7440-14-4	

Sample: P-156		Lab ID: 30291817021	Collected: 04/25/19 14:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.331 ± 0.309 (0.439) C:NA T:100%	pCi/L	05/16/19 12:12	13982-63-3	
Radium-228	EPA 904.0	0.194 ± 0.329 (0.718) C:80% T:86%	pCi/L	05/09/19 11:07	15262-20-1	
Total Radium	Total Radium Calculation	0.525 ± 0.638 (1.16)	pCi/L	05/20/19 11:40	7440-14-4	

Sample: P-162		Lab ID: 30291817022	Collected: 04/25/19 15:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.734 ± 0.464 (0.525) C:NA T:86%	pCi/L	05/16/19 12:12	13982-63-3	
Radium-228	EPA 904.0	-0.00256 ± 0.275 (0.644) C:81% T:89%	pCi/L	05/09/19 11:07	15262-20-1	
Total Radium	Total Radium Calculation	0.734 ± 0.739 (1.17)	pCi/L	05/20/19 11:40	7440-14-4	

Sample: P-163		Lab ID: 30291817023	Collected: 04/25/19 16:50	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.311 ± 0.290 (0.381) C:NA T:91%	pCi/L	05/16/19 12:12	13982-63-3	
Radium-228	EPA 904.0	0.426 ± 0.339 (0.674) C:85% T:83%	pCi/L	05/09/19 11:07	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

Sample: P-163		Lab ID: 30291817023	Collected: 04/25/19 16:50	Received: 04/30/19 11:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	0.737 ± 0.629 (1.06)		pCi/L	05/20/19 11:40	7440-14-4	

Sample: P-164		Lab ID: 30291817024	Collected: 04/25/19 17:40	Received: 04/30/19 11:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.000 ± 0.587 (0.728) C:NA T:86%	pCi/L	05/16/19 12:12	13982-63-3	
Radium-228	EPA 904.0	0.104 ± 0.363 (0.813) C:83% T:92%	pCi/L	05/09/19 11:08	15262-20-1	
Total Radium	Total Radium Calculation	1.10 ± 0.950 (1.54)	pCi/L	05/20/19 11:40	7440-14-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

QC Batch:	340708	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	30291817021, 30291817022, 30291817023, 30291817024		

METHOD BLANK:	1657927	Matrix:	Water
Associated Lab Samples:	30291817021, 30291817022, 30291817023, 30291817024		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.194 ± 0.280 (0.602) C:83% T:93%	pCi/L	05/09/19 11:07	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

QC Batch:	340688	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
Associated Lab Samples:	30291817021, 30291817022, 30291817023, 30291817024		

METHOD BLANK:	1657870	Matrix:	Water
Associated Lab Samples:	30291817021, 30291817022, 30291817023, 30291817024		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.481 ± 0.410 (0.576) C:NA T:94%	pCi/L	05/16/19 12:12	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

QC Batch:	340686	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
Associated Lab Samples:	30291817001, 30291817002, 30291817003, 30291817004, 30291817005, 30291817006, 30291817007, 30291817008, 30291817009, 30291817010, 30291817011, 30291817012, 30291817013, 30291817014, 30291817015, 30291817016, 30291817017, 30291817018, 30291817019, 30291817020		

METHOD BLANK:	1657868	Matrix:	Water
Associated Lab Samples:	30291817001, 30291817002, 30291817003, 30291817004, 30291817005, 30291817006, 30291817007, 30291817008, 30291817009, 30291817010, 30291817011, 30291817012, 30291817013, 30291817014, 30291817015, 30291817016, 30291817017, 30291817018, 30291817019, 30291817020		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.109 ± 0.369 (0.712) C:NA T:93%	pCi/L	05/16/19 10:44	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

QC Batch:	340707	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	30291817001, 30291817002, 30291817003, 30291817004, 30291817005, 30291817006, 30291817007, 30291817008, 30291817009, 30291817010, 30291817011, 30291817012, 30291817013, 30291817014, 30291817015, 30291817016, 30291817017, 30291817018, 30291817019, 30291817020		

METHOD BLANK:	1657923	Matrix:	Water
Associated Lab Samples:	30291817001, 30291817002, 30291817003, 30291817004, 30291817005, 30291817006, 30291817007, 30291817008, 30291817009, 30291817010, 30291817011, 30291817012, 30291817013, 30291817014, 30291817015, 30291817016, 30291817017, 30291817018, 30291817019, 30291817020		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.324 ± 0.339 (0.702) C:77% T:81%	pCi/L	05/09/19 15:38	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 19-01918, Xcel Energy-Sherco P

Pace Project No.: 30291817

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



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:	David Anderson	Attention:	Clara Puikie
Address:	50 Pace MN Field	Copy To:		Company Name:	Pace MN Field Services
Email To:		Purchase Order No.:		Address:	
Phone:		Project Name:	19-01918, Xcel Energy - Sherco Ponds, Spring 2019	Pace Quote Reference:	Tom Halverson
Requested Due Date/TAT:		Project Number:		Pace Project Manager:	Carin Ferris
				Pace Profile #:	

Page:	1 of 2
	2273456

REGULATORY AGENCY		
☐ NPDES	☐ GROUND WATER	☐ DRINKING WATER
☐ UST	☐ RCRA	☐ OTHER
Site Location		
STATE:		

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	DATE		TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Temp in °C	Received on	Sealed Cooler	Custody	Samples Intact
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME												
1	Rinse CCR-P3	DW				WT	4/24/19	0810												
2	P-152A	WT						0850												
3	P-130	WW						0950												
4	P-154A	P						1100												
5	P-132	SL						1150												
6	P-165	OL						1240												
7	P-150	WP						1400												
8	Duplicate CCR-P3	AR						1400												
9	P-151	TS						1510												
10	P-131	OT						1610												
11	P-153							1700												
12	P-17							1835												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
① client needs to analyze for:	David Anderson	4/26/19			4/30/19	1140	NA
Radium 226 + 228 pCi/L							
P combined							

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on	Sealed Cooler	Custody	Samples Intact
PRINT Name of SAMPLER: David Anderson						
SIGNATURE of SAMPLER: David Anderson						
DATE Signed (MM/DD/YYYY): 4/24/19						



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:	David Anderson	Attention:	Cinda Ruitkirk
Address:	c/o Pace-MN Field	Copy To:		Company Name:	Pace MN Field Services
Email To:		Purchase Order No.:		Address:	
Phone:		Project Name:	19-01918, Xcel Energy -	Pace Quote Reference:	Tom Halverson
Requested Due Date/TAT:		Project Number:	Shereco Ponds, Spring 2019	Pace Project Manager:	carin Pettis
				Pace Profile #:	

Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water DW Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ SO ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB						
1		P-23	WT			DATE	TIME					013
2		Rinse CCR-BAP				4/25/19	0900	2				014
3		P-158					0915	2				015
4		P-157					1000	2				016
5		Duplicate CCR-BAP					1050	2				017
6		P-22					1200	2				018
7		P-155					1250	2				019
8		P-01A-1					1350	2				020
9		P-156					1450	2				021
10		P-162					1550	2				022
11		P-163					1650	2				023
12		P-164					1740	2				024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
							Temp In °C	Received on	Sealed Cooler	Custody	
Client needs to analyze for:	Sam Anderson	4/26/19		MS	4/29/19	1140	NA	N	N	N	Y
Radium 226+228 pCi/L											
combined.											
20 RA - 226 EPA 903.1											
RA - 228 EPA 904.0											

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Xcel Energy

Project # 30291817

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

Tracking #: 49343729 6165

Label <u>MDS</u>
LIMS Login <u>MDS</u>

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

Comments:	pH paper Lot#			Date and Initials of person examining contents: <u>MDS 4-30-19</u>
	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: <u>NA</u>				
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.	/			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix				<u>PHLZ</u>
All containers meet method preservation requirements.	/			Initial when completed <u>MDS</u> 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: <u>MDS</u> Date: <u>4-30-19</u>

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 2019 Assessment Monitoring Event
Field Datasheets and Laboratory Reports**

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-130 Labeled P130

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 46.84 Feet

Static water level measurement before purging (Start Depth) 35.13 Feet

Static water level measurement at time of sampling (Final Depth) 35.13 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 10/21/19

Water Column 11.71 Feet

Time Purged 1445-1524

One Casing Volume 1.9 Gallons

Pump Rate 0.15 GPM / LPM

Volume Purged 5.85 Gallons

Field Sampling Data

Date Sampled 10/21/19

Time Sampled 1535

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.1 (units) D.O. 7.6 (mg/l)

Spec. Cond. 690 (µmhos/cm) Turbidity 3.8 (NTU)

Temp. 10.5 (°C) (ORP) Eh 216 (mV)

Other NA

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

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

Weather Conditions During Sampling: 44° + light rain, wind NE 10-15

Sample Description: clear + odorless

Observations: DTA 10/21/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1458	7.1	690	10.5	7.7	NA	215	1.95
1511	7.1	690	10.5	7.6	NA	216	3.90
1524	7.1	690	10.5	7.6	NA	216	5.85
<u>DTA 10/21/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/21/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

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

Static water level measurement before purging (Start Depth) 32.73 Feet

Static water level measurement at time of sampling (Final Depth) 32.73 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 10/21/19

Water Column 15.82 Feet

Time Purged 1545-1639

One Casing Volume 2.6 Gallons

Pump Rate 0.15 (GPM/LPM)

Volume Purged 8.1 Gallons

Field Sampling Data

Date Sampled 10/21/19

Time Sampled 1650

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 8.9 (mg/l)

Spec. Cond. 580 (µmhos/cm) Turbidity 4.6 (NTU)

Temp. 10.0 (°C) (ORP) Eh 157 (mV)

Other NA

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

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

Weather Conditions During Sampling: 45°+ rain, wind NE 10-15

Sample Description: clear + odorless

Observations: DTA 10/21/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (GPM/Five gal)
1603	7.5	580	10.0	9.0	NA	162	2.7
1621	7.5	580	10.0	8.9	NA	158	5.4
1639	7.5	580	10.0	8.9	NA	157	8.1

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/21/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

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) 27.47 Feet

Static water level measurement at time of sampling (Final Depth) 27.47 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 10/21/19

Water Column 9.04 Feet

Time Purged 1715 - 1745

One Casing Volume 1.5 Gallons

Pump Rate 0.15 GPM/LPM

Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 10/21/19

Time Sampled 1800

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.2 (units) D.O. 9.3 (mg/l)

Spec. Cond. 710 (µmhos/cm) Turbidity 3.7 (NTU)

Temp. 9.5 (°C) (ORP) Eh 197 (mV)

Other NA

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

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

Weather Conditions During Sampling: 46° + light rain, wind NE 10

Sample Description: clear + odorless

Observations: DTA 10/21/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1725	7.3	710	9.5	9.5	NA	206	1.5
1735	7.2	710	9.5	9.4	NA	200	3.0
1745	7.2	710	9.5	9.3	NA	197	4.5
<u>DTA 10/21/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 10/21/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-150 Labeled 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) 29.83 Feet

Static water level measurement at time of sampling (Final Depth) 29.83 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 10/21/19

Water Column 6.83 Feet

Time Purged 1050-1114

One Casing Volume 1.1 Gallons

Pump Rate 0.15 (GPM/LPM)

Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 10/21/19

Time Sampled 1130

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.6 (units) D.O. 8.6 (mg/l)

Spec. Cond. 570 (µmhos/cm) Turbidity 6.1 (NTU)

Temp. 10.5 (°C) (ORP) Eh 177 (mV)

Other NA

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

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

Weather Conditions During Sampling: 43° + rain, wind NE 10

Sample Description: clear + odorless

Observations: collected Rinse CCR-P3 at this well.

DTA 10/21/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1058	7.6	570	10.5	8.7	NA	180	1.2
1106	7.6	570	10.5	8.6	NA	178	2.4
1114	7.6	570	10.5	8.6	NA	177	3.6
<u>DTA 10/21/19</u>							

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/21/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-151 Labeled 8063/5

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 26.16 Feet

Static water level measurement before purging (Start Depth) 9.55 Feet

Static water level measurement at time of sampling (Final Depth) 9.55 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 10/21/19

Water Column 10.61 Feet

Time Purged 1215 - 1251

One Casing Volume 1.7 Gallons

Pump Rate 0.15 GPM/LPM

Volume Purged 5.4 Gallons

Field Sampling Data

Date Sampled 10/21/19

Time Sampled 1300

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.6 (units) D.O. 8.8 (mg/l)

Spec. Cond. 400 (µmhos/cm) Turbidity 7.2 (NTU)

Temp. 11.0 (°C) (ORP) Eh 195 (mV)

Other NA

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

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

Weather Conditions During Sampling: 43°+ rain, wind NE 10-15

Sample Description: clear + odorless

Observations: DTA 10/21/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1227	7.7	400	11.0	9.0	NA	213	1.8
1239	7.6	400	11.0	8.8	NA	203	3.6
1251	7.6	400	11.0	8.8	NA	195	5.4

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised 01/25/2012

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/21/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-152 A Labeled 806318

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

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Total Well Depth 42.18 Feet

Static water level measurement before purging (Start Depth) 35.11 Feet

Static water level measurement at time of sampling (Final Depth) 35.11 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method Dedicated bladder pump

Pump ID PC-6

Date Purged 10/21/19

Water Column 7.07 Feet

Time Purged 1340-1404

One Casing Volume 1.2 Gallons

Pump Rate 0.15 GPM/LPM

Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 10/21/19

Time Sampled 1440

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.6 (units) D.O. 9.5 (mg/l)

Spec. Cond. 340 (µmhos/cm) Turbidity 3.0 (NTU)

Temp. 9.5 (°C) (ORP) Eh 221 (mV)

Other NA

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

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

Weather Conditions During Sampling: 44° + rain, wind NE 10-15

Sample Description: clear + odorless

Observations: DTA 10/21/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (Cumulative gal)
1348	7.7	340	9.5	9.6	NA	226	1.2
1356	7.6	340	9.5	9.6	NA	223	2.4
1404	7.6	340	9.5	9.5	NA	221	3.6

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 10/21/19

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-153 Labeled 806314

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) 14.28 Feet

Static water level measurement at time of sampling (Final Depth) 14.28 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 10/22/19

Water Column 9.35 Feet

Time Purged 1100-1130

One Casing Volume 1.5 Gallons

Pump Rate 0.15 GPM LPM

Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 10/22/19

Time Sampled 1140

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.8 (units) D.O. 9.5 (mg/l)

Spec. Cond. 200 (µmhos/cm) Turbidity 3.8 (NTU)

Temp. 10.0 (°C) (ORP) Eh 192 (mV)

Other NA

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

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

Weather Conditions During Sampling: 41° + cloudy, wind NW 20

Sample Description: clear + odorless

Observations: water level measured 10/22/19

DTA 10/22/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1110	7.9	200	10.0	9.4	NA	187	1.5
1120	7.8	200	10.0	9.5	NA	190	3.0
1130	7.8	200	10.0	9.5	NA	192	4.5

DTA 10/22/19

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature:

David Anderson

Date: 10/22/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

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

Static water level measurement before purging (Start Depth) 30.71 Feet

Static water level measurement at time of sampling (Final Depth) 30.71 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump

Pump ID PC-6

Date Purged 10/22/19

Water Column 18.82 Feet

Time Purged 0915 - 1018

One Casing Volume 3.1 Gallons

Pump Rate 0.15

GPM/LPM

Volume Purged 9.45 Gallons

Field Sampling Data

Date Sampled 10/22/19

Time Sampled 1030

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.8 (units) D.O. 3.4 (mg/l)

Spec. Cond. 570 (µmhos/cm) Turbidity 3.5 (NTU)

Temp. 9.5 (°C) (ORP) Eh 184 (mV)

Other NA

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

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

Weather Conditions During Sampling: 41° + cloudy, wind NW 20

Sample Description: clear + odorless

Observations: water level measured 10/21/19.

Collected duplicate CER - P3 of this well.

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (Cumulative gal)
0936	7.8	560	9.5	3.1	NA	186	3.15
0957	7.8	570	9.5	3.3	NA	185	6.30
1018	7.8	570	9.5	3.4	NA	184	9.45
<u>DTA 10/22/19</u>							

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised: 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/22/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-162 Labeled 822156

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 Feet (estimate)

Static water level measurement before purging (Start Depth) 148.78 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 148.78 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump

Pump ID NA

Date Purged 10/22/19

Water Column 17.22 Feet

Time Purged 1225-1246

One Casing Volume 2.8 Gallons

Pump Rate 0.4 GPM / LPM

Volume Purged 8.4 Gallons

Field Sampling Data

Date Sampled 10/22/19

Time Sampled 1300

Sampling Equip. above pump

Meter ID MP5-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 3.0 (mg/l)

Spec. Cond. 930 (µmhos/cm) Turbidity 13.2 (NTU)

Temp. 9.5 (°C) (ORP) Eh 210 (mV)

Other NA

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

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

Weather Conditions During Sampling: 40° + cloudy, wind NW 20

Sample Description: clear + odorless

Observations: DTA 10/22/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1232	7.6	940	9.0	3.7	NA	214	2.8
1239	7.5	930	9.0	3.3	NA	212	5.6
1246	7.5	930	9.5	3.0	NA	210	8.4
<u>DTA 10/22/19</u>							

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised: 01/25/2019

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson Date: 10/22/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-163 Labeled 822157

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 Feet (estimate)

Static water level measurement before purging (Start Depth) 158.15 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 158.15 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated keck pump

Pump ID NA

Date Purged 10/22/19

Water Column 17.85 Feet

Time Purged 1325-1349

One Casing Volume 2.9 Gallons

Pump Rate 0.4 GPM / LPM

Volume Purged 9.6 Gallons

Field Sampling Data

Date Sampled 10/22/19

Time Sampled 1400

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.5 (units) D.O. 5.3 (mg/l)

Spec. Cond. 660 (umhos/cm) Turbidity 47.0 (NTU)

Temp. 10.0 (°C) (ORP) Eh 212 (mV)

Other NA

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

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

Weather Conditions During Sampling: 40° + cloudy, wind NW 25

Sample Description: clear + odorless

Observations: DTA 10/22/19

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1333	7.6	660	10.0	5.4	NA	215	3.2
1341	7.5	660	10.0	5.3	NA	214	6.4
1349	7.5	660	10.0	5.3	NA	212	9.6
<u>DTA 10/22/19</u>							

Samples chilled immediately after collection

☒ Yes ☐ Other

Form Revised 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/22/19

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662

Monitoring Point ID P-164 Labeled 822158

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 Feet (estimate)

Static water level measurement before purging (Start Depth) 151.93 Feet (estimate)

Static water level measurement at time of sampling (Final Depth) 151.93 Feet (estimate)

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated kick pump

Pump ID NA

Date Purged 10/22/19

Water Column 14.07 Feet

Time Purged 1420-1438

One Casing Volume 2.3 Gallons

Pump Rate 0.4 GPM/LPM

Volume Purged 7.2 Gallons

Field Sampling Data

Date Sampled 10/22/19

Time Sampled 1450

Sampling Equip. above pump

Meter ID MPS-5

Analyzed by DATA

Field Parameter Measurements of Sample

pH 7.8 (units) D.O. 3.8 (mg/l)

Spec. Cond. 550 (umhos/cm) Turbidity 29.6 (NTU)

Temp. 10.5 (°C) (ORP) Eh 187 (mV)

Other NA

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

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

Weather Conditions During Sampling: 40° + cloudy, wind NW 25

Sample Description: clear + odorless

Observations: DATA 10/22/19

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1426	7.9	550	10.5	4.0	NA	197	2.4
1432	7.9	550	10.0	3.8	NA	190	4.8
1438	7.8	550	10.5	3.8	NA	187	7.2

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised 01/25/2018

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/22/19

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2019 Project No. 19-02662
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) 29.77 Feet
Static water level measurement at time of sampling (Final Depth) 29.77 Feet
Static Water Level Elevation Before Purging NA Feet
Purge Method dedicated bladder pump Pump ID PC-6
Date Purged 10/22/19 Water Column 10.55 Feet
Time Purged 0815 - 0851 One Casing Volume 1.7 Gallons
Pump Rate 0.15 GPM/LPM Volume Purged 5.4 Gallons

Field Sampling Data

Date Sampled 10/22/19
Time Sampled 0900
Sampling Equip. above pump
Meter ID MPS-5
Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.6 (units) D.O. 7.2 (mg/l)
Spec. Cond. 440 (µmhos/cm) Turbidity 4.6 (NTU)
Temp. 10.5 (°C) (ORP) Eh 187 (mV)
Other NA

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA
Sample for Soluble Metals Filtered in Field: ☐ Yes ☒ No ☐ NA

Weather Conditions During Sampling: 40° + light rain, wind NW 20

Sample Description: clear & odorless

Observations: water level measured 10/20/19
DTA 10/22/19

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0827	7.7	450	10.5	7.3	NA	201	1.8
0839	7.6	440	10.5	7.1	NA	192	3.6
0851	7.6	440	10.5	7.2	NA	187	5.4
<u>DTA 10/22/19</u>							

Samples chilled immediately after collection:

☒ Yes ☐ Other

Form Revised: 01/25/2019

Name/Affiliation of Sampler(s): David Anderson / Pace Analytical

Lead Technician Signature: David Anderson

Date: 10/22/19



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

15 November 2019

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

RE: Sherco Pond 3 CCR

cc:

Enclosed are the results of analyses for samples received by the laboratory on 10/24/2019 05:45. 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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
Rinse CPR-P3		MEJ0273-01	Water	10/21/2019 10:40	10/24/2019 5:45
P-150		MEJ0273-02	Water	10/21/2019 11:30	10/24/2019 5:45
P-151		MEJ0273-03	Water	10/21/2019 13:00	10/24/2019 5:45
P-152a		MEJ0273-04	Water	10/21/2019 14:10	10/24/2019 5:45
P-130		MEJ0273-05	Water	10/21/2019 15:35	10/24/2019 5:45
P-131		MEJ0273-06	Water	10/21/2019 16:50	10/24/2019 5:45
P-132		MEJ0273-07	Water	10/21/2019 18:00	10/24/2019 5:45
P-165		MEJ0273-08	Water	10/22/2019 9:00	10/24/2019 5:45
P-154a		MEJ0273-09	Water	10/22/2019 10:30	10/24/2019 5:45
Duplicate CCR-P3		MEJ0273-10	Water	10/22/2019 10:30	10/24/2019 5:45
P-153		MEJ0273-11	Water	10/22/2019 11:40	10/24/2019 5:45
P-162		MEJ0273-12	Water	10/22/2019 13:00	10/24/2019 5:45
P-163		MEJ0273-13	Water	10/22/2019 14:00	10/24/2019 5:45
P-164		MEJ0273-14	Water	10/22/2019 14:50	10/24/2019 5:45

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Rinse CPR-P3

MEJ0273-01 (Water) - Chain of Custody Number: 2266770/2266768

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	BEJ0569	10/24/19 7:22	10/24/19 18:19	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 18:19	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 18:19	EPA 300.0	CRL

Wet Chemistry

pH	8.15		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:02	SM 4500-H+ B	CRL
Total Dissolved Solids	< 20.0	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:13	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:13	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:13	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:13	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:13	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:13	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:16	EPA 200.7	HRD
Calcium	< 1.25	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:14	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-150

MEJ0273-02 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	74.6	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 18:40	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 18:40	EPA 300.0	CRL
Sulfate	5.67	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 18:40	EPA 300.0	CRL

Wet Chemistry

pH	7.86		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:15	SM 4500-H+ B	CRL
Total Dissolved Solids	298	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:17	EPA 200.8	CRL
Barium	57.5	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:17	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:17	EPA 200.8	CRL
Chromium	0.645	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:17	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:17	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:17	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:37	EPA 200.7	HRD
Calcium	58.6	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:36	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-151

MEJ0273-03 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	15.5	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 19:00	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 19:00	EPA 300.0	CRL
Sulfate	15.5	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 19:00	EPA 300.0	CRL

Wet Chemistry

pH	7.99		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:19	SM 4500-H+ B	CRL
Total Dissolved Solids	200	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	6.40	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:29	EPA 200.8	CRL
Barium	41.3	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:29	EPA 200.8	CRL
Cobalt	0.636	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:29	EPA 200.8	CRL
Chromium	0.898	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:29	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:29	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:29	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:42	EPA 200.7	HRD
Calcium	50.9	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:41	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-152a

MEJ0273-04 (Water) - Chain of Custody Number: 2266770/2266768

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	BEJ0569	10/24/19 7:22	10/24/19 19:21	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 19:21	EPA 300.0	CRL
Sulfate	7.71	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 19:21	EPA 300.0	CRL

Wet Chemistry

pH	7.94		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:22	SM 4500-H+ B	CRL
Total Dissolved Solids	178	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:32	EPA 200.8	CRL
Barium	32.2	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:32	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:32	EPA 200.8	CRL
Chromium	0.501	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:32	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:32	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:32	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:48	EPA 200.7	HRD
Calcium	49.4	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:46	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-130

MEJ0273-05 (Water) - Chain of Custody Number: 2266770/2266768

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	BEJ0569	10/24/19 7:22	10/24/19 19:41	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 19:41	EPA 300.0	CRL
Sulfate	8.69	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 19:41	EPA 300.0	CRL

Wet Chemistry

pH	7.50		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:29	SM 4500-H+ B	CRL
Total Dissolved Solids	376	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:36	EPA 200.8	CRL
Barium	81.7	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:36	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:36	EPA 200.8	CRL
Chromium	0.823	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:36	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:36	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:36	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:53	EPA 200.7	HRD
Calcium	104	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:51	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-131

MEJ0273-06 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	23.2	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:01	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:01	EPA 300.0	CRL
Sulfate	26.8	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:01	EPA 300.0	CRL

Wet Chemistry

pH	7.88		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:37	SM 4500-H+ B	CRL
Total Dissolved Solids	314	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.542	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:40	EPA 200.8	CRL
Barium	76.8	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:40	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:40	EPA 200.8	CRL
Chromium	0.822	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:40	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:40	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:40	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:58	EPA 200.7	HRD
Calcium	78.3	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 12:56	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-132

MEJ0273-07 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	2.61	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:22	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:22	EPA 300.0	CRL
Sulfate	88.6	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:22	EPA 300.0	CRL

Wet Chemistry

pH	7.72		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:44	SM 4500-H+ B	CRL
Total Dissolved Solids	430	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:44	EPA 200.8	CRL
Barium	43.5	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:44	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:44	EPA 200.8	CRL
Chromium	1.27	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:44	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:44	EPA 200.8	CRL
Selenium	1.70	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:44	EPA 200.8	CRL

Total Metals by ICP

Boron	0.0954	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:03	EPA 200.7	HRD
Calcium	103	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:01	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-165

MEJ0273-08 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	3.27	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:42	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:42	EPA 300.0	CRL
Sulfate	17.5	1.00	mg/L		1	BEJ0569	10/24/19 7:22	10/24/19 20:42	EPA 300.0	CRL

Wet Chemistry

pH	7.93		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:47	SM 4500-H+ B	CRL
Total Dissolved Solids	248	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:48	EPA 200.8	CRL
Barium	28.9	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:48	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:48	EPA 200.8	CRL
Chromium	1.96	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:48	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:48	EPA 200.8	CRL
Selenium	0.817	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:48	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:08	EPA 200.7	HRD
Calcium	65.1	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:07	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-154a
MEJ0273-09 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	18.6	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:13	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:13	EPA 300.0	CRL
Sulfate	44.4	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:13	EPA 300.0	CRL

Wet Chemistry

pH	7.99		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:51	SM 4500-H+ B	CRL
Total Dissolved Solids	320	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	1.09	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:52	EPA 200.8	CRL
Barium	52.0	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:52	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:52	EPA 200.8	CRL
Chromium	0.599	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:52	EPA 200.8	CRL
Molybdenum	0.596	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:52	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:52	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:13	EPA 200.7	HRD
Calcium	74.9	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:12	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Duplicate CCR-P3
MEJ0273-10 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	18.1	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:34	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:34	EPA 300.0	CRL
Sulfate	44.4	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:34	EPA 300.0	CRL

Wet Chemistry

pH	7.99		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 8:55	SM 4500-H+ B	CRL
Total Dissolved Solids	324	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	1.01	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:56	EPA 200.8	CRL
Barium	52.3	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:56	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:56	EPA 200.8	CRL
Chromium	0.594	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:56	EPA 200.8	CRL
Molybdenum	0.564	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:56	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 9:56	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:18	EPA 200.7	HRD
Calcium	74.4	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:17	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-153

MEJ0273-11 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	1.18	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:54	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:54	EPA 300.0	CRL
Sulfate	10.2	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 12:54	EPA 300.0	CRL

Wet Chemistry

pH	8.18		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 9:08	SM 4500-H+ B	CRL
Total Dissolved Solids	116	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.959	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:00	EPA 200.8	CRL
Barium	16.6	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:00	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:00	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:00	EPA 200.8	CRL
Molybdenum	0.685	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:00	EPA 200.8	CRL
Selenium	1.65	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:00	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:23	EPA 200.7	HRD
Calcium	27.4	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:22	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-162

MEJ0273-12 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	27.9	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:14	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:14	EPA 300.0	CRL
Sulfate	113	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:14	EPA 300.0	CRL

Wet Chemistry

pH	7.90		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 9:11	SM 4500-H+ B	CRL
Total Dissolved Solids	590	20.0	mg/L		1	BEJ0567	10/24/19 9:35	10/24/19 9:35	SM 2540C	HSD
Total Suspended Solids	4.40	4.00	mg/L		1	BEJ0566	10/24/19 7:36	10/24/19 7:36	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:04	EPA 200.8	CRL
Barium	62.5	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:04	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:04	EPA 200.8	CRL
Chromium	9.49	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:04	EPA 200.8	CRL
Molybdenum	3.03	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:04	EPA 200.8	CRL
Selenium	4.61	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:04	EPA 200.8	CRL

Total Metals by ICP

Boron	0.195	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:38	EPA 200.7	HRD
Calcium	113	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:37	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-163
MEJ0273-13 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	33.8	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:35	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:35	EPA 300.0	CRL
Sulfate	63.8	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:35	EPA 300.0	CRL

Wet Chemistry

pH	8.09		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 9:15	SM 4500-H+ B	CRL
Total Dissolved Solids	374	20.0	mg/L		1	BEJ0597	10/25/19 8:45	10/25/19 8:45	SM 2540C	HSD
Total Suspended Solids	28.0	4.00	mg/L		1	BEJ0596	10/25/19 7:00	10/25/19 7:00	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	0.719	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:15	EPA 200.8	CRL
Barium	44.1	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:15	EPA 200.8	CRL
Cobalt	0.568	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:15	EPA 200.8	CRL
Chromium	19.7	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:15	EPA 200.8	CRL
Molybdenum	1.01	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:15	EPA 200.8	CRL
Selenium	3.50	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:15	EPA 200.8	CRL

Total Metals by ICP

Boron	0.0704	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:43	EPA 200.7	HRD
Calcium	81.4	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:42	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

P-164
MEJ0273-14 (Water) - Chain of Custody Number: 2266770/2266768

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

Anions by Ion Chromatography

Chloride	10.4	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:55	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:55	EPA 300.0	CRL
Sulfate	34.1	1.00	mg/L		1	BEJ0642	10/28/19 9:11	10/28/19 13:55	EPA 300.0	CRL

Wet Chemistry

pH	8.08		pH Units	M_TTT	1	BEJ0568	10/24/19 7:03	10/24/19 9:19	SM 4500-H+ B	CRL
Total Dissolved Solids	310	20.0	mg/L		1	BEJ0597	10/25/19 8:45	10/25/19 8:45	SM 2540C	HSD
Total Suspended Solids	4.00	4.00	mg/L		1	BEJ0596	10/25/19 7:00	10/25/19 7:00	SM 2540D	HSD

Total Metals by ICPMS

Arsenic	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:19	EPA 200.8	CRL
Barium	42.0	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:19	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:19	EPA 200.8	CRL
Chromium	5.84	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:19	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:19	EPA 200.8	CRL
Selenium	1.58	0.500	ug/L		1	BEJ0582	10/24/19 10:19	10/30/19 10:19	EPA 200.8	CRL

Total Metals by ICP

Boron	< 0.0500	0.0500	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:49	EPA 200.7	HRD
Calcium	77.2	1.25	mg/L		1	BEJ0581	10/24/19 10:16	10/25/19 13:47	EPA 200.7	HRD

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Anions by Ion Chromatography - Quality Control

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

Batch BEJ0569 - Wet Prep

Blank (BEJ0569-BLK1)				Prepared & Analyzed: 10/24/2019						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

Blank (BEJ0569-BLK2)				Prepared & Analyzed: 10/24/2019						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

LCS (BEJ0569-BS1)				Prepared & Analyzed: 10/24/2019						
Chloride	25.5	1.00	mg/L	25.026		102	90-110			
Fluoride	2.54	0.750	mg/L	2.5000		102	90-110			
Sulfate	51.6	1.00	mg/L	50.150		103	90-110			

LCS (BEJ0569-BS2)				Prepared & Analyzed: 10/24/2019						
Chloride	24.9	1.00	mg/L	25.026		99.6	90-110			
Fluoride	2.48	0.750	mg/L	2.5000		99.1	90-110			
Sulfate	50.4	1.00	mg/L	50.150		101	90-110			

LCS (BEJ0569-BS3)				Prepared & Analyzed: 10/24/2019						
Chloride	24.8	1.00	mg/L	25.026		99.2	90-110			
Fluoride	2.47	0.750	mg/L	2.5000		98.9	90-110			
Sulfate	50.2	1.00	mg/L	50.150		100	90-110			

Duplicate (BEJ0569-DUP1)				Source: MEJ0187-01		Prepared & Analyzed: 10/24/2019				
Chloride	4.45	1.00	mg/L		4.44			0.225	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	1.88	1.00	mg/L		1.88			0.0531	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Anions by Ion Chromatography - Quality Control

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

Batch BEJ0569 - Wet Prep

Duplicate (BEJ0569-DUP2)		Source: MEJ0187-03		Prepared & Analyzed: 10/24/2019						
Chloride	7.18	1.00	mg/L		7.11			1.02	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	5.74	1.00	mg/L		5.69			0.875	20	

Matrix Spike (BEJ0569-MS1)		Source: MEJ0187-01		Prepared & Analyzed: 10/24/2019						
Chloride	34.8	1.25	mg/L	31.283	4.44	97.1	80-120			
Fluoride	3.19	0.938	mg/L	3.1250	<0.938	102	80-120			
Sulfate	63.4	1.25	mg/L	62.688	1.88	98.2	80-120			

Matrix Spike (BEJ0569-MS2)		Source: MEJ0187-03		Prepared & Analyzed: 10/24/2019						
Chloride	38.9	1.25	mg/L	31.283	7.11	102	80-120			
Fluoride	3.47	0.938	mg/L	3.1250	<0.938	111	80-120			
Sulfate	70.1	1.25	mg/L	62.688	5.69	103	80-120			

Matrix Spike Dup (BEJ0569-MSD1)		Source: MEJ0187-01		Prepared & Analyzed: 10/24/2019						
Chloride	35.8	1.25	mg/L	31.283	4.44	100	80-120	2.84	20	
Fluoride	3.22	0.938	mg/L	3.1250	<0.938	103	80-120	0.897	20	
Sulfate	65.4	1.25	mg/L	62.688	1.88	101	80-120	3.12	20	

Matrix Spike Dup (BEJ0569-MSD2)		Source: MEJ0187-03		Prepared & Analyzed: 10/24/2019						
Chloride	39.0	1.25	mg/L	31.283	7.11	102	80-120	0.433	20	
Fluoride	3.30	0.938	mg/L	3.1250	<0.938	106	80-120	5.13	20	
Sulfate	70.4	1.25	mg/L	62.688	5.69	103	80-120	0.450	20	

Batch BEJ0642 - Wet Prep

Blank (BEJ0642-BLK1)		Prepared & Analyzed: 10/28/2019								
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Anions by Ion Chromatography - Quality Control

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

Batch BEJ0642 - Wet Prep

Blank (BEJ0642-BLK2)				Prepared & Analyzed: 10/28/2019						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

LCS (BEJ0642-BS1)				Prepared & Analyzed: 10/28/2019						
Chloride	25.6	1.00	mg/L	25.026		102	90-110			
Fluoride	2.71	0.750	mg/L	2.5000		108	90-110			
Sulfate	52.0	1.00	mg/L	50.150		104	90-110			

LCS (BEJ0642-BS2)				Prepared & Analyzed: 10/28/2019						
Chloride	24.8	1.00	mg/L	25.026		99.0	90-110			
Fluoride	2.65	0.750	mg/L	2.5000		106	90-110			
Sulfate	50.2	1.00	mg/L	50.150		100	90-110			

LCS (BEJ0642-BS3)				Prepared & Analyzed: 10/28/2019						
Chloride	24.8	1.00	mg/L	25.026		98.9	90-110			
Fluoride	2.65	0.750	mg/L	2.5000		106	90-110			
Sulfate	50.2	1.00	mg/L	50.150		100	90-110			

Duplicate (BEJ0642-DUP1)				Source: MEJ0273-23		Prepared & Analyzed: 10/28/2019				
Chloride	23.8	1.00	mg/L		24.3			2.13	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	69.6	1.00	mg/L		70.7			1.58	20	

Duplicate (BEJ0642-DUP2)				Source: MEJ0273-24		Prepared & Analyzed: 10/28/2019				
Chloride	8.71	1.00	mg/L		8.80			1.10	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	79.8	1.00	mg/L		80.3			0.602	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Anions by Ion Chromatography - Quality Control

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

Batch BEJ0642 - Wet Prep

Matrix Spike (BEJ0642-MS1)		Source: MEJ0273-23		Prepared & Analyzed: 10/28/2019						
Chloride	55.5	1.25	mg/L	31.283	24.3	99.9	80-120			
Fluoride	2.94	0.938	mg/L	3.1250	<0.938	94.1	80-120			
Sulfate	134	1.25	mg/L	62.688	70.7	101	80-120			
Matrix Spike (BEJ0642-MS2)		Source: MEJ0273-24		Prepared & Analyzed: 10/28/2019						
Chloride	40.9	1.25	mg/L	31.283	8.80	103	80-120			
Fluoride	3.32	0.938	mg/L	3.1250	<0.938	106	80-120			
Sulfate	143	1.25	mg/L	62.688	80.3	100	80-120			
Matrix Spike Dup (BEJ0642-MSD1)		Source: MEJ0273-23		Prepared & Analyzed: 10/28/2019						
Chloride	55.5	1.25	mg/L	31.283	24.3	99.8	80-120	0.0203	20	
Fluoride	3.45	0.938	mg/L	3.1250	<0.938	110	80-120	16.0	20	
Sulfate	134	1.25	mg/L	62.688	70.7	100	80-120	0.0570	20	
Matrix Spike Dup (BEJ0642-MSD2)		Source: MEJ0273-24		Prepared & Analyzed: 10/28/2019						
Chloride	40.5	1.25	mg/L	31.283	8.80	101	80-120	0.933	20	
Fluoride	3.49	0.938	mg/L	3.1250	<0.938	112	80-120	4.88	20	
Sulfate	143	1.25	mg/L	62.688	80.3	99.8	80-120	0.276	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Wet Chemistry - Quality Control

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

Batch BEJ0566 - Wet Prep

Blank (BEJ0566-BLK1)		Prepared & Analyzed: 10/24/2019								
Total Suspended Solids	<4.00	4.00	mg/L							
Duplicate (BEJ0566-DUP1)		Source: MEJ0273-02		Prepared & Analyzed: 10/24/2019						
Total Suspended Solids	<4.00	4.00	mg/L		<4.00				20	
Duplicate (BEJ0566-DUP2)		Source: MEJ0273-03		Prepared & Analyzed: 10/24/2019						
Total Suspended Solids	6.40	4.00	mg/L		6.40			0.00	20	

Batch BEJ0567 - Wet Prep

Blank (BEJ0567-BLK1)		Prepared & Analyzed: 10/24/2019								
Total Dissolved Solids	<20.0	20.0	mg/L							
Duplicate (BEJ0567-DUP1)		Source: MEJ0273-02		Prepared & Analyzed: 10/24/2019						
Total Dissolved Solids	300	20.0	mg/L		298			0.669	20	
Duplicate (BEJ0567-DUP2)		Source: MEJ0273-03		Prepared & Analyzed: 10/24/2019						
Total Dissolved Solids	204	20.0	mg/L		200			1.98	20	

Batch BEJ0568 - Wet Prep

LCS (BEJ0568-BS1)		Prepared & Analyzed: 10/24/2019								
pH	7.12		pH Units	7.0000		102	90-110			
LCS (BEJ0568-BS2)		Prepared & Analyzed: 10/24/2019								
pH	7.12		pH Units	7.0000		102	90-110			

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Wet Chemistry - Quality Control

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

Batch BEJ0568 - Wet Prep

Duplicate (BEJ0568-DUP1)	Source: MEJ0273-02		Prepared & Analyzed: 10/24/2019							
pH	7.82		pH Units		7.86			0.510	20	
Duplicate (BEJ0568-DUP2)	Source: MEJ0273-11		Prepared & Analyzed: 10/24/2019							
pH	8.19		pH Units		8.18			0.122	20	
Duplicate (BEJ0568-DUP3)	Source: MEJ0273-21		Prepared & Analyzed: 10/24/2019							
pH	7.79		pH Units		7.80			0.128	20	

Batch BEJ0596 - Wet Prep

Blank (BEJ0596-BLK1)	Prepared & Analyzed: 10/25/2019									
Total Suspended Solids	<4.00	4.00	mg/L							
Duplicate (BEJ0596-DUP1)	Source: MEJ0273-13		Prepared & Analyzed: 10/25/2019							
Total Suspended Solids	30.8	4.00	mg/L		28.0			9.52	20	
Duplicate (BEJ0596-DUP2)	Source: MEJ0273-14		Prepared & Analyzed: 10/25/2019							
Total Suspended Solids	4.80	4.00	mg/L		4.00			18.2	20	

Batch BEJ0597 - Wet Prep

Blank (BEJ0597-BLK1)	Prepared & Analyzed: 10/25/2019									
Total Dissolved Solids	<20.0	20.0	mg/L							
Duplicate (BEJ0597-DUP1)	Source: MEJ0273-13		Prepared & Analyzed: 10/25/2019							
Total Dissolved Solids	370	20.0	mg/L		374			1.08	20	

Christine Keefe, Supervisor (612) 630-4506

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Wet Chemistry - Quality Control

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

Batch BEJ0597 - Wet Prep

Duplicate (BEJ0597-DUP2)	Source: MEJ0273-14		Prepared & Analyzed: 10/25/2019							
Total Dissolved Solids	310	20.0	mg/L		310			0.00	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Total Metals by ICPMS - Quality Control

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

Batch BEJ0582 - EPA 200.2, EPA 3005

Blank (BEJ0582-BLK1)

Prepared: 10/24/2019 Analyzed: 10/30/2019

Barium	<0.500	0.500	ug/L
Cobalt	<0.500	0.500	ug/L
Molybdenum	<0.500	0.500	ug/L
Chromium	<0.500	0.500	ug/L
Selenium	<0.500	0.500	ug/L
Arsenic	<0.500	0.500	ug/L

LCS (BEJ0582-BS1)

Prepared: 10/24/2019 Analyzed: 10/30/2019

Cobalt	98.3	0.500	ug/L	100.00	98.3	85-115
Selenium	97.2	0.500	ug/L	100.00	97.2	85-115
Chromium	95.6	0.500	ug/L	100.00	95.6	85-115
Molybdenum	98.2	0.500	ug/L	100.00	98.2	85-115
Arsenic	98.6	0.500	ug/L	100.00	98.6	85-115
Barium	97.0	0.500	ug/L	100.00	97.0	85-115

Duplicate (BEJ0582-DUP1)

Source: MEJ0273-17

Prepared: 10/24/2019 Analyzed: 10/30/2019

Cobalt	0.173	0.500	ug/L	0.0965	57.0	20	M_D-RL
Arsenic	0.337	0.500	ug/L	0.258	26.7	20	M_D-RL
Barium	61.9	0.500	ug/L	62.3	0.738	20	
Selenium	4.81	0.500	ug/L	4.77	0.726	20	
Molybdenum	0.183	0.500	ug/L	0.117	44.2	20	M_D-RL
Chromium	0.983	0.500	ug/L	0.907	8.06	20	

Duplicate (BEJ0582-DUP2)

Source: MEJ0273-18

Prepared: 10/24/2019 Analyzed: 10/30/2019

Selenium	0.505	0.500	ug/L	0.582	14.2	20	
Arsenic	0.397	0.500	ug/L	0.414	4.14	20	
Barium	38.6	0.500	ug/L	39.1	1.22	20	
Cobalt	<0.500	0.500	ug/L	<0.500		20	
Molybdenum	0.175	0.500	ug/L	0.177	0.847	20	
Chromium	0.978	0.500	ug/L	0.786	21.8	20	M_D

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Total Metals by ICPMS - Quality Control

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

Batch BEJ0582 - EPA 200.2, EPA 3005

Matrix Spike (BEJ0582-MS1)	Source: MEJ0273-17			Prepared: 10/24/2019 Analyzed: 10/30/2019						
Barium	160	0.500	ug/L	100.00	62.3	97.4	70-130			
Molybdenum	101	0.500	ug/L	100.00	0.117	101	70-130			
Cobalt	97.1	0.500	ug/L	100.00	0.0965	97.0	70-130			
Arsenic	103	0.500	ug/L	100.00	0.258	103	70-130			
Chromium	96.6	0.500	ug/L	100.00	0.907	95.7	70-130			
Selenium	104	0.500	ug/L	100.00	4.77	99.3	70-130			

Matrix Spike (BEJ0582-MS2)	Source: MEJ0273-18			Prepared: 10/24/2019 Analyzed: 10/30/2019						
Barium	141	0.500	ug/L	100.00	39.1	102	70-130			
Chromium	99.2	0.500	ug/L	100.00	0.786	98.4	70-130			
Cobalt	97.3	0.500	ug/L	100.00	<0.500	97.3	70-130			
Selenium	99.1	0.500	ug/L	100.00	0.582	98.5	70-130			
Molybdenum	100	0.500	ug/L	100.00	0.177	100	70-130			
Arsenic	104	0.500	ug/L	100.00	0.414	103	70-130			

Matrix Spike Dup (BEJ0582-MSD1)	Source: MEJ0273-17			Prepared: 10/24/2019 Analyzed: 10/30/2019						
Barium	163	0.500	ug/L	100.00	62.3	101	70-130	2.09	20	
Chromium	100	0.500	ug/L	100.00	0.907	99.3	70-130	3.65	20	
Cobalt	103	0.500	ug/L	100.00	0.0965	103	70-130	5.85	20	
Selenium	106	0.500	ug/L	100.00	4.77	101	70-130	1.61	20	
Arsenic	104	0.500	ug/L	100.00	0.258	104	70-130	1.51	20	
Molybdenum	103	0.500	ug/L	100.00	0.117	103	70-130	2.25	20	

Matrix Spike Dup (BEJ0582-MSD2)	Source: MEJ0273-18			Prepared: 10/24/2019 Analyzed: 10/30/2019						
Molybdenum	103	0.500	ug/L	100.00	0.177	103	70-130	2.87	20	
Arsenic	103	0.500	ug/L	100.00	0.414	103	70-130	0.624	20	
Barium	142	0.500	ug/L	100.00	39.1	103	70-130	0.818	20	
Selenium	100	0.500	ug/L	100.00	0.582	99.5	70-130	0.964	20	
Cobalt	101	0.500	ug/L	100.00	<0.500	101	70-130	3.56	20	
Chromium	101	0.500	ug/L	100.00	0.786	99.8	70-130	1.38	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Total Metals by ICPMS - Quality Control

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

Batch BEJ0627 - EPA 200.2, EPA 3005

Blank (BEJ0627-BLK1)				Prepared: 10/28/2019 Analyzed: 10/30/2019						
Chromium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							

LCS (BEJ0627-BS1)				Prepared: 10/28/2019 Analyzed: 10/30/2019						
Barium	98.5	0.500	ug/L	100.00		98.5	85-115			
Arsenic	97.6	0.500	ug/L	100.00		97.6	85-115			
Selenium	97.4	0.500	ug/L	100.00		97.4	85-115			
Chromium	97.8	0.500	ug/L	100.00		97.8	85-115			

Duplicate (BEJ0627-DUP1)				Source: MEJ0273-22		Prepared: 10/28/2019 Analyzed: 10/30/2019				
Arsenic	0.284	0.500	ug/L		0.279			1.98	20	
Barium	44.1	0.500	ug/L		43.4			1.65	20	
Chromium	1.40	0.500	ug/L		1.36			2.86	20	
Selenium	2.03	0.500	ug/L		2.04			0.192	20	

Matrix Spike (BEJ0627-MS1)				Source: MEJ0273-22		Prepared: 10/28/2019 Analyzed: 10/30/2019				
Chromium	100	0.500	ug/L	100.00	1.36	98.8	70-130			
Arsenic	102	0.500	ug/L	100.00	0.279	102	70-130			
Selenium	104	0.500	ug/L	100.00	2.04	102	70-130			
Barium	146	0.500	ug/L	100.00	43.4	102	70-130			

Matrix Spike Dup (BEJ0627-MSD1)				Source: MEJ0273-22		Prepared: 10/28/2019 Analyzed: 10/30/2019				
Arsenic	101	0.500	ug/L	100.00	0.279	100	70-130	1.26	20	
Chromium	101	0.500	ug/L	100.00	1.36	100	70-130	1.19	20	
Selenium	101	0.500	ug/L	100.00	2.04	99.3	70-130	2.46	20	
Barium	143	0.500	ug/L	100.00	43.4	100	70-130	1.57	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Total Metals by ICP - Quality Control

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

Batch BEJ0581 - EPA 200.2, EPA 3005

Blank (BEJ0581-BLK1)				Prepared: 10/24/2019 Analyzed: 10/25/2019						
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.25	1.25	mg/L							
LCS (BEJ0581-BS1)				Prepared: 10/24/2019 Analyzed: 10/25/2019						
Boron	0.998	0.0500	mg/L	1.0000		99.8	85-115			
Calcium	104	1.25	mg/L	100.00		104	85-115			
Duplicate (BEJ0581-DUP1)				Source: MEJ0273-02		Prepared: 10/24/2019 Analyzed: 10/25/2019				
Calcium	59.8	1.25	mg/L		58.6			2.08	20	
Boron	<0.0500	0.0500	mg/L		<0.0500				20	
Duplicate (BEJ0581-DUP2)				Source: MEJ0273-03		Prepared: 10/24/2019 Analyzed: 10/25/2019				
Boron	<0.0500	0.0500	mg/L		<0.0500				20	
Calcium	50.1	1.25	mg/L		50.9			1.42	20	
Matrix Spike (BEJ0581-MS1)				Source: MEJ0273-02		Prepared: 10/24/2019 Analyzed: 10/25/2019				
Calcium	167	1.25	mg/L	100.00	58.6	108	70-130			
Boron	1.04	0.0500	mg/L	1.0000	<0.0500	104	70-130			
Matrix Spike (BEJ0581-MS2)				Source: MEJ0273-03		Prepared: 10/24/2019 Analyzed: 10/25/2019				
Calcium	162	1.25	mg/L	100.00	50.9	111	70-130			
Boron	1.05	0.0500	mg/L	1.0000	<0.0500	105	70-130			
Matrix Spike Dup (BEJ0581-MSD1)				Source: MEJ0273-02		Prepared: 10/24/2019 Analyzed: 10/25/2019				
Calcium	168	1.25	mg/L	100.00	58.6	109	70-130	0.453	20	
Boron	1.05	0.0500	mg/L	1.0000	<0.0500	105	70-130	0.865	20	
Matrix Spike Dup (BEJ0581-MSD2)				Source: MEJ0273-03		Prepared: 10/24/2019 Analyzed: 10/25/2019				
Calcium	158	1.25	mg/L	100.00	50.9	107	70-130	2.37	20	
Boron	1.05	0.0500	mg/L	1.0000	<0.0500	105	70-130	0.523	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Total Metals by ICP - Quality Control

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

Batch BEJ0626 - EPA 200.2, EPA 3005

Blank (BEJ0626-BLK1)				Prepared: 10/28/2019 Analyzed: 10/29/2019						
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.25	1.25	mg/L							
LCS (BEJ0626-BS1)				Prepared: 10/28/2019 Analyzed: 10/29/2019						
Calcium	106	1.25	mg/L	100.00		106	85-115			
Boron	1.03	0.0500	mg/L	1.0000		103	85-115			
Duplicate (BEJ0626-DUP1)				Source: MEJ0273-21		Prepared: 10/28/2019 Analyzed: 10/29/2019				
Calcium	81.4	1.25	mg/L		81.0			0.585	20	
Boron	0.245	0.0500	mg/L		0.247			0.737	20	
Matrix Spike (BEJ0626-MS1)				Source: MEJ0273-21		Prepared: 10/28/2019 Analyzed: 10/29/2019				
Calcium	190	1.25	mg/L	100.00	81.0	109	70-130			
Boron	1.31	0.0500	mg/L	1.0000	0.247	106	70-130			
Matrix Spike Dup (BEJ0626-MSD1)				Source: MEJ0273-21		Prepared: 10/28/2019 Analyzed: 10/29/2019				
Calcium	190	1.25	mg/L	100.00	81.0	109	70-130	0.147	20	
Boron	1.29	0.0500	mg/L	1.0000	0.247	104	70-130	1.22	20	

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		Reported:
Minneapolis MN, 55401	Project Manager: Eric Ealy	11/15/2019 09:29

Qualifiers and Definitions

M_TTT	Sample received at the lab outside of required hold time.
M_D-RL	The RPD for the sample duplicate was outside of QC acceptance limits due to <RL.
M_D	The RPD for the sample duplicate was outside of QC acceptance limits possibly due to non-homogeneous matrix.
Z	Non Accredited Analyte
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	David Katznet	Attention:	Steve Davis
Address:	Environmental Services	Copy To:		Company Name:	
Email To:	mp-7	Purchase Order No.:		Address:	
Phone:		Project Name:	Shetco Ponds, Fall 2019	Pace Quote Reference:	
Fax:		Project Number:		Pace Project Manager:	
Requested Due Date/TAT:				Pace Profile #:	

REGULATORY AGENCY	
☐ NPDES	☐ GROUND WATER
☐ UST	☐ RCRA
☐ DRINKING WATER	☐ OTHER

Site Location	STATE:
---------------	--------

Page: 1 of 2

2266770

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.		
				COMPOSITE START	COMPOSITE END/GRAB					Y	N				
1	Rinse CCR-P3	DW	WT	DATE	TIME	DATE	TIME	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other
2	P-150	WW	WT	10/21/19	1040	10/21/19	1130	2	1	1					
3	P-151	WW	WT				1300	2	1	1					
4	P-152A	WW	WT				1410	2	1	1					
5	P-130	Product	WT				1535	4	1	1					
6	P-131	Soil/Solid	WT				1650	4	1	1					
7	P-132	Oil	WT				1800	4	1	1					
8	P-165	Wipe	WT	10/21/19	0900		1030	2	1	1					
9	P-154A	Air	WT				1030	2	1	1					
10	Duplicate CCR-P3	TS	WT				1030	2	1	1					
11	P-153	Other	WT				1140	2	1	1					
12	P-162		WT				1300	2	1	1					

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
David Anderson		Xcel		Xcel		10/21/19		1350		Received on	
Xcel		Xcel		Xcel		10/21/19		0545		Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	
										Temp in °C	
										Ice (Y/N)	
										Temp in °C	
										Received on	
										Sealed Cooler	
										Custody	

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:	David Katzner	Attention:	steve davis
Address:	Environmental Services	Copy To:		Company Name:	
	mp-7			Address:	
Email To:		Purchase Order No.:		Pace Quote Reference:	
Phone:		Project Name:	Saferco Ponds, Fall 2019	Pace Project Manager:	
Fax:		Project Number:		Pace Profile #:	
Requested Due Date/TAT:					

[illegible]

SAMPLER NAME AND SIGNATURE	PRINT Name of SAMPLER:	David Anderson		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	SIGNATURE of SAMPLER:	David Anderson					
	DATE Signed (MM/DD/YY):	10/23/19					
Temp - 1.1 C m0084							

November 21, 2019

Dave Anderson
Pace Analytical Services - Field Svcs Division
1700 Elm Street, Suite 200
Minneapolis, MN 55414

RE: Project: 19-02662, Xcel Energy-Sherco P
Pace Project No.: 30333423

Dear Dave Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on November 04, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30333423001	Rinse CCR-P3	Water	10/21/19 10:40	11/04/19 09:40
30333423002	P-150	Water	10/21/19 11:30	11/04/19 09:40
30333423003	P-151	Water	10/21/19 13:00	11/04/19 09:40
30333423004	P-152A	Water	10/21/19 14:10	11/04/19 09:40
30333423005	P-130	Water	10/21/19 15:35	11/04/19 09:40
30333423006	P-131	Water	10/21/19 16:50	11/04/19 09:40
30333423007	P-132	Water	10/21/19 18:00	11/04/19 09:40
30333423008	P-165	Water	10/22/19 09:00	11/04/19 09:40
30333423009	P-154A	Water	10/22/19 10:30	11/04/19 09:40
30333423010	Duplicate CCR-P3	Water	10/22/19 10:30	11/04/19 09:40
30333423011	P-153	Water	10/22/19 11:40	11/04/19 09:40
30333423012	P-162	Water	10/22/19 13:00	11/04/19 09:40
30333423013	P-163	Water	10/22/19 14:00	11/04/19 09:40
30333423014	P-164	Water	10/22/19 14:50	11/04/19 09:40
30333423015	P-156	Water	10/22/19 16:00	11/04/19 09:40
30333423016	P-01A-1	Water	10/22/19 16:45	11/04/19 09:40
30333423017	P-155	Water	10/22/19 17:50	11/04/19 09:40
30333423018	P-17	Water	10/23/19 09:00	11/04/19 09:40
30333423019	Rinse CCR-BAP	Water	10/23/19 09:20	11/04/19 09:40
30333423020	P-158	Water	10/23/19 09:50	11/04/19 09:40
30333423021	P-157	Water	10/23/19 10:50	11/04/19 09:40
30333423022	Duplicate CCR-BAP	Water	10/23/19 10:50	11/04/19 09:40
30333423023	P-23	Water	10/23/19 12:20	11/04/19 09:40
30333423024	P-22	Water	10/23/19 13:40	11/04/19 09:40

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30333423001	Rinse CCR-P3	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423002	P-150	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423003	P-151	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423004	P-152A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423005	P-130	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423006	P-131	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423007	P-132	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423008	P-165	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423009	P-154A	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423010	Duplicate CCR-P3	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423011	P-153	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423012	P-162	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423013	P-163	EPA 903.1	MK1	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30333423014	P-164	EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30333423015	P-156	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423016	P-01A-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
30333423017	P-155	EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30333423018	P-17	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423019	Rinse CCR-BAP	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
30333423020	P-158	EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30333423021	P-157	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30333423022	Duplicate CCR-BAP	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
30333423023	P-23	EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
30333423024	P-22	Total Radium Calculation	CMC	1	PASI-PA
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Pace-MN Field Services Division

Date: November 21, 2019

General Information:

24 samples were analyzed for EPA 903.1. 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:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Pace-MN Field Services Division

Date: November 21, 2019

General Information:

24 samples were analyzed for EPA 904.0. 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:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Method: Total Radium Calculation

Description: Total Radium 228+226

Client: Pace-MN Field Services Division

Date: November 21, 2019

General Information:

24 samples were analyzed for Total Radium Calculation. 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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Sample: Rinse CCR-P3		Lab ID: 30333423001	Collected: 10/21/19 10:40	Received: 11/04/19 09:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.136 ± 0.312 (0.502)		pCi/L	11/21/19 11:15	13982-63-3	
		C:NA T:85%					
Radium-228	EPA 904.0	0.0567 ± 0.384 (0.872)		pCi/L	11/20/19 15:53	15262-20-1	
		C:80% T:94%					
Total Radium	Total Radium Calculation	0.193 ± 0.696 (1.37)		pCi/L	11/21/19 13:56	7440-14-4	

Sample: P-150		Lab ID: 30333423002	Collected: 10/21/19 11:30	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.244 ± 0.340 (0.567) C:NA T:95%	pCi/L	11/21/19 11:15	13982-63-3	
Radium-228	EPA 904.0	0.363 ± 0.426 (0.898) C:79% T:82%	pCi/L	11/20/19 15:53	15262-20-1	
Total Radium	Total Radium Calculation	0.607 ± 0.766 (1.47)	pCi/L	11/21/19 13:56	7440-14-4	

Sample: P-151		Lab ID: 30333423003	Collected: 10/21/19 13:00	Received: 11/04/19 09:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0694 ± 0.360 (0.747) C:NA T:92%		pCi/L	11/21/19 11:15	13982-63-3	
Radium-228	EPA 904.0	0.526 ± 0.387 (0.754) C:80% T:84%		pCi/L	11/20/19 15:53	15262-20-1	
Total Radium	Total Radium Calculation	0.595 ± 0.747 (1.50)		pCi/L	11/21/19 13:56	7440-14-4	

Sample: P-152A		Lab ID: 30333423004	Collected: 10/21/19 14:10	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.000 ± 0.291 (0.470) C:NA T:96%	pCi/L	11/21/19 11:15	13982-63-3	
Radium-228	EPA 904.0	0.839 ± 0.441 (0.788) C:75% T:88%	pCi/L	11/20/19 15:54	15262-20-1	
Total Radium	Total Radium Calculation	0.839 ± 0.732 (1.26)	pCi/L	11/21/19 13:56	7440-14-4	

Sample: P-130		Lab ID: 30333423005	Collected: 10/21/19 15:35	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.266 ± 0.452 (0.798) C:NA T:89%	pCi/L	11/21/19 11:15	13982-63-3	
Radium-228	EPA 904.0	0.537 ± 0.382 (0.747) C:77% T:94%	pCi/L	11/20/19 15:54	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Sample: P-130		Lab ID: 30333423005	Collected: 10/21/19 15:35	Received: 11/04/19 09:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	0.803 ± 0.834 (1.55)		pCi/L	11/21/19 13:56	7440-14-4	

Sample: P-131		Lab ID: 30333423006	Collected: 10/21/19 16:50	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0591 ± 0.384 (0.774) C:NA T:96%	pCi/L	11/21/19 11:15	13982-63-3	
Radium-228	EPA 904.0	0.603 ± 0.406 (0.781) C:79% T:88%	pCi/L	11/20/19 15:54	15262-20-1	
Total Radium	Total Radium Calculation	0.662 ± 0.790 (1.56)	pCi/L	11/21/19 13:56	7440-14-4	

Sample: P-132		Lab ID: 30333423007	Collected: 10/21/19 18:00	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0588 ± 0.346 (0.706) C:NA T:96%	pCi/L	11/21/19 13:12	13982-63-3	
Radium-228	EPA 904.0	0.560 ± 0.370 (0.707) C:76% T:91%	pCi/L	11/20/19 12:28	15262-20-1	
Total Radium	Total Radium Calculation	0.619 ± 0.716 (1.41)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-165		Lab ID: 30333423008	Collected: 10/22/19 09:00	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.181 ± 0.488 (0.906) C:NA T:97%	pCi/L	11/21/19 13:12	13982-63-3	
Radium-228	EPA 904.0	0.164 ± 0.334 (0.736) C:78% T:87%	pCi/L	11/20/19 12:28	15262-20-1	
Total Radium	Total Radium Calculation	0.345 ± 0.822 (1.64)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-154A		Lab ID: 30333423009	Collected: 10/22/19 10:30	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0561 ± 0.330 (0.673) C:NA T:102%	pCi/L	11/21/19 13:12	13982-63-3	
Radium-228	EPA 904.0	0.589 ± 0.406 (0.781) C:75% T:84%	pCi/L	11/20/19 12:28	15262-20-1	
Total Radium	Total Radium Calculation	0.645 ± 0.736 (1.45)	pCi/L	11/21/19 14:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Sample: Duplicate CCR-P3		Lab ID: 30333423010	Collected: 10/22/19 10:30	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.240 ± 0.334 (0.558) C:NA T:92%	pCi/L	11/21/19 13:12	13982-63-3	
Radium-228	EPA 904.0	0.462 ± 0.422 (0.868) C:78% T:91%	pCi/L	11/20/19 12:28	15262-20-1	
Total Radium	Total Radium Calculation	0.702 ± 0.756 (1.43)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-153		Lab ID: 30333423011	Collected: 10/22/19 11:40	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	-0.0576 ± 0.263 (0.620) C:NA T:95%	pCi/L	11/21/19 13:12	13982-63-3	
Radium-228	EPA 904.0	0.137 ± 0.383 (0.858) C:78% T:83%	pCi/L	11/20/19 12:28	15262-20-1	
Total Radium	Total Radium Calculation	0.137 ± 0.646 (1.48)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-162		Lab ID: 30333423012	Collected: 10/22/19 13:00	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	-0.0646 ± 0.295 (0.600) C:NA T:93%	pCi/L	11/21/19 13:12	13982-63-3	
Radium-228	EPA 904.0	0.689 ± 0.366 (0.658) C:79% T:96%	pCi/L	11/20/19 12:25	15262-20-1	
Total Radium	Total Radium Calculation	0.689 ± 0.661 (1.26)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-163		Lab ID: 30333423013	Collected: 10/22/19 14:00	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	-0.0547 ± 0.356 (0.772) C:NA T:100%	pCi/L	11/21/19 13:12	13982-63-3	
Radium-228	EPA 904.0	0.0497 ± 0.387 (0.890) C:70% T:75%	pCi/L	11/20/19 12:25	15262-20-1	
Total Radium	Total Radium Calculation	0.0497 ± 0.743 (1.66)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-164		Lab ID: 30333423014	Collected: 10/22/19 14:50	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.000 ± 0.316 (0.708) C:NA T:89%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	1.02 ± 0.468 (0.793) C:81% T:78%	pCi/L	11/20/19 12:25	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Sample: P-164		Lab ID: 30333423014	Collected: 10/22/19 14:50	Received: 11/04/19 09:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	1.02 ± 0.784 (1.50)		pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-156		Lab ID: 30333423015	Collected: 10/22/19 16:00	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0570 ± 0.403 (0.804) C:NA T:95%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	0.439 ± 0.394 (0.805) C:78% T:85%	pCi/L	11/20/19 12:25	15262-20-1	
Total Radium	Total Radium Calculation	0.496 ± 0.797 (1.61)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-01A-1		Lab ID: 30333423016	Collected: 10/22/19 16:45	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.45 ± 0.636 (0.540) C:NA T:92%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	0.867 ± 0.380 (0.624) C:85% T:92%	pCi/L	11/20/19 12:25	15262-20-1	
Total Radium	Total Radium Calculation	2.32 ± 1.02 (1.16)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-155		Lab ID: 30333423017	Collected: 10/22/19 17:50	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.128 ± 0.293 (0.473) C:NA T:95%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	0.527 ± 0.393 (0.772) C:83% T:78%	pCi/L	11/20/19 12:25	15262-20-1	
Total Radium	Total Radium Calculation	0.655 ± 0.686 (1.25)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-17		Lab ID: 30333423018	Collected: 10/23/19 09:00	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.000 ± 0.295 (0.662) C:NA T:87%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	0.713 ± 0.419 (0.779) C:78% T:84%	pCi/L	11/20/19 12:25	15262-20-1	
Total Radium	Total Radium Calculation	0.713 ± 0.714 (1.44)	pCi/L	11/21/19 14:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Sample: Rinse CCR-BAP		Lab ID: 30333423019	Collected: 10/23/19 09:20	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.000 ± 0.259 (0.417) C:NA T:98%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	0.769 ± 0.474 (0.893) C:76% T:74%	pCi/L	11/20/19 12:26	15262-20-1	
Total Radium	Total Radium Calculation	0.769 ± 0.733 (1.31)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-158		Lab ID: 30333423020	Collected: 10/23/19 09:50	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.552 ± 0.438 (0.569) C:NA T:93%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	0.607 ± 0.416 (0.801) C:77% T:78%	pCi/L	11/20/19 12:26	15262-20-1	
Total Radium	Total Radium Calculation	1.16 ± 0.854 (1.37)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-157		Lab ID: 30333423021	Collected: 10/23/19 10:50	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.000 ± 0.361 (0.763) C:NA T:97%	pCi/L	11/21/19 13:26	13982-63-3	
Radium-228	EPA 904.0	0.618 ± 0.396 (0.749) C:78% T:83%	pCi/L	11/20/19 12:27	15262-20-1	
Total Radium	Total Radium Calculation	0.618 ± 0.757 (1.51)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: Duplicate CCR-BAP		Lab ID: 30333423022	Collected: 10/23/19 10:50	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0691 ± 0.315 (0.508) C:NA T:88%	pCi/L	11/21/19 13:39	13982-63-3	
Radium-228	EPA 904.0	0.725 ± 0.422 (0.774) C:75% T:81%	pCi/L	11/20/19 12:27	15262-20-1	
Total Radium	Total Radium Calculation	0.794 ± 0.737 (1.28)	pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-23		Lab ID: 30333423023	Collected: 10/23/19 12:20	Received: 11/04/19 09:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0573 ± 0.262 (0.422)		pCi/L	11/21/19 13:39	13982-63-3	
		C:NA T:95%					
Radium-228	EPA 904.0	0.566 ± 0.466 (0.941)		pCi/L	11/20/19 12:27	15262-20-1	
		C:75% T:81%					

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

Sample: P-23		Lab ID: 30333423023	Collected: 10/23/19 12:20	Received: 11/04/19 09:40	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	0.623 ± 0.728 (1.36)		pCi/L	11/21/19 14:29	7440-14-4	

Sample: P-22		Lab ID: 30333423024	Collected: 10/23/19 13:40	Received: 11/04/19 09:40	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.0627 ± 0.286 (0.461) C:NA T:88%	pCi/L	11/21/19 13:39	13982-63-3	
Radium-228	EPA 904.0	0.645 ± 0.456 (0.889) C:75% T:78%	pCi/L	11/20/19 12:27	15262-20-1	
Total Radium	Total Radium Calculation	0.708 ± 0.742 (1.35)	pCi/L	11/21/19 14:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

QC Batch:	369894	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
Associated Lab Samples:	30333423001, 30333423002, 30333423003, 30333423004, 30333423005, 30333423006		

METHOD BLANK:	1794441	Matrix:	Water
Associated Lab Samples:	30333423001, 30333423002, 30333423003, 30333423004, 30333423005, 30333423006		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.104 ± 0.322 (0.731) C:NA T:92%	pCi/L	11/21/19 10:49	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

QC Batch:	369897	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
Associated Lab Samples:	30333423007, 30333423008, 30333423009, 30333423010, 30333423011, 30333423012, 30333423013, 30333423014, 30333423015, 30333423016, 30333423017, 30333423018, 30333423019, 30333423020, 30333423021, 30333423022, 30333423023, 30333423024		

METHOD BLANK:	1794446	Matrix:	Water
Associated Lab Samples:	30333423007, 30333423008, 30333423009, 30333423010, 30333423011, 30333423012, 30333423013, 30333423014, 30333423015, 30333423016, 30333423017, 30333423018, 30333423019, 30333423020, 30333423021, 30333423022, 30333423023, 30333423024		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.250 ± 0.354 (0.599) C:NA T:92%	pCi/L	11/21/19 13:12	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

QC Batch:	369900	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	30333423007, 30333423008, 30333423009, 30333423010, 30333423011, 30333423012, 30333423013, 30333423014, 30333423015, 30333423016, 30333423017, 30333423018, 30333423019, 30333423020, 30333423021, 30333423022, 30333423023, 30333423024		

METHOD BLANK:	1794452	Matrix:	Water
Associated Lab Samples:	30333423007, 30333423008, 30333423009, 30333423010, 30333423011, 30333423012, 30333423013, 30333423014, 30333423015, 30333423016, 30333423017, 30333423018, 30333423019, 30333423020, 30333423021, 30333423022, 30333423023, 30333423024		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.233 ± 0.289 (0.612) C:81% T:98%	pCi/L	11/20/19 12:28	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL - RADIOCHEMISTRY

Project: 19-02662, Xcel Energy-Sherco P

Pace Project No.: 30333423

QC Batch:	369895	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	30333423001, 30333423002, 30333423003, 30333423004, 30333423005, 30333423006		

METHOD BLANK:	1794442	Matrix:	Water
Associated Lab Samples:	30333423001, 30333423002, 30333423003, 30333423004, 30333423005, 30333423006		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.185 ± 0.287 (0.620) C:84% T:90%	pCi/L	11/20/19 12:28	

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

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 19-02662, Xcel Energy-Sherco P
Pace Project No.: 30333423

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CHAIN-OF-WO#: 30333423

ent itely.

Section A
Required Client Information:
Company: Xcel Energy
Address: c/o Pace MN Field
Email To:
Phone:
Fax:
Requested Due Date/TAT:
Report To: David Anderson
Copy To:
Purchase Order No.:
Project Name: 14-022663, Xcel Energy - Sheteko Ponds, Fall 2019
Project Number:
Requested Analysis Filtered (Y/N):

Section B
Required Project Information:
Report To: David Anderson
Copy To:
Purchase Order No.:
Project Name: 14-022663, Xcel Energy - Sheteko Ponds, Fall 2019
Project Number:
Requested Analysis Filtered (Y/N):

Section C
Company Name: Ciara Ruikkie
Address: Pace MN Field Services
Post Office: Tom Halverson
Reference: Catia Feltis
Pace Project Manager:
Pace Profile #:

Section D
Required Client Information:
Matrix Codes: DW, WT, WW, P, SL, OL, WP, AR, TS, OT
SAMPLE ID (A-Z, 0-9 / -)
Sample IDs MUST BE UNIQUE

Section E
Regulatory Agency: NPDES, GROUND WATER, DRINKING WATER, RORA, UST, OTHER
Site Location: STATE:

ITEM #	Section D Required Client Information	Section E Regulatory Agency	Section F Matrix Codes	Section G Sample ID	Section H Sample Type	Section I Sample Temp at Collection	Section J Preservatives	Section K Analysis Test	Section L Requested Analysis Filtered (Y/N)	Section M Relinquished by / Affiliation	Section N Date	Section O Time	Section P Accepted by / Affiliation	Section Q Date	Section R Time	Section S Temp in °C	Section T Received on	Section U Sealed Cooler	Section V Custody	Section W Samples Intact
1	Rinse CCR-P3				WT	10/21/19 1040														
2	P-150					1130														
3	P-151					1300														
4	P-152A					1410														
5	P-130					1535														
6	P-131					1650														
7	P-132					1800														
8	P-165					10/27/19 0900														
9	P-154A					1030														
10	duplicate CCR-P3					1030														
11	P-153					1140														
12	P-162					1300														
Additional Comments: Client needs to analyze for: Radium 226+228ppl combined.																				
RA-226 EPA 903.1 ORIGINAL RA-228 EPA 904.0																				
Signature: David Anderson, Date Signed: 10/23/19																				

CHAIN-OF-CUSTODY / Analytical Request Document

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



#30333423

Section A Required Client Information: Company: <u>Xcel Energy</u> Address: <u>c/o Pace mnt Field</u> Email To: _____ Phone: _____ Fax: _____ Requested Due Date/TAT: _____		Section B Required Project Information: Report To: <u>David Anderson</u> Copy To: _____ Purchase Order No.: _____ Project Name: <u>19-02662, Xcel Energy - Sherco Ponds, Fall 2019</u> Project Number: _____		Section C Invoice Information: Attention: <u>Cara Ruikkie</u> Company Name: <u>Pace mnt Field Services</u> Address: _____ Pace Quote Reference: <u>Tom Halverson</u> Pace Project Manager: <u>Carin Ferris</u> Pace Profile #: _____	
Regulatory Agency: ☐ NPDES ☐ GROUND WATER ☐ RCRA ☐ DRINKING WATER ☐ UST ☐ OTHER _____		Site Location: STATE: _____			

Page: 2 of 2

2266769

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water DW Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test RA-226EPA903.1 RA-228EPA904.0	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB							
1	P-163		WT			10/23/19 1400	2					013
2	P-164					1430	2					014
3	P-156					1600	2					015
4	P-01A-1					1645	2					016
5	P-155					1750	2					017
6	P-17		WT			10/23/19 0900	2					018
7	Rinse CER-BAP					0920	2					019
8	P-158					0950	2					020
9	P-157					1050	2					021
10	duplicate CER-BAP					1050	2					022
11	P-23					1220	2					023
12	P-22					1340	2					024

ADDITIONAL COMMENTS: (1) client needs to analyze for: Radium 226+228pCi/L combined.		RELINQUISHED BY / AFFILIATION: <u>David Anderson Pace</u>	DATE: <u>10/31/19</u>	TIME: <u>1130</u>	ACCEPTED BY / AFFILIATION: <u>Ben Mullen</u>	DATE: <u>11-4-19</u>	TIME: <u>0940</u>	SAMPLE CONDITIONS: Temp in °C: _____ Received on Ice (Y/N): _____ Custody Sealed Cooler (Y/N): _____ Samples Intact (Y/N): _____
SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: <u>David Anderson</u> SIGNATURE of SAMPLER: <u>David Anderson</u> DATE Signed (MM/DD/YY): <u>10/23/19</u>								

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: xcel Energy

Project # 30333423

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

Tracking #: 4934 3734 0577

Label	<u>BLM</u>
LIMS Login	<u>BLM</u>

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

Thermometer Used N/A Type of Ice: Wet Blue ☒ None

Cooler Temperature Observed Temp N/A °C Correction Factor: ✓ °C Final Temp: ✓ °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# <u>1004281</u>	Date and initials of person examining contents: <u>BLM 11-5-19</u>
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: <u>WT</u>					
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:	☒	☒	☐	11.11-5-19	
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.	☒	☐	☐	16.	
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix					
All containers meet method preservation requirements.	☒	☐	☐	Initial when completed <u>BLM</u>	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: <u>BLM</u>	Date: <u>11-5-19</u>

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.