2020 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, 2021

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2020 CCR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Scrubber Solids Pond No. 3
Becker, Minnesota

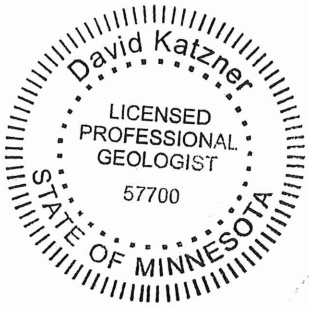
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Geologist under the laws of the State of Minnesota.

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

Signature of Preparer:

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

Date: January 28, 2021



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1. EXECUTIVE SUMMARY

Scrubbers Solids Pond No. 3 at the Sherburne County Generating Plant is subject to the groundwater monitoring and corrective action requirements under U.S. Code of Federal Regulations, Title 40, Parts §257.90 to §257.98. Scrubbers Solids Pond No. 3 operated under the assessment monitoring program in §257.95 throughout the annual reporting period beginning on January 1, 2020 and ending on December 31, 2020. Since Scrubber Solids Pond No. 3 was operated under the assessment monitoring program in §257.95 during all of 2020, statistically significant increases over background were not evaluated or determined for Appendix III to 40 CFR §257 constituents pursuant to §257.94(e) (i.e. detection monitoring). Statistical analysis performed on year 2020 groundwater data indicates no exceedances of groundwater protection standards for any constituents listed in Appendix IV to 40 CFR §257 and, as such, no remedies were selected pursuant to §257.97 and no remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.

2. INTRODUCTION

This report presents the documentation of the status of groundwater monitoring and corrective action for the year 2020 (YR2020) 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 YR2020.

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.*

(6) *A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:*

(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;
(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;
(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):
(A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and
(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.
(iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:
(A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase;
(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;
(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and
(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.
(v) Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and
(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

Section 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 3 (Site Description) briefly describes the site location and hydrogeologic setting, Section 4 (Monitoring Results) discusses the reporting requirements of the CCR Sampling Plan and §257.90(e), and Section 5 (Discussion) summarizes key actions completed in YR2020, describes any problems reported in YR2020 and the actions to resolve the problems, and key activities projected for 2021.

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 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 to the west-southwest toward the Mississippi River.

4. MONITORING RESULTS

Section 4.1 below presents the monitoring results obtained during YR2020 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 included in the Pond 3 CCR groundwater monitoring system are shown and labeled on Figure 2. A summary of the monitoring wells included in the Pond 3 CCR Groundwater Monitoring System is included in Table 1.

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 YR2020.

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

Monitoring data collected during YR2020 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 2020 monitoring results is provided on Table 4 and a summary of the fall 2020 monitoring results is provided on Table 5.

Assessment Monitoring Data
As discussed in a Technical Memorandum dated April 13, 2018 (Carlson McCain, 2018c), NSPM initiated an assessment monitoring program at the Pond 3 during YR2018, and assessment monitoring has continued since that time. Pursuant to the assessment monitoring semiannual sampling requirements listed in §257.95(d)(1), the following groundwater sampling events were conducted during YR2020:

- All wells in the Pond 3 groundwater monitoring system were sampled during the spring monitoring event conducted on April 14, 21 and 22, 2020. 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 November 11-12, 2020, and samples were analyzed for all Appendix III constituents and only those Appendix IV constituents detected during the spring 2020 assessment monitoring event. Laboratory reports and field datasheets for the fall monitoring event are included in this report as Appendix B.

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

- Recorded Concentrations: The concentrations for the spring and fall monitoring events that are recorded in the operating record are attached to this report as Appendices A and B, respectively, and summary tables of the data are also provided in Tables 4 and 5, respectively.
- Background Concentrations: The background wells at Pond 3 include P-130, P-131, P-150, P-151, P-152A, P-153 and P-154A and the background parameter concentrations were obtained as part of the baseline data set that was completed by collecting nine independent samples from each of the wells in the groundwater monitoring system from December 2016 through September 2017. Each of the baseline samples were analyzed for Appendix III and Appendix IV constituents. Laboratory reports and field datasheets for the baseline dataset, which includes all background concentrations, are provided in Appendix A of the 2017 CCR Annual Groundwater Monitoring and Corrective Action Report (Carlson McCain, 2018b). In accordance with the Sections 2.2 of the Statistical Analysis Plan (NSPM, 2017), the background dataset was evaluated and amended in December 2020 to include data obtained from the background wells during the fall 2017 and years 2018 and 2019. As part of the evaluation, data for each for each well and parameter was reviewed for outliers and trends in accordance with Section 2.3 Statistical Analysis Plan (NSPM, 2017), and certain outliers were discarded if a data point was determined to be an error.
- Groundwater Protection Standards: Pursuant to §257.95(h)(1) through §257.95(h)(3), groundwater protection standards have been established for each Appendix IV constituent as either: 1) the maximum contaminant level (MCL) established under 40 CFR §141.62 and §141.66, 2) for those constituents without an MCL (i.e. cobalt, lead, lithium, and molybdenum), the concentration listed in §257.95(h)(2), as amended on July 30, 2018, or 3) for constituents for which the background level is higher than the levels identified under 1) or 2), the background concentration.

The range of background concentrations for each Appendix III and Appendix IV constituent sampled pursuant to §257.94(b), as amended in December 2020 in accordance with the Statistical Analysis Plan (NSPM, 2017), and the groundwater protection standard for each Appendix IV constituent are summarized on the following page.

	Parameter	Background Range	Groundwater Protection Standard
Appendix III Parameters	Boron, total (mg/L)	<0.050 to 66.9	NA
	Calcium, total (mg/L)	25 to 132	NA
	Chloride, total (mg/L)	<1.0 to 74.6	NA
	Fluoride, total (mg/L)	<0.750	NA
	pH (lab) (pH)	7.34 to 8.23	NA
	Sulfate, total (mg/L)	2.53 to 45.1	NA
	Total Dissolved Solids (mg/L)	94 to 496	NA
Appendix IV Parameters	Antimony, total (mg/L)	<0.0005	0.006
	Arsenic, total (mg/L)	<0.0005 to 0.0015	0.01
	Barium, total (mg/L)	<0.05 to 0.111	2
	Beryllium, total (mg/L)	<0.0005	0.004
	Cadmium, total (mg/L)	<0.0001 to <0.0005	0.05
	Chromium, total (mg/L)	<0.0005 to 0.0027	0.1
	Cobalt, total (mg/L)	<0.0005 to 0.0013	0.006
	Fluoride, total (mg/L)	<0.750	4
	Lead, total (mg/L)	<0.0005 to 0.0121	0.015
	Lithium Total (mg/L)	<0.015 to <0.05[1]	0.04[1]
	Mercury, total (mg/L)	<0.0002	0.002
	Molybdenum, total (mg/L)	<0.0005 to 0.0011	0.1
	Radium, 226 and 228 combined (pCi/L)	<0.84 to 3.1	5
	Selenium, total (mg/L)	<0.0005 to 0.0017	0.05
	Thallium, total (mg/L)	<0.0005	0.002

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

Statistical Analysis

Statistical analysis was performed on the YR2020 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 2020 monitoring events are shown on the water table elevation contour maps in Figures 3 and 4, respectively. The contours were derived from water level measurements from the wells included in the CCR groundwater monitoring system for the 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 toward the Mississippi River.

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

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

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

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

5. DISCUSSION

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

Pursuant to the rule requirements, Section 5.1 below discusses the key actions completed for the groundwater monitoring program at the Pond 3; Section 5.2 discusses the any problems encountered with the groundwater monitoring and actions to resolve such problems; and Section 5.3 discusses key activities that may occur in the upcoming year.

5.1 Key Actions Completed

Key actions that were completed during YR2020 include the following items:

- The 2019 Annual CCR Groundwater Monitoring and Corrective Report (Carlson McCain, 2020) was completed, placed in the facility's operating record on January 31, 2020, and posted on the Pond 3's publicly available website by February 28, 2020.
- Monitoring wells were sampled during the spring event conducted on April 14, 21 and 22, 2020 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 November 11-12, 2020 and analyzed for all Appendix III constituents and only those Appendix IV constituents that were detected during the spring 2020 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 21, 2020 and January 7, 2021, respectively.
- Statistical evaluation of the monitoring data was conducted to demonstrate compliance with §257.95(e) through (g).
- In accordance with the Sections 2.2 of the Statistical Analysis Plan (NSPM, 2017), the background dataset was evaluated and amended in December 2020 to include data obtained from the background wells during the fall 2017 and years 2018 and 2019. As part of the evaluation, data for each for each well and parameter was reviewed for outliers and trends in accordance with Section 2.3 Statistical Analysis Plan (NSPM, 2017), and certain outliers were discarded if a data point was determined to be an error.

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 YR2020. No corrective action was required at the facility during YR2020.

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 YR2020.

5.3 Key Activities for 2021

The following key actions are anticipated at the Pond 3 in the year 2021:

1. Routine, semi-annual assessment monitoring events at monitoring system wells are planned in the spring between March 15 and May 15, 2021 and in the fall between September 15 and November 15, 2021.
2. Statistical analysis of monitoring results will be conducted to demonstrate compliance with §257.95(e) through (g).
3. Update of the Pond 3 CCR Groundwater Sampling Plan (NSPM, 2018) also to include an update of the Statistical Analysis Plan (NSPM, 2017), for consistency with sampling and analysis plans for other CCR units at the Sherco site.

6.0 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, 2020. 2019 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 28, 2020.

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 2020[1]	Fall 2020[2]
P-130	2	4/21/2020	11/12/2020
P-131	2	4/21/2020	11/12/2020
P-150	2	4/21/2020	11/12/2020
P-151	2	4/21/2020	11/12/2020
P-152A	2	4/14/2020	11/12/2020
P-153	2	4/21/2020	11/12/2020
P-154A	2	4/21/2020	11/12/2020

Downgradient Wells			
Well ID	Number of Samples	Sample Dates	
		Spring 2020[1]	Fall 2020[2]
P-132	2	4/21/2020	11/12/2020
P-162	2	4/22/2020	11/11/2020
P-163	2	4/22/2020	11/11/2020
P-164	2	4/22/2020	11/11/2020
P-165	2	4/21/2020	11/12/2020

[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 2020 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 2020 Groundwater Summary Data
Scrubber Solids Pond No. 3

Appendix III Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 4/21/2020	P-131 4/21/2020	P-132 4/21/2020	P-150 4/21/2020	P-151 4/21/2020	P-152A 4/14/2020	P-153 4/21/2020	P-154A 4/21/2020	P-162 4/22/2020	P-163 4/22/2020	P-164 4/22/2020	P-165 4/21/2020
Boron, total	mg/L	NA	<0.0500	<0.0500	0.0724	<0.0500	<0.0500	0.0616	<0.0500	<0.0500	0.137	0.0912	<0.0500	<0.0500
Calcium, total	mg/L	NA	104	77.7	101	85.7	40.3	54.2	24.6	75.4	85.5	84.1	74.5	73.7
Chloride, total	mg/L	NA	<1.000	24.4	2.29	179	8.97	<1.000	<1.000	22.3	29	30.1	8.97	4.85
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	7.64	8.02	7.83	7.92	8.17	7.8	8.27	8.07	8.01	8.28	8.19	8.02
Sulfate, total	mg/L	NA	8.84	32.3	87.5	7.34	8.89	7.52	2.74	41.4	115	85.2	29.3	29.3
Total Dissolved Solids	mg/L	NA	404	334	470	482	168	208	96	300	518	404	298	292

Appendix IV Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 4/21/2020	P-131 4/21/2020	P-132 4/21/2020	P-150 4/21/2020	P-151 4/21/2020	P-152A 4/14/2020	P-153 4/21/2020	P-154A 4/21/2020	P-162 4/22/2020	P-163 4/22/2020	P-164 4/22/2020	P-165 4/21/2020
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	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	0.0005	0.001	0.0011	0.0006	<0.0005	<0.0005	<0.0005
Barium, total	mg/L	2	0.0823	0.0807	0.0463	0.0888	0.0285	0.037	0.0137	0.0519	0.0492	0.0432	0.0417	0.0344
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	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium, total	mg/L	0.1	0.0008	0.0008	0.0016	0.0007	0.0007	0.0007	0.0007	0.0006	0.0015	0.0195	0.0059	0.0013
Cobalt, 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
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	0.0006	0.0007	0.0019	0.0011	0.0007	<0.0005
Selenium, total	mg/L	0.05	<0.0005	<0.0005	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0073	0.0082	0.001	0.0009
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 co	pCi/L	5	<2.2	<1.8	<1.7	<1.5	<1.9	<1.5	<2.0	<2.1	<1.9	2.5	<1.5	<1.7

Field Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 4/21/2020	P-131 4/21/2020	P-132 4/21/2020	P-150 4/21/2020	P-151 4/21/2020	P-152A 4/14/2020	P-153 4/21/2020	P-154A 4/21/2020	P-162 4/22/2020	P-163 4/22/2020	P-164 4/22/2020	P-165 4/21/2020
ORP	mV	NA	232	215	240	208	211	160	230	238	234	222	223	230
Oxygen, dissolved	mg/L	NA	8.3	9.4	9.4	8.2	10.6	9.8	10.9	5.5	4.3	6.8	7	9.5
pH, field	pH	NA	7.1	7.7	7.4	7.4	7.8	7.3	8.2	7.8	7.5	7.8	7.9	7.6
Specific Cond, field	µmhos/cm	NA	680	570	730	860	280	360	170	550	790	680	590	490
Static Water Level	ft	NA	35.29	32.79	27.39	30.39	9.76	35.62	14.15	30.61	148.78	158.15	151.93	29.49
Temperature	degrees C	NA	10.5	10	10	10	8	9.5	8.5	10	9.5	9.5	10.5	10.5
Turbidity, field	NTU	NA	1	0.8	1.5	1.2	4.7	0.9	0.8	1.2	4.3	3.4	2.6	1.5
Water Level Elevation	ft	NA	930.3	933.24	928.57	934.02	932.68	930.25	930.79	930.83	--	--	--	927.64

GWPS = Groundwater Protection Standard

NA = Not Applicable

Two dashed lines = Not Analyzed

Downgradient Well

Table 5
Fall 2020 Groundwater Summary Data
Scrubber Solids Pond No. 3

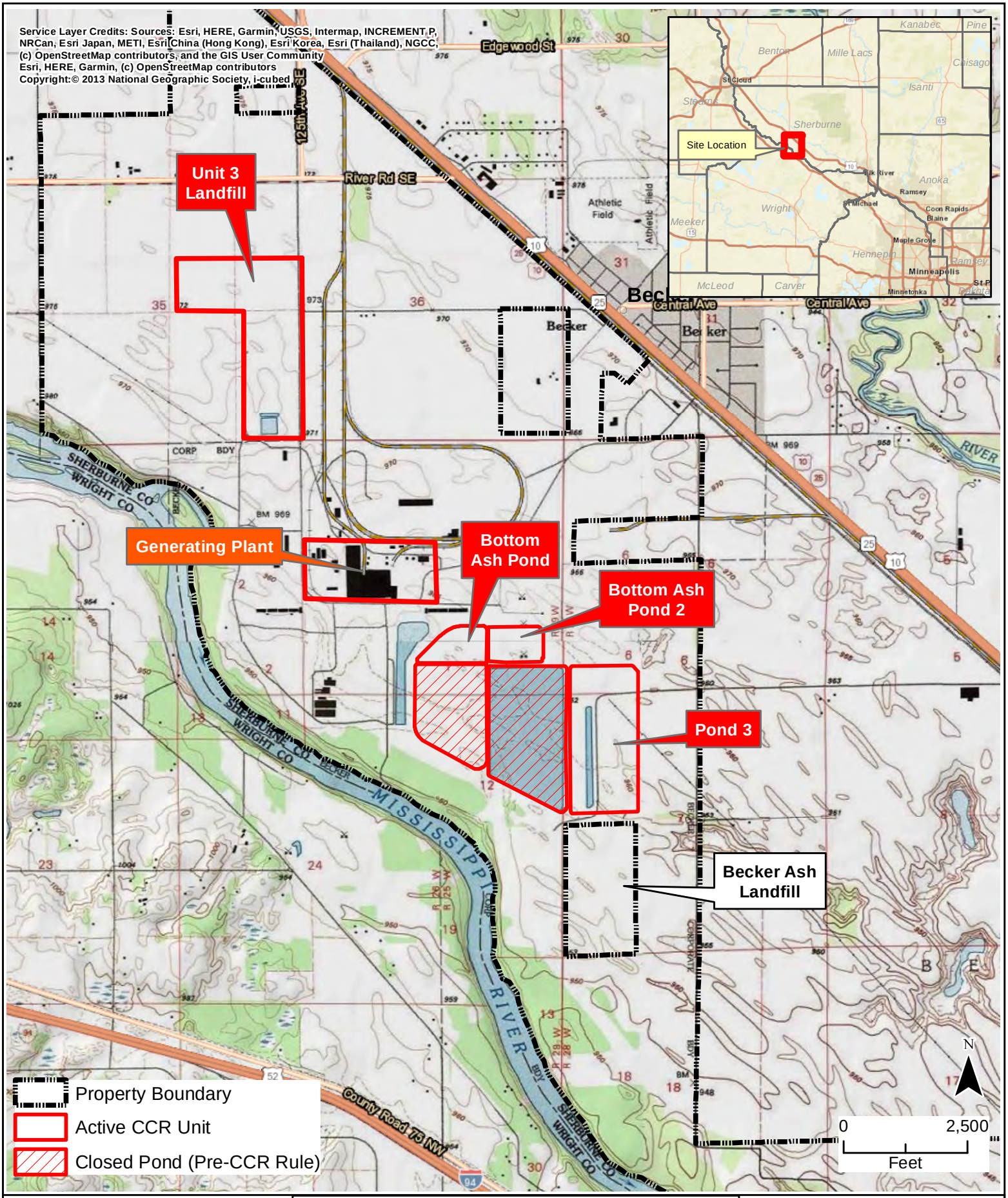
Appendix III Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 11/12/2020	P-131 11/12/2020	P-132 11/12/2020	P-150 11/12/2020	P-151 11/12/2020	P-152A 11/12/2020	P-153 11/12/2020	P-154A 11/12/2020	P-162 11/11/2020	P-163 11/11/2020	P-164 11/11/2020	P-165 11/12/2020
Boron, total	mg/L	NA	<0.0500	<0.0500	0.116	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.16	0.713	0.0515	<0.0500
Calcium, total	mg/L	NA	120	68	94.2	68.5	48	55.9	26.9	73.9	91.9	168	79.8	81.5
Chloride, total	mg/L	NA	<1.000	18.3	1.9	97.6	13.2	<1.000	<1.000	30.9	29.2	15.7	7.57	6.06
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	8.11	8.31	8.17	8.25	8.47	8.39	8.4	8.27	8.19	8.07	8.19	8.17
Sulfate, total	mg/L	NA	11.3	16.4	69.4	6.3	9.75	7.67	2.46	28.1	112	227	38.3	30.6
Total Dissolved Solids	mg/L	NA	430	276	394	336	182	234	120	302	524	758	328	328

Appendix IV Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 11/12/2020	P-131 11/12/2020	P-132 11/12/2020	P-150 11/12/2020	P-151 11/12/2020	P-152A 11/12/2020	P-153 11/12/2020	P-154A 11/12/2020	P-162 11/11/2020	P-163 11/11/2020	P-164 11/11/2020	P-165 11/12/2020
Antimony, total	mg/L	0.006	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	mg/L	0.01	<0.0005	0.0007	<0.0005	0.0006	0.0006	0.0005	0.0013	0.0013	0.0007	0.0006	<0.0005	0.0006
Barium, total	mg/L	2	0.0951	0.0731	0.0445	0.0667	0.0447	0.0376	0.0168	0.0506	0.0477	0.0785	0.0427	0.0426
Beryllium, total	mg/L	0.004	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium,total	mg/L	0.005	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	mg/L	0.1	0.0011	0.0007	0.0016	0.0008	0.0014	0.0008	0.0008	0.0008	0.0052	0.0134	0.0068	0.0094
Cobalt, total	mg/L	0.006	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006
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	0.0006	0.0007	0.0022	0.0007	0.0005	<0.0005
Selenium, total	mg/L	0.05	<0.0005	0.0006	0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0067	0.0518	0.0032	0.0009
Thallium, total	mg/L	0.002	--	--	--	--	--	--	--	--	--	--	--	--
Radium, 226 and 228 co	pCi/L	5	<1.4	<2.2	<2.1	<1.6	<1.5	<1.8	<1.5	<1.9	<1.4	<2.2	<1.6	<1.7

Field Parameters													
Parameter	Units	GWPS	Well ID and Sample Date										
			P-130 11/12/2020	P-131 11/12/2020	P-132 11/12/2020	P-150 11/12/2020	P-151 11/12/2020	P-152A 11/12/2020	P-153 11/12/2020	P-154A 11/12/2020	P-162 11/11/2020	P-163 11/11/2020	P-164 11/11/2020	P-165 11/12/2020
ORP	mV	NA	203	190	191	194	181	194	162	179	189	189	164	186
Oxygen, dissolved	mg/L	NA	7.7	8.4	8.4	7.7	8.1	9.5	9.1	5.2	5.8	7	7.8	8.8
pH, field	pH	NA	7.2	7.6	7.4	7.6	7.9	7.6	8.2	7.7	7.7	7.2	7.7	7.5
Specific Cond, field	µmhos/cm	NA	690	460	610	590	320	340	160	490	710	920	500	490
Static Water Level	ft	NA	37.73	35.4	30.07	33.09	12.35	37.93	16.75	33.44	149	158	152	32.23
Temperature	degrees C	NA	9.9	9.2	9.5	9.8	13.6	9.2	12.6	9	9.5	9.7	11.1	9.9
Turbidity, field	NTU	NA	2.6	2.3	1.7	2	4.3	1.6	1	2.2	4.1	4.3	3.7	5.4
Water Level Elevation	ft	NA	927.86	930.63	925.89	931.32	930.09	927.94	928.19	928	--	--	--	924.9

GWPS = Groundwater Protection Standard
NA = Not Applicable
Two dashed lines = Not Analyzed
Downgradient Well

Figures



CARLSON McCAIN

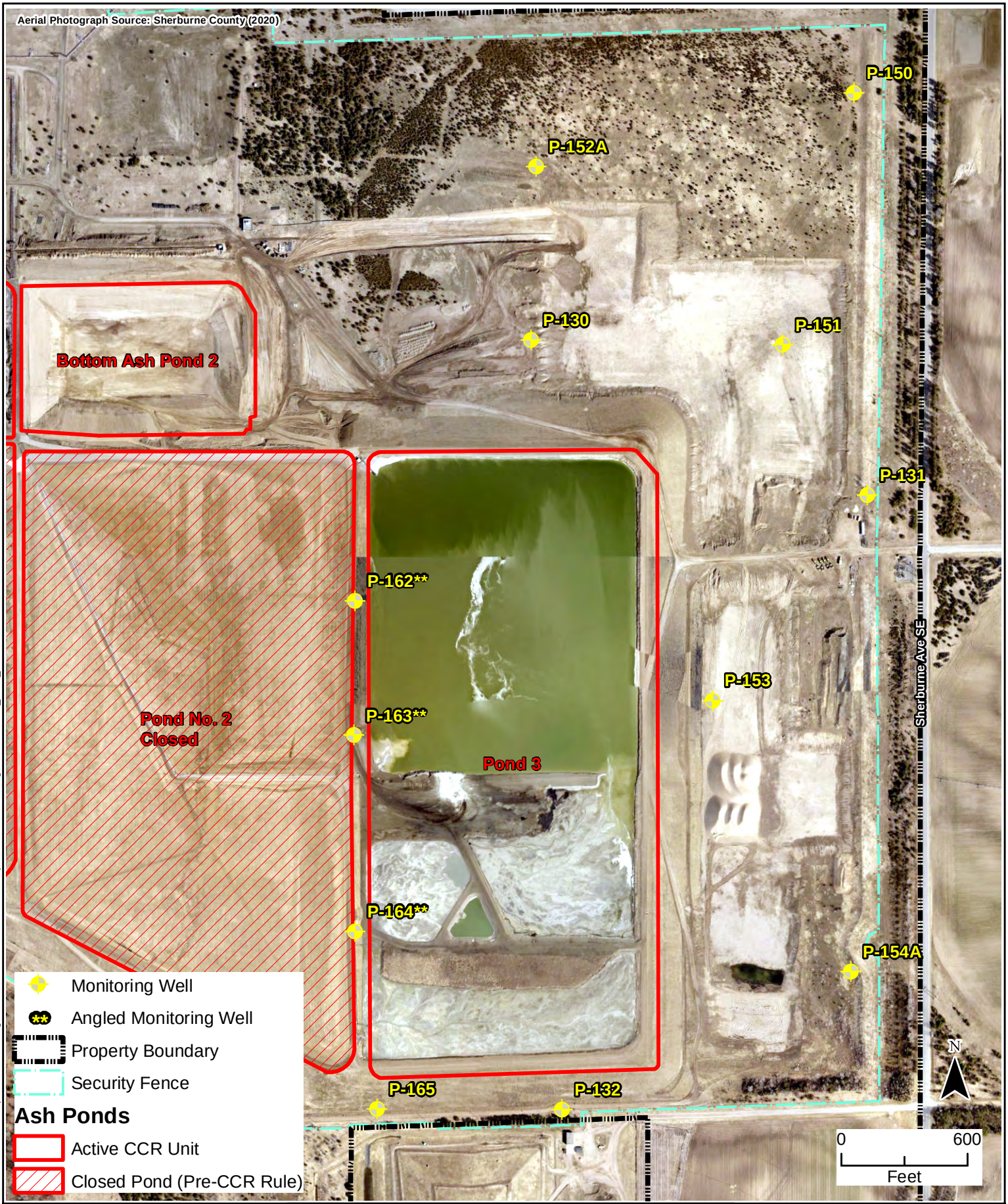
2020 CCR ANNUAL GROUNDWATER MONITORING REPORT

Scrubber Solids Pond No. 3

Sherburne County Generating Plant
Becker, Minnesota

FIGURE 1

SITE LOCATION MAP



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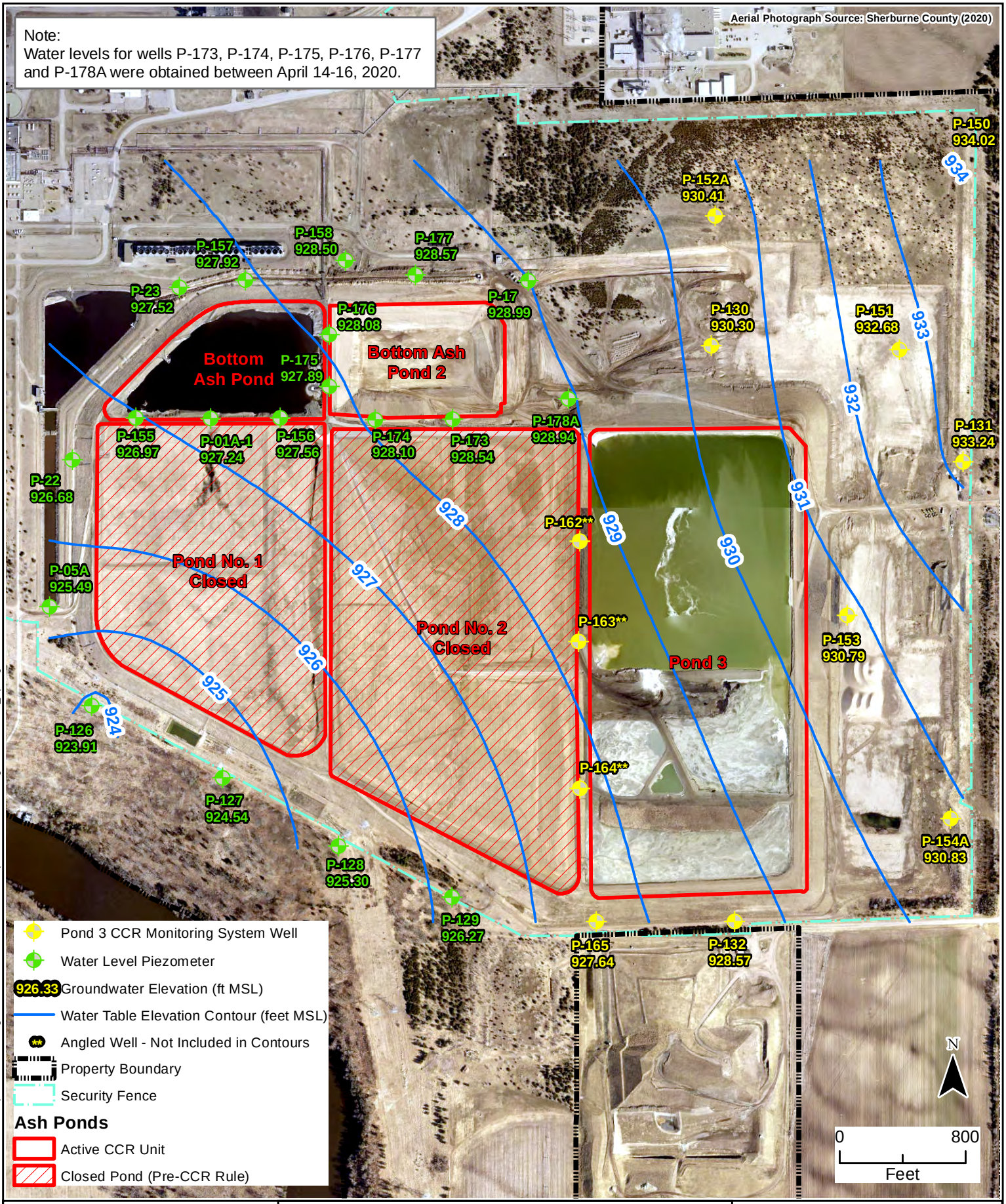
Scrubber Solids Pond No. 3
Sherburne County Generating Plant
Becker, Minnesota

FIGURE 2
CCR GROUNDWATER MONITORING SYSTEM



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Scrubber Solids Pond No. 3
Sherburne County Generating Plant
Becker, Minnesota

FIGURE 3
WATER TABLE ELEVATION CONTOUR MAP (04/20/2020)

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2020 CCR ANNUAL GROUNDWATER MONITORING REPORT
Scrubber Solids Pond No. 3
Sherburne County Generating Plant
Becker, Minnesota

FIGURE 4
WATER TABLE ELEVATION CONTOUR MAP (11/09/2020)

Appendix A

Spring 2020 Assessment Monitoring Event
Field Datasheets and Laboratory Reports

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Sampling and Purging Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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)	35.29	Feet
Static water level measurement at time of sampling (Final Depth)	35.29	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/21/20 Water Column 11.55 Feet

Time Purged 1555-1634 One Casing Volume 1.9 Gallons

Pump Rate 0.15 (GPM) LPM Volume Purged 5.85 Gallons

Field Sampling Data

Date Sampled 4/21/20

Time Sampled 1640

Sampling Equip. above pump

Meter ID MPS-7

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.1 (units) D.O 8.3 (mg/l)

Spec. Cond. 680 (µmhos/cm) Turbidity 1.0 (NTU)

Temp. 10.5 (°C) (ORP) Eh 232 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 45°+ partly cloudy, wind NW 10

Sample Description: clear + odorless

Observations:

DTA 4/21/20

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1608	7.1	680	10.5	8.4	NA	235	1.95
1621	7.1	680	10.5	8.4	NA	233	3.90
1634	7.1	680	10.5	8.3	NA	232	5.85

DTA 4/21/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: David Anderson Date: 4/21/20

Pace Analytical
Field Services Division

Well Sampling Field Data Log Sheet

Well Purging and Sampling Information

Client: Xcel Energy Project: Sherco Ponds Spring 2020 Project No.: 20-03252

Monitoring Point ID: P-131 Labeled: P131

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

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

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	48.55	Feet
Static water level measurement before purging (Start Depth)	32.79	Feet
Static water level measurement at time of sampling (Final Depth)	32.79	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: dedicated b/adder pump Pump ID: PC-6

Date Purged: 4/21/20 Water Column: 15.76 Feet

Time Purged: 1025-1119 One Casing Volume: 2.6 Gallons

Pump Rate: 0.45 (GPM)/LPM Volume Purged: 8.1 Gallons

Field Sampling Data

Date Sampled: 4/21/20

Time Sampled: 1130

Sampling Equip.: above pump

Meter ID: MPS-7

Analyzed by: DTA

Field Parameter Measurements of Sample

pH: 7.7 (units) D.O: 9.4 (mg/l)

Spec. Cond.: 570 (umhos/cm) Turbidity: 0.8 (NTU)

Temp.: 10.0 (°C) (ORP) Eh: 215 (mV)

Other: Appearance = clear

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

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

Weather Conditions During Sampling: 35°+sunny, wind NW 10

Sample Description: clear + odorless

Observations:

DTA 4/21/20

Stabilization Test

Time	pH (Units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1043	7.7	580	10.0	9.4	NA	217	2.7
1101	7.7	570	10.0	9.4	NA	216	5.4
1119	7.7	570	10.0	9.4	NA	215	8.1

DTA 4/21/20

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

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

Lead Technician Signature: David Anderson Date: 4/21/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Sampling and Purging Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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)	27.39	Feet
Static water level measurement at time of sampling (Final Depth)	27.39	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/21/20 Water Column 9.12 Feet

Time Purged 1400 - 1430 One Casing Volume 1.5 Gallons

Pump Rate 0.15 (GPM) / LPM Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 4/21/20

Time Sampled 1440

Sampling Equip. above pump

Meter ID MPS-7

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.4 (units) D.O 9.4 (mg/l)

Spec. Cond. 730 (umhos/cm) Turbidity 1.5 (NTU)

Temp. 10.0 (°C) (ORP) Eh 240 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 41°+ sunny, wind NW 10

Sample Description: clear + odorless

Observations: DTA 4/21/20

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1440	7.3	730	10.0	9.5	NA	243	1.5
1420	7.4	730	10.0	9.4	NA	242	3.0
1430	7.4	730	10.0	9.4	NA	240	4.5
				DTA 4/21/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: David Anderson Date: 4/21/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Resampling Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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)	30.39	Feet
Static water level measurement at time of sampling (Final Depth)	30.39	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/21/20 Water Column 6.27 Feet

Time Purged 0810-0837 One Casing Volume 1.0 Gallons

Pump Rate 0.12 (GPM) LPM Volume Purged 3.24 Gallons

Field Sampling Data

Date Sampled 4/21/20

Time Sampled 0845

Sampling Equip. above pump

Meter ID MAS-7

Analyzed by DTA

Field Parameter Measurements of Sample

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

Spec. Cond. 860 (umhos/cm) Turbidity 1.2 (NTU)

Temp. 10.0 (°C) (ORP) Eh 208 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 32°+ sunny, wind NW 10

Sample Description: clear + odorless

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

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0819	7.5	840	10.0	8.5	NA	204	1.08
0828	7.4	850	10.0	8.4	NA	206	2.16
0837	7.4	860	10.0	8.2	NA	208	3.24

DTA 4/21/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: David Anderson Date: 4/21/20

Pace Analytical
Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Pre-sampling Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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) 9.76 Feet

Static water level measurement at time of sampling (Final Depth) 9.76 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/21/20 Water Column 10.40 Feet

Time Purged 0915-0951 One Casing Volume 1.7 Gallons

Pump Rate 0.15 (GPM) LPM Volume Purged 5.4 Gallons

Field Sampling Data

Date Sampled 4/21/20

Time Sampled 1000

Sampling Equip. above pump

Meter ID MFS-7

Analyzed by DJA

Field Parameter Measurements of Sample

pH 7.3 (units) D.O 10.6 (mg/l)

Spec. Cond. 280 (µmhos/cm) Turbidity 4.7 (NTU)

Temp. 8.0 (°C) (ORP) Eh 211 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 34° + sunny, wind NW 10

Sample Description: clear + odorless

Observations:

DJA 4/21/20

Stabilization Test

Time	pH (Units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0927	7.8	270	7.5	10.7	NA	212	1.8
0939	7.8	280	8.0	10.6	NA	212	3.6
0951	7.8	280	8.0	10.6	NA	211	5.4

DJA 4/21/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: Dave Anderson Date: 4/21/20

Pace Analytical
Field Services Division

Well Sampling Field Data Log Sheet

Well Purging and Sampling Information

Client: Xcel Energy Project: Sherco BAP 2, Baseline #3 Project No.: 20-03223

Monitoring Point ID: P-152A Labeled: 806318

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

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

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	42.18	Feet
Static water level measurement before purging (Start Depth)	35.62	Feet
Static water level measurement at time of sampling (Final Depth)	35.62	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method: dedicated bladder pump Pump ID: PC-6

Date Purged: 4/14/20 Water Column: 6.56 Feet

Time Purged: 1010 - 1040 One Casing Volume: 1.1 Gallons

Pump Rate: 0.12 (GPM / LPM) Volume Purged: 3.6 Gallons

Field Sampling Data

Date Sampled: 4/14/20

Time Sampled: 1030

Sampling Equip.: above pump

Meter ID: MPS-5

Analyzed by: DJA

Field Parameter Measurements of Sample

pH: 7.3 (units) D.O: 9.8 (mg/l)

Spec. Cond.: 360 (umhos/cm) Turbidity: 0.9 (NTU)

Temp.: 9.5 (°C) Eh: 160 (mV)

Other: Appearance = clear

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

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

Weather Conditions During Sampling: 26° + sunny, wind NW 10

Sample Description: clear + odorless

Observations: collected Rinse Blank at this well.

DJA 4/14/20

Stabilization Test

Time	pH (units)	Specific Conductance (umhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (gallons/liters)
1020	7.3	360	9.5	8.6	NA	175	1.2
1030	7.3	360	9.5	9.6	NA	166	2.4
1040	7.3	360	9.5	9.8	NA	160	3.6

DJA 4/14/20

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

Form Revised 07/25/2019

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

Lead Technician Signature: David Anderson Date: 4/14/20

Pace Analytical
Field Services Division

Well Sampling Field Data Log Sheet

Well Purging and Sampling Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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) 14.15 Feet

Static water level measurement at time of sampling (Final Depth) 14.15 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/21/20 Water Column 9.48 Feet

Time Purged 1150-1220 One Casing Volume 1.5 Gallons

Pump Rate 0.15 (GPM) LPM Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 4/21/20

Time Sampled 1230

Sampling Equip. above pump

Meter ID MPS-7

Analyzed by DTA

Field Parameter Measurements of Sample

pH 8.2 (units) D.O 10.9 (mg/l)

Spec. Cond. 170 (µmhos/cm) Turbidity 0.3 (NTU)

Temp. 8.5 (°C) (ORP) Eh 230 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 38°+ sunny, wind aW 10

Sample Description: clear + odorless

Observations:

DTA 4/21/20

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1200	8.1	170	8.0	11.0	NA	231	1.5
1210	8.2	170	8.5	11.0	NA	230	3.0
1220	8.2	170	8.5	10.9	NA	230	4.5

DTA 4/21/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: Dave Anderson Date: 4/21/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Purging Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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 meesurement before purging (Start Depth)	30.61	Feet
Static water level measurement at time of sampling (Final Depth)	30.61	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method dedicated bladder pump Pump ID PC-6

Date Purged 4/21/20 Water Column 18.92 Feet

Time Purged 1250-1338 One Casing Volume 3.1 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged 9.6 Gallons

Field Sampling Data

Date Sampled 4/21/20

Time Sampled 1345

Sampling Equip. above pump

Meter ID MPS-7

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.8 (units) D.O 5.5 (mg/l)

Spec. Cond. 550 (µmhos/cm) Turbidity 1.2 (NTU)

Temp. 10.0 (°C) (ORP) Eh 238 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 39°+ sunny, wind NW 10-15

Sample Description: clear + odorless

Observations:

DTA 4/21/20

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp. (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1306	7.8	550	10.0	5.5	NA	240	3.2
1322	7.8	550	10.0	5.6	NA	239	6.4
1338	7.8	550	10.0	5.5	NA	238	9.6

DTA 4/21/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: David Anderson Date: 4/21/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Pre-sampling Information

Client: Xcel Energy — Project: Sherco Ponds Spring 2020 — Project No.: 20-03252

Monitoring Point ID: P-162 — Labeled: 822156

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

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

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Total Well Depth	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 keck pump — Pump ID: NA

Date Purged: 4/22/20 — Water Column: 17.22 Feet

Time Purged: 0740-0758 — One Casing Volume: 2.8 Gallons

Pump Rate: 0.5 (GPM)/LPM — Volume Purged: 9.0 Gallons

Field Sampling Data

Date Sampled: 4/22/20

Time Sampled: 0810

Sampling Equip.: above pump

Meter ID: MPS-7

Analyzed by: DTA

Field Parameter Measurements of Sample

pH: 7.5 (units) — D.O: 4.3 (mg/l)

Spec. Cond.: 790 (µmhos/cm) — Turbidity: 4.3 (NTU)

Temp.: 9.5 (°C) — (ORP) Eh: 234 (mV)

Other: Appearance = clear

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

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

Weather Conditions During Sampling: 38° + sunny, wind E 10

Sample Description: clear + odorless

Observations:

DTA 4/22/20

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0746	7.5	830	9.5	4.5	NA	240	3.0
0752	7.5	800	9.5	4.3	NA	236	6.0
0758	7.5	790	9.5	4.3	NA	234	9.0

DTA 4/22/20

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

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

Lead Technician Signature: David Anderson — Date: 4/22/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Construction and Pre-sampling Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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	4/22/20	
Water Column	17.85	Feet
Time Purged	0835-0853	
One Casing Volume	2.9	Gallons
Pump Rate	0.5 (GPM) LPM	
Volume Purged	9.0	Gallons

Field Sampling Data

Date Sampled 4/22/20

Time Sampled 0905

Sampling Equip. above pump

Meter ID MPS-7

Analyzed by RTA

Field Parameter Measurements of Sample

pH 7.8 (units) D.O 6.8 (mg/l)

Spec. Cond. 680 (µmhos/cm) Turbidity 3.4 (NTU)

Temp. 9.5 (°C) (ORP) Eh 222 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 40° + sunny, wind ELS

Sample Description: clear + odorless

Observations: ~~RTA 4/22/20~~

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0841	7.9	700	9.5	6.0	NA	227	3.0
0847	7.8	690	9.5	6.5	NA	224	6.0
0853	7.8	680	9.5	6.8	NA	222	9.0
			~~RTA~~ 4/22/20				

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: David Anderson Date: 4/22/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Sampling Information

Client Xcel Energy Project Sherco Ponds Spring 2020 Project No. 20-03252

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 Keck pump Pump ID NA

Date Purged 4/22/20 Water Column 14.07 Feet

Time Purged 0930 - 0945 One Casing Volume 2.3 Gallons

Pump Rate 0.5 (GPM) LPM Volume Purged 7.5 Gallons

Field Sampling Data

Date Sampled 4/22/20

Time Sampled 0955

Sampling Equip. above pump

Meter ID MAS-7

Analyzed by DTA

Field Parameter Measurements of Sample

pH 7.9 (units) D.O 7.0 (mg/l)

Spec. Cond. 590 (µmhos/cm) Turbidity 2.6 (NTU)

Temp. 10.5 (°C) (ORP) Eh 223 (mV)

Other Appearance = clear

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

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

Weather Conditions During Sampling: 42° + sunny, wind E 15

Sample Description: clear + odorless

Observations:

DTA 4/22/20

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	ER (mV)	Volume Purged (cumulative gal)
0935	7.9	620	10.5	6.4	NA	231	2.5
0940	7.9	600	10.5	6.7	NA	226	5.0
0945	7.9	590	10.5	7.0	NA	223	7.5

DTA 4/22/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: David Anderson Date: 4/22/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Sampling Information

Client: Xcel Energy Project: Sherco Ponds Spring 2020 Project No.: 20-032352

Monitoring Point ID: P-165 Labeled: ft 822/59

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)	29.49	Feet
Static water level measurement at time of sampling (Final Depth)	29.49	Feet
Static Water Level Elevation Before Purging	NA	Feet
Purge Method	dedicated bladder pump	
Pump ID	PC-6	
Date Purged	4/21/20	
Water Column	10.83	Feet
Time Purged	1455 - 1531	
One Casing Volume	1.8	Gallons
Pump Rate	0.15 (GPM) / LPM	
Volume Purged	5.4	Gallons

Field Sampling Data

Date Sampled: 4/21/20
Time Sampled: 1535
Sampling Equip.: above pump
Meter ID: MFS-7
Analyzed by: DTA

Field Parameter Measurements of Sample

pH: 7.6 (units) D.O: 9.5 (mg/l)
Spec. Cond.: 490 (µmhos/cm) Turbidity: 1.5 (NTU)
Temp.: 10.5 (°C) (ORP) Eh: 230 (mV)
Other: Appearance = clear

Field Measurements Temp. Corrected: ☒ Yes ☐ No ☐ NA
Sample for Soluble Metals Filtered in Field: ☐ Yes ☐ No ☐ NA
Weather Conditions During Sampling: 44° & sunny, wind NW 10
Sample Description: clear & odorless
Observations:

DTA 4/21/20

Stabilization Test

Time	pH (units)	Specific Conductance (µmhos/cm)	Temp (°C)	D.O (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1507	7.6	500	10.5	9.8	NA	234	1.8
1519	7.6	500	10.5	9.7	NA	232	3.6
1531	7.6	490	10.5	9.5	NA	230	5.4

DTA 4/21/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

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

Lead Technician Signature: Dave Anderson Date: 4/21/20

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

19 May 2020

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

cc:

RE: Sherco Pond 3 CCR

Enclosed are the results of analyses for samples received by the laboratory on 04/16/2020 12:00-04/22/2020 11:45. 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

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-152A		MFD0224-02	Water	04/14/2020 10:50	04/16/2020 12:00
Rinse CCR-P3		MFD0316-20	Water	04/21/2020 7:55	04/22/2020 11:45
P-150		MFD0316-21	Water	04/21/2020 8:45	04/22/2020 11:45
Duplicate CCR-P3		MFD0316-22	Water	04/21/2020 8:45	04/22/2020 11:45
P-151		MFD0316-23	Water	04/21/2020 10:00	04/22/2020 11:45
P-131		MFD0316-24	Water	04/21/2020 11:30	04/22/2020 11:45
P-153		MFD0316-25	Water	04/21/2020 12:30	04/22/2020 11:45
P-154a		MFD0316-26	Water	04/21/2020 13:45	04/22/2020 11:45
P-132		MFD0316-27	Water	04/21/2020 14:40	04/22/2020 11:45
P-165		MFD0316-28	Water	04/21/2020 15:35	04/22/2020 11:45
P-130		MFD0316-29	Water	04/21/2020 16:40	04/22/2020 11:45
P-162		MFD0316-30	Water	04/22/2020 8:10	04/22/2020 11:45
P-163		MFD0316-31	Water	04/22/2020 9:05	04/22/2020 11:45
P-164		MFD0316-32	Water	04/22/2020 9:55	04/22/2020 11:45

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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	05/19/2020 08:21

P-152A

MFD0224-02 (Water) - Chain of Custody Number: 2277983

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	BFD0343	4/16/20 12:31	4/16/20 16:10	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0343	4/16/20 12:31	4/16/20 16:10	EPA 300.0	CRL
Sulfate	7.52	1.00	mg/L		1	BFD0343	4/16/20 12:31	4/16/20 16:10	EPA 300.0	CRL
Wet Chemistry										
pH	7.80		pH Units	M_TTT	1	BFD0346	4/16/20 12:19	4/16/20 12:48	SM 4500-H+ B	CRL
Total Dissolved Solids	208	20.0	mg/L		1	BFD0355	4/17/20 8:39	4/17/20 8:39	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0354	4/17/20 7:13	4/17/20 7:13	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.539	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Barium	37.0	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Cadmium	< 0.100	0.100	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Chromium	0.721	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0387	4/20/20 7:01	4/27/20 10:01	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0616	0.0500	mg/L		1	BFD0386	4/20/20 6:59	4/26/20 12:50	EPA 200.7	HRD
Calcium	54.2	1.25	mg/L		1	BFD0386	4/20/20 6:59	4/26/20 12:49	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0386	4/20/20 6:59	4/26/20 12:49	EPA 200.7	HRD

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Christine Keefe, Supervisor (612) 630-4506

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

P-152A

MFD0224-02 (Water) - Chain of Custody Number: 2277983

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0478	4/21/20 17:17	4/22/20 13:47	EPA 245.1/7470A	HRD

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Rinse CCR-P3

MFD0316-20 (Water) - Chain of Custody Number: 2277984/2277987/2277988

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	BFD0569	4/27/20 9:27	4/27/20 12:53	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 12:53	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 12:53	EPA 300.0	CRL
Wet Chemistry										
pH	6.21		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:23	SM 4500-H+ B	CRL
Total Dissolved Solids	< 20.0	20.0	mg/L		1	BFD0530	4/24/20 8:56	4/24/20 8:56	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0529	4/24/20 6:55	4/24/20 6:55	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 9:57	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:49	EPA 200.7	HRD
Calcium	< 1.25	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:47	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:47	EPA 200.7	HRD

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Christine Keefe, Supervisor (612) 630-4506

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Rinse CCR-P3

MFD0316-20 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:07	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-21 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	179	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:14	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:14	EPA 300.0	CRL
Sulfate	7.34	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:14	EPA 300.0	CRL
Wet Chemistry										
pH	7.92		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:26	SM 4500-H+ B	CRL
Total Dissolved Solids	482	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Barium	88.8	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Chromium	0.698	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:01	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:54	EPA 200.7	HRD
Calcium	85.7	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:52	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:52	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-21 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:08	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Duplicate CCR-P3

MFD0316-22 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	177	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:34	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:34	EPA 300.0	CRL
Sulfate	7.34	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:34	EPA 300.0	CRL
Wet Chemistry										
pH	7.92		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:26	SM 4500-H+ B	CRL
Total Dissolved Solids	482	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Barium	91.9	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Chromium	1.50	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:05	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:59	EPA 200.7	HRD
Calcium	87.7	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:58	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 14:58	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Duplicate CCR-P3

MFD0316-22 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:10	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-23 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	8.97	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:54	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:54	EPA 300.0	CRL
Sulfate	8.89	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 13:54	EPA 300.0	CRL
Wet Chemistry										
pH	8.17		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:27	SM 4500-H+ B	CRL
Total Dissolved Solids	168	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	6.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Barium	28.5	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Chromium	0.725	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:09	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:04	EPA 200.7	HRD
Calcium	40.3	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:03	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:03	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-23 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:12	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-24 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	24.4	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:15	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:15	EPA 300.0	CRL
Sulfate	32.3	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:15	EPA 300.0	CRL
Wet Chemistry										
pH	8.02		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:28	SM 4500-H+ B	CRL
Total Dissolved Solids	334	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.621	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Barium	80.7	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Chromium	0.817	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:13	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:09	EPA 200.7	HRD
Calcium	77.7	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:08	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:08	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-24 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:17	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-25 (Water) - Chain of Custody Number: 2277984/2277987/2277988

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	BFD0569	4/27/20 9:27	4/27/20 14:35	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:35	EPA 300.0	CRL
Sulfate	2.74	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:35	EPA 300.0	CRL
Wet Chemistry										
pH	8.27		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:29	SM 4500-H+ B	CRL
Total Dissolved Solids	96.0	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.974	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Barium	13.7	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Chromium	0.659	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Molybdenum	0.591	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:16	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:14	EPA 200.7	HRD
Calcium	24.6	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:13	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:13	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-25 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:19	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-26 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	22.3	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:56	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:56	EPA 300.0	CRL
Sulfate	41.4	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 14:56	EPA 300.0	CRL
Wet Chemistry										
pH	8.07		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:30	SM 4500-H+ B	CRL
Total Dissolved Solids	300	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.13	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Barium	51.9	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Chromium	0.641	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Molybdenum	0.696	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:20	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:20	EPA 200.7	HRD
Calcium	75.4	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:18	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:18	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

P-154a

MFD0316-26 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:20	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-27 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	2.29	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:16	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:16	EPA 300.0	CRL
Sulfate	87.5	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:16	EPA 300.0	CRL
Wet Chemistry										
pH	7.83		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:31	SM 4500-H+ B	CRL
Total Dissolved Solids	470	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Barium	46.3	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Chromium	1.56	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Selenium	1.87	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:24	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0724	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:25	EPA 200.7	HRD
Calcium	101	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:23	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:23	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-27 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:22	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-28 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	4.85	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:37	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:37	EPA 300.0	CRL
Sulfate	29.3	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:37	EPA 300.0	CRL
Wet Chemistry										
pH	8.02		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:32	SM 4500-H+ B	CRL
Total Dissolved Solids	292	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Barium	34.4	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Chromium	1.30	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Selenium	0.946	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:28	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:30	EPA 200.7	HRD
Calcium	73.7	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:28	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:28	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-28 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:24	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-29 (Water) - Chain of Custody Number: 2277984/2277987/2277988

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	BFD0569	4/27/20 9:27	4/27/20 15:57	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:57	EPA 300.0	CRL
Sulfate	8.84	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 15:57	EPA 300.0	CRL
Wet Chemistry										
pH	7.64		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:33	SM 4500-H+ B	CRL
Total Dissolved Solids	404	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Barium	82.3	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Chromium	0.765	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:40	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:46	EPA 200.7	HRD
Calcium	104	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:44	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:44	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-29 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:26	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-30 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	29.0	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 17:59	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 17:59	EPA 300.0	CRL
Sulfate	115	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 17:59	EPA 300.0	CRL
Wet Chemistry										
pH	8.01		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/25/20 8:34	SM 4500-H+ B	CRL
Total Dissolved Solids	518	20.0	mg/L		1	BFD0551	4/25/20 9:00	4/25/20 9:00	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0550	4/25/20 7:18	4/25/20 7:18	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.550	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Barium	49.2	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Chromium	1.53	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Molybdenum	1.92	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Selenium	7.34	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:44	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.137	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:51	EPA 200.7	HRD
Calcium	85.5	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:49	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:49	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-30 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:27	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-31 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	30.1	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 18:20	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 18:20	EPA 300.0	CRL
Sulfate	85.2	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 18:20	EPA 300.0	CRL
Wet Chemistry										
pH	8.28		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/27/20 7:16	SM 4500-H+ B	CRL
Total Dissolved Solids	404	20.0	mg/L		1	BFD0554	4/27/20 8:52	4/27/20 8:52	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0553	4/27/20 7:00	4/27/20 7:00	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Barium	43.2	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Chromium	19.5	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Molybdenum	1.08	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Selenium	8.19	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:48	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0912	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:56	EPA 200.7	HRD
Calcium	84.1	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:55	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 15:55	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-31 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0520	4/23/20 9:26	4/28/20 15:29	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-32 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	8.97	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 18:40	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 18:40	EPA 300.0	CRL
Sulfate	29.3	1.00	mg/L		1	BFD0569	4/27/20 9:27	4/27/20 18:40	EPA 300.0	CRL
Wet Chemistry										
pH	8.19		pH Units	M_TTT	1	BFD0513	4/23/20 7:49	4/27/20 7:19	SM 4500-H+ B	CRL
Total Dissolved Solids	298	20.0	mg/L		1	BFD0554	4/27/20 8:52	4/27/20 8:52	SM 2540C	HSD
Total Suspended Solids	< 4.00	4.00	mg/L		1	BFD0553	4/27/20 7:00	4/27/20 7:00	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Barium	41.7	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Beryllium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Cadmium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Cobalt	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Chromium	5.93	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Molybdenum	0.729	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Lead	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Antimony	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Selenium	0.965	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Thallium	< 0.500	0.500	ug/L		1	BFD0516	4/23/20 8:17	4/28/20 10:52	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 16:01	EPA 200.7	HRD
Calcium	74.5	1.25	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 16:00	EPA 200.7	HRD
Lithium	< 0.0150	0.0150	mg/L		1	BFD0515	4/23/20 8:15	4/28/20 16:00	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

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MFD0316-32 (Water) - Chain of Custody Number: 2277984/2277987/2277988

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Mercury										
Mercury	< 0.200	0.200	ug/L		1	BFD0607	4/28/20 10:04	4/28/20 15:49	EPA 245.1/7470A	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0343 - Wet Prep										
Blank (BFD0343-BLK1)				Prepared & Analyzed: 04/16/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BFD0343-BLK2)				Prepared & Analyzed: 04/16/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BFD0343-BS1)				Prepared & Analyzed: 04/16/2020						
Chloride	26.063	1.00	mg/L	24.938		105	90-110			
Fluoride	2.4830	0.750	mg/L	2.4938		99.6	90-110			
Sulfate	50.259	1.00	mg/L	49.876		101	90-110			
LCS (BFD0343-BS2)				Prepared & Analyzed: 04/16/2020						
Chloride	26.165	1.00	mg/L	24.938		105	90-110			
Fluoride	2.4730	0.750	mg/L	2.4938		99.2	90-110			
Sulfate	50.302	1.00	mg/L	49.876		101	90-110			
LCS (BFD0343-BS3)				Prepared & Analyzed: 04/16/2020						
Chloride	25.893	1.00	mg/L	24.938		104	90-110			
Fluoride	2.4450	0.750	mg/L	2.4938		98.0	90-110			
Sulfate	49.816	1.00	mg/L	49.876		99.9	90-110			
Duplicate (BFD0343-DUP1)		**Source: MFD0224-02**		Prepared & Analyzed: 04/16/2020						
Chloride	0.69700	1.00	mg/L		0.69500			0.287	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	7.5900	1.00	mg/L		7.5160			0.980	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0343 - Wet Prep										
Duplicate (BFD0343-DUP2)		**Source: MFD0224-09**		Prepared & Analyzed: 04/16/2020						
Chloride	0.76900	1.00	mg/L		0.79800			3.70	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	8.7990	1.00	mg/L		8.7980			0.0114	20	
Matrix Spike (BFD0343-MS1)		**Source: MFD0224-02**		Prepared & Analyzed: 04/16/2020						
Chloride	31.958	1.25	mg/L	31.173	0.69500	100	90-110			
Fluoride	3.0850	0.938	mg/L	3.1173	<0.938	99.0	90-110			
Sulfate	68.884	1.25	mg/L	62.345	7.5160	98.4	90-110			
Matrix Spike (BFD0343-MS2)		**Source: MFD0224-09**		Prepared & Analyzed: 04/16/2020						
Chloride	32.955	1.25	mg/L	31.173	0.79800	103	90-110			
Fluoride	3.2063	0.938	mg/L	3.1173	<0.938	103	90-110			
Sulfate	71.668	1.25	mg/L	62.345	8.7980	101	90-110			
Matrix Spike Dup (BFD0343-MSD1)		**Source: MFD0224-02**		Prepared & Analyzed: 04/16/2020						
Chloride	32.636	1.25	mg/L	31.173	0.69500	102	90-110	2.10	20	
Fluoride	3.1163	0.938	mg/L	3.1173	<0.938	100	90-110	1.01	20	
Sulfate	69.820	1.25	mg/L	62.345	7.5160	99.9	90-110	1.35	20	
Matrix Spike Dup (BFD0343-MSD2)		**Source: MFD0224-09**		Prepared & Analyzed: 04/16/2020						
Chloride	32.718	1.25	mg/L	31.173	0.79800	102	90-110	0.723	20	
Fluoride	3.1450	0.938	mg/L	3.1173	<0.938	101	90-110	1.93	20	
Sulfate	71.025	1.25	mg/L	62.345	8.7980	99.8	90-110	0.901	20	
Batch BFD0514 - Wet Prep										
Blank (BFD0514-BLK1)				Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0514 - Wet Prep										
Blank (BFD0514-BLK2)				Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BFD0514-BS1)				Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	25.512	1.00	mg/L	24.938		102	90-110			
Fluoride	2.6110	0.750	mg/L	2.4938		105	90-110			
Sulfate	49.314	1.00	mg/L	49.876		98.9	90-110			
LCS (BFD0514-BS2)				Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	25.842	1.00	mg/L	24.938		104	90-110			
Fluoride	2.6330	0.750	mg/L	2.4938		106	90-110			
Sulfate	49.872	1.00	mg/L	49.876		100	90-110			
LCS (BFD0514-BS3)				Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	25.689	1.00	mg/L	24.938		103	90-110			
Fluoride	2.6240	0.750	mg/L	2.4938		105	90-110			
Sulfate	49.586	1.00	mg/L	49.876		99.4	90-110			
Duplicate (BFD0514-DUP1)		**Source: MFD0316-01**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	1.3790	1.00	mg/L		1.4010			1.58	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	3.1940	1.00	mg/L		3.1870			0.219	20	
Duplicate (BFD0514-DUP2)		**Source: MFD0316-03**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	0.83200	1.00	mg/L		0.82700			0.603	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	2.4930	1.00	mg/L		2.4970			0.160	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0514 - Wet Prep										
Matrix Spike (BFD0514-MS1)		**Source: MFD0316-01**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	32.335	1.25	mg/L	31.173	1.4010	99.2	90-110			
Fluoride	3.1738	0.938	mg/L	3.1173	<0.938	102	90-110			
Sulfate	63.389	1.25	mg/L	62.345	3.1870	96.6	90-110			
Matrix Spike (BFD0514-MS2)		**Source: MFD0316-03**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	32.013	1.25	mg/L	31.173	0.82700	100	90-110			
Fluoride	3.2113	0.938	mg/L	3.1173	<0.938	103	90-110			
Sulfate	63.141	1.25	mg/L	62.345	2.4970	97.3	90-110			
Matrix Spike Dup (BFD0514-MSD1)		**Source: MFD0316-01**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	32.656	1.25	mg/L	31.173	1.4010	100	90-110	0.989	20	
Fluoride	3.2838	0.938	mg/L	3.1173	<0.938	105	90-110	3.41	20	
Sulfate	64.093	1.25	mg/L	62.345	3.1870	97.7	90-110	1.10	20	
Matrix Spike Dup (BFD0514-MSD2)		**Source: MFD0316-03**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
Chloride	32.309	1.25	mg/L	31.173	0.82700	101	90-110	0.921	20	
Fluoride	3.3288	0.938	mg/L	3.1173	<0.938	107	90-110	3.59	20	
Sulfate	63.926	1.25	mg/L	62.345	2.4970	98.5	90-110	1.24	20	
Batch BFD0569 - Wet Prep										
Blank (BFD0569-BLK1)				Prepared & Analyzed: 04/27/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BFD0569-BLK2)				Prepared & Analyzed: 04/27/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0569 - Wet Prep										
LCS (BFD0569-BS1)				Prepared & Analyzed: 04/27/2020						
Chloride	25.699	1.00	mg/L	24.938		103	90-110			
Fluoride	2.5980	0.750	mg/L	2.4938		104	90-110			
Sulfate	51.917	1.00	mg/L	49.876		104	90-110			
LCS (BFD0569-BS2)				Prepared & Analyzed: 04/27/2020						
Chloride	25.075	1.00	mg/L	24.938		101	90-110			
Fluoride	2.4370	0.750	mg/L	2.4938		97.7	90-110			
Sulfate	48.114	1.00	mg/L	49.876		96.5	90-110			
LCS (BFD0569-BS3)				Prepared & Analyzed: 04/27/2020						
Chloride	25.008	1.00	mg/L	24.938		100	90-110			
Fluoride	2.4130	0.750	mg/L	2.4938		96.8	90-110			
Sulfate	47.972	1.00	mg/L	49.876		96.2	90-110			
Duplicate (BFD0569-DUP1)		**Source: MFD0316-33**		Prepared & Analyzed: 04/27/2020						
Chloride	9.2360	1.00	mg/L		9.5340			3.18	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	78.180	1.00	mg/L		69.566			11.7	20	
Duplicate (BFD0569-DUP2)		**Source: MFD0316-34**		Prepared & Analyzed: 04/27/2020						
Chloride	9.4290	1.00	mg/L		9.6620			2.44	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	70.955	1.00	mg/L		69.609			1.92	20	
Matrix Spike (BFD0569-MS1)		**Source: MFD0316-33**		Prepared & Analyzed: 04/27/2020						
Chloride	40.595	1.25	mg/L	31.173	9.5340	99.6	90-110			
Fluoride	3.3163	0.938	mg/L	3.1173	<0.938	106	90-110			
Sulfate	129.76	1.25	mg/L	62.345	69.566	96.5	90-110			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0569 - Wet Prep										
Matrix Spike (BFD0569-MS2)		**Source: MFD0316-34**		Prepared & Analyzed: 04/27/2020						
Chloride	41.019	1.25	mg/L	31.173	9.6620	101	90-110			
Fluoride	3.3600	0.938	mg/L	3.1173	<0.938	108	90-110			
Sulfate	130.49	1.25	mg/L	62.345	69.609	97.7	90-110			
Matrix Spike Dup (BFD0569-MSD1)		**Source: MFD0316-33**		Prepared & Analyzed: 04/27/2020						
Chloride	41.183	1.25	mg/L	31.173	9.5340	102	90-110	1.44	20	
Fluoride	3.2038	0.938	mg/L	3.1173	<0.938	103	90-110	3.45	20	
Sulfate	130.41	1.25	mg/L	62.345	69.566	97.6	90-110	0.498	20	
Matrix Spike Dup (BFD0569-MSD2)		**Source: MFD0316-34**		Prepared & Analyzed: 04/27/2020						
Chloride	41.118	1.25	mg/L	31.173	9.6620	101	90-110	0.240	20	
Fluoride	3.1963	0.938	mg/L	3.1173	<0.938	103	90-110	5.00	20	
Sulfate	129.86	1.25	mg/L	62.345	69.609	96.6	90-110	0.486	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0346 - Wet Prep										
LCS (BFD0346-BS1)				Prepared & Analyzed: 04/16/2020						
pH	7.0200		pH Units	7.0000		100	90-110			
LCS (BFD0346-BS2)				Prepared & Analyzed: 04/16/2020						
pH	7.0700		pH Units	7.0000		101	90-110			
Duplicate (BFD0346-DUP1)		**Source: MFD0224-02**		Prepared & Analyzed: 04/16/2020						
pH	7.7800		pH Units		7.8000			0.257	20	
Duplicate (BFD0346-DUP2)		**Source: MFD0224-11**		Prepared & Analyzed: 04/16/2020						
pH	7.7700		pH Units		7.7800			0.129	20	
Batch BFD0354 - Wet Prep										
Blank (BFD0354-BLK1)				Prepared & Analyzed: 04/17/2020						
Total Suspended Solids	<4.00	4.00	mg/L							
LCS (BFD0354-BS1)				Prepared & Analyzed: 04/17/2020						
Total Suspended Solids	91.000	4.00	mg/L	100.00		91.0	70-130			
Duplicate (BFD0354-DUP1)		**Source: MFD0224-02**		Prepared & Analyzed: 04/17/2020						
Total Suspended Solids	<4.00	4.00	mg/L		<4.00				20	
Duplicate (BFD0354-DUP2)		**Source: MFD0224-03**		Prepared & Analyzed: 04/17/2020						
Total Suspended Solids	<4.00	4.00	mg/L		<4.00				20	
Batch BFD0355 - Wet Prep										
Blank (BFD0355-BLK1)				Prepared & Analyzed: 04/17/2020						
Total Dissolved Solids	<20.0	20.0	mg/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0355 - Wet Prep										
LCS (BFD0355-BS1)				Prepared & Analyzed: 04/17/2020						
Total Dissolved Solids	38.000	20.0	mg/L	51.000		74.5	70-130			
Duplicate (BFD0355-DUP1)		**Source: MFD0224-02**		Prepared & Analyzed: 04/17/2020						
Total Dissolved Solids	200.00	20.0	mg/L		208.00			3.92	20	
Duplicate (BFD0355-DUP2)		**Source: MFD0224-03**		Prepared & Analyzed: 04/17/2020						
Total Dissolved Solids	256.00	20.0	mg/L		260.00			1.55	20	
Batch BFD0510 - Wet Prep										
Blank (BFD0510-BLK1)				Prepared & Analyzed: 04/23/2020						
Total Suspended Solids	<4.00	4.00	mg/L							
LCS (BFD0510-BS1)				Prepared & Analyzed: 04/23/2020						
Total Suspended Solids	89.000	4.00	mg/L	100.00		89.0	70-130			
Duplicate (BFD0510-DUP1)		**Source: MFD0316-01**		Prepared & Analyzed: 04/23/2020						
Total Suspended Solids	78.400	4.00	mg/L		67.200			15.4	20	
Batch BFD0511 - Wet Prep										
Blank (BFD0511-BLK1)				Prepared & Analyzed: 04/23/2020						
Total Dissolved Solids	<20.0	20.0	mg/L							
LCS (BFD0511-BS1)				Prepared & Analyzed: 04/23/2020						
Total Dissolved Solids	46.000	20.0	mg/L	51.000		90.2	70-130			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0511 - Wet Prep										
Duplicate (BFD0511-DUP1)		**Source: MFD0316-01**		Prepared & Analyzed: 04/23/2020						
Total Dissolved Solids	236.00	20.0	mg/L		208.00			12.6	20	
Batch BFD0513 - Wet Prep										
LCS (BFD0513-BS1)				Prepared: 04/23/2020 Analyzed: 04/25/2020						
pH	7.1660		pH Units	7.0000		102	90-110			
LCS (BFD0513-BS2)				Prepared: 04/23/2020 Analyzed: 04/27/2020						
pH	7.1500		pH Units	7.0000		102	90-110			
Duplicate (BFD0513-DUP1)		**Source: MFD0316-01**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
pH	7.9990		pH Units		8.0000			0.0125	20	
Duplicate (BFD0513-DUP2)		**Source: MFD0316-11**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
pH	8.0200		pH Units		8.0430			0.286	20	
Duplicate (BFD0513-DUP3)		**Source: MFD0316-21**		Prepared: 04/23/2020 Analyzed: 04/25/2020						
pH	7.9040		pH Units		7.9200			0.202	20	
Duplicate (BFD0513-DUP4)		**Source: MFD0316-31**		Prepared: 04/23/2020 Analyzed: 04/27/2020						
pH	8.1000		pH Units		8.2800			2.20	20	
Batch BFD0529 - Wet Prep										
Blank (BFD0529-BLK1)				Prepared & Analyzed: 04/24/2020						
Total Suspended Solids	<4.00	4.00	mg/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0529 - Wet Prep										
LCS (BFD0529-BS1)				Prepared & Analyzed: 04/24/2020						
Total Suspended Solids	91.000	4.00	mg/L	100.00		91.0	70-130			
Duplicate (BFD0529-DUP1)		**Source: MFD0316-11**		Prepared & Analyzed: 04/24/2020						
Total Suspended Solids	891.67	16.7	mg/L		793.33			11.7	20	
Batch BFD0530 - Wet Prep										
Blank (BFD0530-BLK1)				Prepared & Analyzed: 04/24/2020						
Total Dissolved Solids	<20.0	20.0	mg/L							
LCS (BFD0530-BS1)				Prepared & Analyzed: 04/24/2020						
Total Dissolved Solids	40.000	20.0	mg/L	51.000		78.4	70-130			
Duplicate (BFD0530-DUP1)		**Source: MFD0316-11**		Prepared & Analyzed: 04/24/2020						
Total Dissolved Solids	218.00	20.0	mg/L		222.00			1.82	20	
Batch BFD0550 - Wet Prep										
Blank (BFD0550-BLK1)				Prepared & Analyzed: 04/25/2020						
Total Suspended Solids	<4.00	4.00	mg/L							
LCS (BFD0550-BS1)				Prepared & Analyzed: 04/25/2020						
Total Suspended Solids	84.000	4.00	mg/L	100.40		83.7	70-130			
Duplicate (BFD0550-DUP1)		**Source: MFD0316-21**		Prepared & Analyzed: 04/25/2020						
Total Suspended Solids	<4.00	4.00	mg/L		<4.00				20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0551 - Wet Prep										
Blank (BFD0551-BLK1)				Prepared & Analyzed: 04/25/2020						
Total Dissolved Solids	<20.0	20.0	mg/L							
LCS (BFD0551-BS1)				Prepared & Analyzed: 04/25/2020						
Total Dissolved Solids	52.000	20.0	mg/L	51.200		102	70-130			
Duplicate (BFD0551-DUP1)		**Source: MFD0316-21**		Prepared & Analyzed: 04/25/2020						
Total Dissolved Solids	488.00	20.0	mg/L		482.00			1.24	20	
Batch BFD0553 - Wet Prep										
Blank (BFD0553-BLK1)				Prepared & Analyzed: 04/27/2020						
Total Suspended Solids	<4.00	4.00	mg/L							
LCS (BFD0553-BS1)				Prepared & Analyzed: 04/27/2020						
Total Suspended Solids	83.000	4.00	mg/L	100.40		82.7	70-130			
Duplicate (BFD0553-DUP1)		**Source: MFD0316-31**		Prepared & Analyzed: 04/27/2020						
Total Suspended Solids	0.80000	4.00	mg/L		0.80000			0.00	20	
Batch BFD0554 - Wet Prep										
Blank (BFD0554-BLK1)				Prepared & Analyzed: 04/27/2020						
Total Dissolved Solids	<20.0	20.0	mg/L							
LCS (BFD0554-BS1)				Prepared & Analyzed: 04/27/2020						
Total Dissolved Solids	52.000	20.0	mg/L	51.200		102	70-130			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0554 - Wet Prep										
Duplicate (BFD0554-DUP1)		**Source: MFD0316-31**		Prepared & Analyzed: 04/27/2020						
Total Dissolved Solids	414.00	20.0	mg/L		404.00			2.44	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0387 - EPA 200.2, EPA 3005										
Blank (BFD0387-BLK1)				Prepared: 04/20/2020 Analyzed: 04/27/2020						
Chromium	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Lead	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Cadmium	<0.500	0.500	ug/L							
LCS (BFD0387-BS1)				Prepared: 04/20/2020 Analyzed: 04/27/2020						
Arsenic	98.671	0.500	ug/L	100.00		98.7	85-115			
Thallium	100.52	0.500	ug/L	100.00		101	85-115			
Barium	100.60	0.500	ug/L	100.00		101	85-115			
Cobalt	102.73	0.500	ug/L	100.00		103	85-115			
Selenium	96.855	0.500	ug/L	100.00		96.9	85-115			
Antimony	100.86	0.500	ug/L	100.00		101	85-115			
Beryllium	101.25	0.500	ug/L	100.00		101	85-115			
Lead	98.695	0.500	ug/L	100.00		98.7	85-115			
Cadmium	99.333	0.500	ug/L	100.00		99.3	85-115			
Molybdenum	103.90	0.500	ug/L	100.00		104	85-115			
Chromium	104.26	0.500	ug/L	100.00		104	85-115			
Duplicate (BFD0387-DUP1)		**Source: MFD0224-04**		Prepared: 04/20/2020 Analyzed: 04/27/2020						
Selenium	0.47859	0.500	ug/L		0.44275			7.78	20	
Molybdenum	0.22619	0.500	ug/L		0.20713			8.80	20	
Cobalt	<0.500	0.500	ug/L		<0.500				20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Beryllium	0.021097	0.500	ug/L		<0.500				20	
Barium	38.924	0.500	ug/L		38.279			1.67	20	
Cadmium	<0.500	0.500	ug/L		<0.500				20	
Thallium	<0.500	0.500	ug/L		<0.500				20	
Chromium	1.0214	0.500	ug/L		0.92820			9.56	20	
Arsenic	0.50620	0.500	ug/L		0.52466			3.58	20	
Antimony	<0.500	0.500	ug/L		<0.500				20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0387 - EPA 200.2, EPA 3005										
Duplicate (BFD0387-DUP2)		**Source: MFD0224-05**		Prepared: 04/20/2020 Analyzed: 04/27/2020						
Cadmium	<0.500	0.500	ug/L		<0.500				20	
Beryllium	<0.500	0.500	ug/L		<0.500				20	
Cobalt	0.089530	0.500	ug/L		0.12065			29.6	20	M_D-RL
Thallium	<0.500	0.500	ug/L		<0.500				20	
Selenium	1.9291	0.500	ug/L		1.9452			0.829	20	
Chromium	1.0915	0.500	ug/L		1.0854			0.564	20	
Arsenic	0.74111	0.500	ug/L		0.72674			1.96	20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Barium	44.275	0.500	ug/L		42.834			3.31	20	
Molybdenum	0.93949	0.500	ug/L		0.91402			2.75	20	
Matrix Spike (BFD0387-MS1)		**Source: MFD0224-04**		Prepared: 04/20/2020 Analyzed: 04/27/2020						
Cobalt	106.11	0.500	ug/L	100.00	<0.500	106	75-125			
Thallium	98.604	0.500	ug/L	100.00	<0.500	98.6	75-125			
Antimony	101.06	0.500	ug/L	100.00	<0.500	101	75-125			
Selenium	98.776	0.500	ug/L	100.00	0.44275	98.3	75-125			
Arsenic	102.40	0.500	ug/L	100.00	0.52466	102	75-125			
Lead	95.605	0.500	ug/L	100.00	<0.500	95.6	75-125			
Molybdenum	103.27	0.500	ug/L	100.00	0.20713	103	75-125			
Barium	140.61	0.500	ug/L	100.00	38.279	102	75-125			
Chromium	108.00	0.500	ug/L	100.00	0.92820	107	75-125			
Beryllium	102.26	0.500	ug/L	100.00	<0.500	102	75-125			
Cadmium	99.675	0.500	ug/L	100.00	<0.500	99.7	75-125			
Matrix Spike (BFD0387-MS2)		**Source: MFD0224-05**		Prepared: 04/20/2020 Analyzed: 04/27/2020						
Arsenic	101.90	0.500	ug/L	100.00	0.72674	101	75-125			
Barium	137.81	0.500	ug/L	100.00	42.834	95.0	75-125			
Beryllium	103.79	0.500	ug/L	100.00	<0.500	104	75-125			
Molybdenum	104.32	0.500	ug/L	100.00	0.91402	103	75-125			
Cobalt	101.97	0.500	ug/L	100.00	0.12065	102	75-125			
Thallium	98.417	0.500	ug/L	100.00	<0.500	98.4	75-125			
Chromium	107.69	0.500	ug/L	100.00	1.0854	107	75-125			
Lead	95.029	0.500	ug/L	100.00	<0.500	95.0	75-125			
Antimony	100.82	0.500	ug/L	100.00	<0.500	101	75-125			
Selenium	102.83	0.500	ug/L	100.00	1.9452	101	75-125			
Cadmium	98.718	0.500	ug/L	100.00	<0.500	98.7	75-125			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0387 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BFD0387-MSD1)	**Source: MFD0224-04**			Prepared: 04/20/2020 Analyzed: 04/27/2020						
Beryllium	103.27	0.500	ug/L	100.00	<0.500	103	75-125	0.982	20	
Cadmium	95.663	0.500	ug/L	100.00	<0.500	95.7	75-125	4.11	20	
Cobalt	102.60	0.500	ug/L	100.00	<0.500	103	75-125	3.36	20	
Chromium	103.94	0.500	ug/L	100.00	0.92820	103	75-125	3.83	20	
Thallium	96.389	0.500	ug/L	100.00	<0.500	96.4	75-125	2.27	20	
Selenium	93.577	0.500	ug/L	100.00	0.44275	93.1	75-125	5.41	20	
Lead	93.605	0.500	ug/L	100.00	<0.500	93.6	75-125	2.11	20	
Barium	140.78	0.500	ug/L	100.00	38.279	103	75-125	0.123	20	
Arsenic	98.968	0.500	ug/L	100.00	0.52466	98.4	75-125	3.41	20	
Antimony	101.14	0.500	ug/L	100.00	<0.500	101	75-125	0.0789	20	
Molybdenum	105.05	0.500	ug/L	100.00	0.20713	105	75-125	1.70	20	
Matrix Spike Dup (BFD0387-MSD2)	**Source: MFD0224-05**			Prepared: 04/20/2020 Analyzed: 04/27/2020						
Chromium	106.28	0.500	ug/L	100.00	1.0854	105	75-125	1.32	20	
Cadmium	99.996	0.500	ug/L	100.00	<0.500	100	75-125	1.29	20	
Cobalt	103.95	0.500	ug/L	100.00	0.12065	104	75-125	1.92	20	
Antimony	100.50	0.500	ug/L	100.00	<0.500	100	75-125	0.323	20	
Lead	92.846	0.500	ug/L	100.00	<0.500	92.8	75-125	2.32	20	
Molybdenum	106.96	0.500	ug/L	100.00	0.91402	106	75-125	2.50	20	
Selenium	97.618	0.500	ug/L	100.00	1.9452	95.7	75-125	5.20	20	
Barium	148.08	0.500	ug/L	100.00	42.834	105	75-125	7.18	20	
Beryllium	92.926	0.500	ug/L	100.00	<0.500	92.9	75-125	11.0	20	
Thallium	96.169	0.500	ug/L	100.00	<0.500	96.2	75-125	2.31	20	
Arsenic	99.750	0.500	ug/L	100.00	0.72674	99.0	75-125	2.14	20	
Batch BFD0516 - EPA 200.2, EPA 3005										
Blank (BFD0516-BLK1)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Lead	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Cadmium	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0516 - EPA 200.2, EPA 3005										
Blank (BFD0516-BLK2)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Cadmium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Lead	<0.500	0.500	ug/L							
Thallium	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Antimony	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Beryllium	<0.500	0.500	ug/L							
Cobalt	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
LCS (BFD0516-BS1)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Cobalt	101.25	0.500	ug/L	100.00		101	85-115			
Antimony	98.720	0.500	ug/L	100.00		98.7	85-115			
Selenium	99.517	0.500	ug/L	100.00		99.5	85-115			
Chromium	101.28	0.500	ug/L	100.00		101	85-115			
Arsenic	95.664	0.500	ug/L	100.00		95.7	85-115			
Barium	99.102	0.500	ug/L	100.00		99.1	85-115			
Lead	99.141	0.500	ug/L	100.00		99.1	85-115			
Cadmium	100.51	0.500	ug/L	100.00		101	85-115			
Molybdenum	100.18	0.500	ug/L	100.00		100	85-115			
Thallium	99.187	0.500	ug/L	100.00		99.2	85-115			
Beryllium	98.561	0.500	ug/L	100.00		98.6	85-115			
LCS (BFD0516-BS2)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Selenium	99.954	0.500	ug/L	100.00		100	85-115			
Arsenic	97.608	0.500	ug/L	100.00		97.6	85-115			
Molybdenum	101.95	0.500	ug/L	100.00		102	85-115			
Cobalt	105.93	0.500	ug/L	100.00		106	85-115			
Lead	101.42	0.500	ug/L	100.00		101	85-115			
Beryllium	98.584	0.500	ug/L	100.00		98.6	85-115			
Chromium	103.02	0.500	ug/L	100.00		103	85-115			
Cadmium	97.625	0.500	ug/L	100.00		97.6	85-115			
Barium	103.04	0.500	ug/L	100.00		103	85-115			
Antimony	101.24	0.500	ug/L	100.00		101	85-115			
Thallium	102.01	0.500	ug/L	100.00		102	85-115			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0516 - EPA 200.2, EPA 3005										
Duplicate (BFD0516-DUP1)		**Source: MFD0316-15**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Beryllium	<0.500	0.500	ug/L		<0.500				20	
Selenium	1.1438	0.500	ug/L		1.3330			15.3	20	
Cadmium	<0.500	0.500	ug/L		<0.500				20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Arsenic	0.40497	0.500	ug/L		0.50398			21.8	20	M_D-RL
Molybdenum	0.19931	0.500	ug/L		0.20840			4.46	20	
Barium	46.100	0.500	ug/L		47.814			3.65	20	
Chromium	0.79242	0.500	ug/L		0.72587			8.77	20	
Thallium	0.030463	0.500	ug/L		<0.500				20	
Cobalt	0.065584	0.500	ug/L		0.070700			7.51	20	
Duplicate (BFD0516-DUP2)		**Source: MFD0316-16**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Cadmium	<0.500	0.500	ug/L		<0.500				20	
Thallium	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	0.14530	0.500	ug/L		0.33367			78.7	20	M_D-RL
Selenium	1.1622	0.500	ug/L		1.2010			3.29	20	
Lead	<0.500	0.500	ug/L		<0.500				20	
Cobalt	<0.500	0.500	ug/L		<0.500				20	
Beryllium	<0.500	0.500	ug/L		<0.500				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Barium	66.766	0.500	ug/L		63.186			5.51	20	
Chromium	1.0294	0.500	ug/L		1.0147			1.44	20	
Arsenic	0.52597	0.500	ug/L		0.56374			6.93	20	
Duplicate (BFD0516-DUP3)		**Source: MFD0316-18**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Cadmium	<0.500	0.500	ug/L		<0.500				20	
Beryllium	<0.500	0.500	ug/L		<0.500				20	
Selenium	2.0753	0.500	ug/L		2.1547			3.76	20	
Chromium	1.3183	0.500	ug/L		1.3670			3.62	20	
Cobalt	<0.500	0.500	ug/L		<0.500				20	
Molybdenum	0.15580	0.500	ug/L		0.15291			1.87	20	
Arsenic	0.30607	0.500	ug/L		0.37921			21.3	20	M_D-RL
Lead	<0.500	0.500	ug/L		0.058798				20	
Antimony	<0.500	0.500	ug/L		<0.500				20	
Barium	54.501	0.500	ug/L		51.956			4.78	20	
Thallium	<0.500	0.500	ug/L		<0.500				20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0516 - EPA 200.2, EPA 3005										
Matrix Spike (BFD0516-MS1)	**Source: MFD0316-15**			Prepared: 04/23/2020 Analyzed: 04/28/2020						
Antimony	100.26	0.500	ug/L	100.00	<0.500	100	75-125			
Arsenic	99.132	0.500	ug/L	100.00	0.50398	98.6	75-125			
Barium	148.57	0.500	ug/L	100.00	47.814	101	75-125			
Beryllium	96.430	0.500	ug/L	100.00	<0.500	96.4	75-125			
Cadmium	98.496	0.500	ug/L	100.00	<0.500	98.5	75-125			
Thallium	93.277	0.500	ug/L	100.00	<0.500	93.3	75-125			
Selenium	100.40	0.500	ug/L	100.00	1.3330	99.1	75-125			
Lead	91.893	0.500	ug/L	100.00	<0.500	91.9	75-125			
Cobalt	97.712	0.500	ug/L	100.00	0.070700	97.6	75-125			
Molybdenum	99.351	0.500	ug/L	100.00	0.20840	99.1	75-125			
Chromium	101.04	0.500	ug/L	100.00	0.72587	100	75-125			
Matrix Spike (BFD0516-MS2)	**Source: MFD0316-16**			Prepared: 04/23/2020 Analyzed: 04/28/2020						
Antimony	102.53	0.500	ug/L	100.00	<0.500	103	75-125			
Selenium	103.96	0.500	ug/L	100.00	1.2010	103	75-125			
Thallium	93.560	0.500	ug/L	100.00	<0.500	93.6	75-125			
Lead	93.397	0.500	ug/L	100.00	<0.500	93.4	75-125			
Cobalt	102.35	0.500	ug/L	100.00	<0.500	102	75-125			
Beryllium	99.360	0.500	ug/L	100.00	<0.500	99.4	75-125			
Molybdenum	104.00	0.500	ug/L	100.00	0.33367	104	75-125			
Barium	170.68	0.500	ug/L	100.00	63.186	107	75-125			
Chromium	104.35	0.500	ug/L	100.00	1.0147	103	75-125			
Arsenic	103.34	0.500	ug/L	100.00	0.56374	103	75-125			
Cadmium	100.14	0.500	ug/L	100.00	<0.500	100	75-125			
Matrix Spike (BFD0516-MS3)	**Source: MFD0316-18**			Prepared: 04/23/2020 Analyzed: 04/28/2020						
Cobalt	100.54	0.500	ug/L	100.00	<0.500	101	75-125			
Thallium	93.308	0.500	ug/L	100.00	<0.500	93.3	75-125			
Arsenic	101.19	0.500	ug/L	100.00	0.37921	101	75-125			
Beryllium	97.067	0.500	ug/L	100.00	<0.500	97.1	75-125			
Barium	154.11	0.500	ug/L	100.00	51.956	102	75-125			
Lead	90.172	0.500	ug/L	100.00	0.058798	90.1	75-125			
Molybdenum	103.76	0.500	ug/L	100.00	0.15291	104	75-125			
Cadmium	98.932	0.500	ug/L	100.00	<0.500	98.9	75-125			
Antimony	97.282	0.500	ug/L	100.00	<0.500	97.3	75-125			
Selenium	104.97	0.500	ug/L	100.00	2.1547	103	75-125			
Chromium	101.45	0.500	ug/L	100.00	1.3670	100	75-125			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0516 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BFD0516-MSD1)		**Source: MFD0316-15**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Barium	146.02	0.500	ug/L	100.00	47.814	98.2	75-125	1.73	20	
Molybdenum	102.01	0.500	ug/L	100.00	0.20840	102	75-125	2.65	20	
Antimony	97.869	0.500	ug/L	100.00	<0.500	97.9	75-125	2.41	20	
Cadmium	98.465	0.500	ug/L	100.00	<0.500	98.5	75-125	0.0309	20	
Selenium	100.88	0.500	ug/L	100.00	1.3330	99.5	75-125	0.469	20	
Arsenic	101.48	0.500	ug/L	100.00	0.50398	101	75-125	2.34	20	
Chromium	99.097	0.500	ug/L	100.00	0.72587	98.4	75-125	1.94	20	
Cobalt	99.287	0.500	ug/L	100.00	0.070700	99.2	75-125	1.60	20	
Lead	94.847	0.500	ug/L	100.00	<0.500	94.8	75-125	3.16	20	
Thallium	95.670	0.500	ug/L	100.00	<0.500	95.7	75-125	2.53	20	
Beryllium	97.644	0.500	ug/L	100.00	<0.500	97.6	75-125	1.25	20	
Matrix Spike Dup (BFD0516-MSD2)		**Source: MFD0316-16**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Selenium	104.52	0.500	ug/L	100.00	1.2010	103	75-125	0.532	20	
Barium	167.69	0.500	ug/L	100.00	63.186	105	75-125	1.77	20	
Cadmium	97.499	0.500	ug/L	100.00	<0.500	97.5	75-125	2.67	20	
Thallium	93.657	0.500	ug/L	100.00	<0.500	93.7	75-125	0.104	20	
Chromium	103.84	0.500	ug/L	100.00	1.0147	103	75-125	0.492	20	
Arsenic	101.83	0.500	ug/L	100.00	0.56374	101	75-125	1.48	20	
Molybdenum	105.88	0.500	ug/L	100.00	0.33367	106	75-125	1.79	20	
Beryllium	98.613	0.500	ug/L	100.00	<0.500	98.6	75-125	0.754	20	
Antimony	100.72	0.500	ug/L	100.00	<0.500	101	75-125	1.78	20	
Cobalt	100.68	0.500	ug/L	100.00	<0.500	101	75-125	1.65	20	
Lead	92.063	0.500	ug/L	100.00	<0.500	92.1	75-125	1.44	20	
Matrix Spike Dup (BFD0516-MSD3)		**Source: MFD0316-18**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Cadmium	98.579	0.500	ug/L	100.00	<0.500	98.6	75-125	0.358	20	
Chromium	99.743	0.500	ug/L	100.00	1.3670	98.4	75-125	1.69	20	
Molybdenum	102.53	0.500	ug/L	100.00	0.15291	102	75-125	1.20	20	
Cobalt	97.874	0.500	ug/L	100.00	<0.500	97.9	75-125	2.69	20	
Antimony	100.30	0.500	ug/L	100.00	<0.500	100	75-125	3.05	20	
Thallium	91.236	0.500	ug/L	100.00	<0.500	91.2	75-125	2.25	20	
Barium	158.05	0.500	ug/L	100.00	51.956	106	75-125	2.52	20	
Beryllium	99.116	0.500	ug/L	100.00	<0.500	99.1	75-125	2.09	20	
Lead	89.865	0.500	ug/L	100.00	0.058798	89.8	75-125	0.341	20	
Arsenic	103.55	0.500	ug/L	100.00	0.37921	103	75-125	2.30	20	
Selenium	105.56	0.500	ug/L	100.00	2.1547	103	75-125	0.567	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0386 - EPA 200.2, EPA 3005										
Blank (BFD0386-BLK1)				Prepared: 04/20/2020 Analyzed: 04/26/2020						
Calcium	<1.25	1.25	mg/L							
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
LCS (BFD0386-BS1)				Prepared: 04/20/2020 Analyzed: 04/26/2020						
Boron	1.0635	0.0500	mg/L	1.0000		106	85-115			
Calcium	106.71	1.25	mg/L	100.00		107	85-115			
Lithium	1.0340	0.0150	mg/L	1.0000		103	85-115			
Duplicate (BFD0386-DUP1)		**Source: MFD0224-02**		Prepared: 04/20/2020 Analyzed: 04/26/2020						
Lithium	<0.0150	0.0150	mg/L		<0.0150				20	
Boron	0.059446	0.0500	mg/L		0.061583			3.53	20	
Calcium	55.541	1.25	mg/L		54.169			2.50	20	
Duplicate (BFD0386-DUP2)		**Source: MFD0224-03**		Prepared: 04/20/2020 Analyzed: 04/26/2020						
Calcium	64.124	1.25	mg/L		59.492			7.49	20	
Lithium	<0.0150	0.0150	mg/L		<0.0150				20	
Boron	0.093819	0.0500	mg/L		0.092471			1.45	20	
Matrix Spike (BFD0386-MS1)		**Source: MFD0224-02**		Prepared: 04/20/2020 Analyzed: 04/26/2020						
Calcium	161.93	1.25	mg/L	100.00	54.169	108	70-130			
Lithium	1.0196	0.0150	mg/L	1.0000	<0.0150	102	70-130			
Boron	1.1010	0.0500	mg/L	1.0000	0.061583	104	70-130			
Matrix Spike (BFD0386-MS2)		**Source: MFD0224-03**		Prepared: 04/20/2020 Analyzed: 04/26/2020						
Boron	1.1311	0.0500	mg/L	1.0000	0.092471	104	70-130			
Calcium	170.77	1.25	mg/L	100.00	59.492	111	70-130			
Lithium	1.0223	0.0150	mg/L	1.0000	<0.0150	102	70-130			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0386 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BFD0386-MSD1)		**Source: MFD0224-02**		Prepared: 04/20/2020 Analyzed: 04/26/2020						
Calcium	159.34	1.25	mg/L	100.00	54.169	105	70-130	1.61	20	
Lithium	1.0082	0.0150	mg/L	1.0000	<0.0150	101	70-130	1.12	20	
Boron	1.0907	0.0500	mg/L	1.0000	0.061583	103	70-130	0.941	20	
Matrix Spike Dup (BFD0386-MSD2)		**Source: MFD0224-03**		Prepared: 04/20/2020 Analyzed: 04/26/2020						
Calcium	169.44	1.25	mg/L	100.00	59.492	110	70-130	0.783	20	
Lithium	1.0140	0.0150	mg/L	1.0000	<0.0150	101	70-130	0.816	20	
Boron	1.1233	0.0500	mg/L	1.0000	0.092471	103	70-130	0.693	20	
Batch BFD0515 - EPA 200.2, EPA 3005										
Blank (BFD0515-BLK1)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Lithium	<0.0150	0.0150	mg/L							
Calcium	<1.25	1.25	mg/L							
Boron	<0.0500	0.0500	mg/L							
Blank (BFD0515-BLK2)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Calcium	<1.25	1.25	mg/L							
Boron	<0.0500	0.0500	mg/L							
Lithium	<0.0150	0.0150	mg/L							
LCS (BFD0515-BS1)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Calcium	102.14	1.25	mg/L	100.00		102	85-115			
Boron	0.95504	0.0500	mg/L	1.0000		95.5	85-115			
Lithium	0.99468	0.0150	mg/L	1.0000		99.5	85-115			
LCS (BFD0515-BS2)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Calcium	103.37	1.25	mg/L	100.00		103	85-115			
Lithium	1.0060	0.0150	mg/L	1.0000		101	85-115			
Boron	0.96513	0.0500	mg/L	1.0000		96.5	85-115			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0515 - EPA 200.2, EPA 3005										
Duplicate (BFD0515-DUP1)		**Source: MFD0316-12**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Calcium	82.558	1.25	mg/L		81.978			0.705	20	
Boron	1.0210	0.0500	mg/L		1.0213			0.0256	20	
Lithium	0.0046231	0.0150	mg/L		0.0048575			4.95	20	
Duplicate (BFD0515-DUP2)		**Source: MFD0316-13**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Lithium	0.027339	0.0150	mg/L		0.027811			1.71	20	
Calcium	84.910	1.25	mg/L		85.403			0.579	20	
Boron	1.4125	0.0500	mg/L		1.4513			2.71	20	
Duplicate (BFD0515-DUP3)		**Source: MFD0316-14**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Calcium	96.759	1.25	mg/L		96.983			0.231	20	
Lithium	0.0048981	0.0150	mg/L		0.0051684			5.37	20	
Boron	0.47896	0.0500	mg/L		0.46885			2.13	20	
Matrix Spike (BFD0515-MS1)		**Source: MFD0316-12**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Lithium	1.0053	0.0150	mg/L	1.0000	0.0048575	100	70-130			
Boron	2.0226	0.0500	mg/L	1.0000	1.0213	100	70-130			
Calcium	187.63	1.25	mg/L	100.00	81.978	106	70-130			
Matrix Spike (BFD0515-MS2)		**Source: MFD0316-13**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Lithium	0.64948	0.0150	mg/L	1.0000	0.027811	62.2	70-130			M_Y
Boron	1.6038	0.0500	mg/L	1.0000	1.4513	15.3	70-130			M_Y
Calcium	122.81	1.25	mg/L	100.00	85.403	37.4	70-130			M_Y
Matrix Spike (BFD0515-MS3)		**Source: MFD0316-14**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Lithium	1.0240	0.0150	mg/L	1.0000	0.0051684	102	70-130			
Calcium	207.07	1.25	mg/L	100.00	96.983	110	70-130			
Boron	1.4760	0.0500	mg/L	1.0000	0.46885	101	70-130			

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0515 - EPA 200.2, EPA 3005										
Matrix Spike Dup (BFD0515-MSD1)		**Source: MFD0316-12**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Lithium	0.98190	0.0150	mg/L	1.0000	0.0048575	97.7	70-130	2.35	20	
Boron	1.9604	0.0500	mg/L	1.0000	1.0213	93.9	70-130	3.13	20	
Calcium	183.20	1.25	mg/L	100.00	81.978	101	70-130	2.39	20	
Matrix Spike Dup (BFD0515-MSD2)		**Source: MFD0316-13**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Calcium	191.54	1.25	mg/L	100.00	85.403	106	70-130	43.7	20	M_Ya
Lithium	1.0377	0.0150	mg/L	1.0000	0.027811	101	70-130	46.0	20	M_Ya
Boron	2.4620	0.0500	mg/L	1.0000	1.4513	101	70-130	42.2	20	M_Ya
Matrix Spike Dup (BFD0515-MSD3)		**Source: MFD0316-14**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Boron	1.3813	0.0500	mg/L	1.0000	0.46885	91.2	70-130	6.63	20	
Lithium	0.96231	0.0150	mg/L	1.0000	0.0051684	95.7	70-130	6.21	20	
Calcium	193.86	1.25	mg/L	100.00	96.983	96.9	70-130	6.59	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Mercury - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0478 - EPA 245.1, EPA 7470A										
Blank (BFD0478-BLK1)				Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	<0.200	0.200	ug/L							
LCS (BFD0478-BS1)				Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	2.6813	0.200	ug/L	3.0030		89.3	85-115			
Duplicate (BFD0478-DUP1)		**Source: MFD0224-06**		Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Duplicate (BFD0478-DUP2)		**Source: MFD0224-07**		Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BFD0478-MS1)		**Source: MFD0224-06**		Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	2.7057	0.200	ug/L	3.0030	<0.200	90.1	70-130			
Matrix Spike (BFD0478-MS2)		**Source: MFD0224-07**		Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	2.6994	0.200	ug/L	3.0030	<0.200	89.9	70-130			
Matrix Spike Dup (BFD0478-MSD1)		**Source: MFD0224-06**		Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	2.6897	0.200	ug/L	3.0030	<0.200	89.6	70-130	0.593	20	
Matrix Spike Dup (BFD0478-MSD2)		**Source: MFD0224-07**		Prepared: 04/21/2020 Analyzed: 04/22/2020						
Mercury	2.5599	0.200	ug/L	3.0030	<0.200	85.2	70-130	5.30	20	
Batch BFD0520 - EPA 245.1, EPA 7470A										
Blank (BFD0520-BLK1)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	<0.200	0.200	ug/L							

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Mercury - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0520 - EPA 245.1, EPA 7470A										
LCS (BFD0520-BS1)				Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	2.6907	0.200	ug/L	3.0030		89.6	85-115			
Duplicate (BFD0520-DUP1)		**Source: MFD0316-17**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Duplicate (BFD0520-DUP2)		**Source: MFD0316-19**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BFD0520-MS1)		**Source: MFD0316-17**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	2.7237	0.200	ug/L	3.0030	<0.200	90.7	70-130			
Matrix Spike (BFD0520-MS2)		**Source: MFD0316-19**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	2.6670	0.200	ug/L	3.0030	<0.200	88.8	70-130			
Matrix Spike Dup (BFD0520-MSD1)		**Source: MFD0316-17**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	2.6513	0.200	ug/L	3.0030	<0.200	88.3	70-130	2.69	20	
Matrix Spike Dup (BFD0520-MSD2)		**Source: MFD0316-19**		Prepared: 04/23/2020 Analyzed: 04/28/2020						
Mercury	2.6527	0.200	ug/L	3.0030	<0.200	88.3	70-130	0.538	20	
Batch BFD0607 - EPA 245.1, EPA 7470A										
Blank (BFD0607-BLK1)				Prepared & Analyzed: 04/28/2020						
Mercury	<0.200	0.200	ug/L							
LCS (BFD0607-BS1)				Prepared & Analyzed: 04/28/2020						
Mercury	2.7722	0.200	ug/L	3.0030		92.3	85-115			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Mercury - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFD0607 - EPA 245.1, EPA 7470A										
Duplicate (BFD0607-DUP1)		**Source: MFD0316-32**		Prepared & Analyzed: 04/28/2020						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Duplicate (BFD0607-DUP2)		**Source: MFD0360-01**		Prepared & Analyzed: 04/28/2020						
Mercury	<0.200	0.200	ug/L		<0.200				20	
Matrix Spike (BFD0607-MS1)		**Source: MFD0316-32**		Prepared & Analyzed: 04/28/2020						
Mercury	2.6683	0.200	ug/L	3.0030	<0.200	88.9	70-130			
Matrix Spike (BFD0607-MS2)		**Source: MFD0360-01**		Prepared & Analyzed: 04/28/2020						
Mercury	2.8277	0.200	ug/L	3.0030	<0.200	94.2	70-130			
Matrix Spike Dup (BFD0607-MSD1)		**Source: MFD0316-32**		Prepared & Analyzed: 04/28/2020						
Mercury	2.7202	0.200	ug/L	3.0030	<0.200	90.6	70-130	1.93	20	
Matrix Spike Dup (BFD0607-MSD2)		**Source: MFD0360-01**		Prepared & Analyzed: 04/28/2020						
Mercury	2.7270	0.200	ug/L	3.0030	<0.200	90.8	70-130	3.63	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	05/19/2020 08:21

Qualifiers and Definitions

M_Ya	The RPD was outside the acceptance limits for the MSD due to the low recovery in the MS due to the digestion vessle cracked during digestion.
M_Y	The percent recovery was outside the acceptance limits for the MS due to the digestion vessle cracked during digestion and additional sample was lost.
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.
Z	Non Accredited Analyte
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 1

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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 MP-7	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Sherco BAP2, Baseline #3	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: 6W-CCR	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Rinse	WT				4/14/20	0940		2	1		1						✓		
2	P-152A						1050		2	1		1						✓		
3	P-177						1150		2	1		1						✓		
4	P-17	↓				↓	1335		2	1		1						✓		
5	P-178A	WT				4/15/20	0940		2	1		1						✓		
6	Duplicate						0940		2	1		1						✓		
7	P-158						1055		2	1		1						✓		
8	P-176						1220		2	1		1						✓		
9	P-175	↓				↓	1325		2	1		1						✓		
10	P-174	WT				4/16/20	0920		2	1		1						✓		
11	P-173	↓				↓	1030		2	1		1						✓		
12																				

DJA 4/16/20

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
① All metals bottles are unfiltered	David Anderson/Pace	4/16/20	1200	/Xcel	4/16/20	12:00	
				Temp = 2.9°C M400841			
				pH strips: MD00402			

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: David Anderson

SIGNATURE of SAMPLER: David Anderson DATE Signed (MM/DD/YY): 4/16/20

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

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 3

2277984

Section A Required Client Information:

Company: Xcel Energy
Address: Environmental Services MP-7
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: David Katzner
Copy To:
Purchase Order No.:
Project Name: Sherco Ponds, Spring 2020
Project Number:

Section C Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: ______

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GW-D	GW-CCR+GW-D	GW-CCR	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	P-04A	WT	G			4/20/20	945		3	1	1	1						X				
2	P-05A	WT	G			4/20/20	1010		3	1	1	1						X				
3	P-03A	WT	G			4/20/20	1055		3	1	1	1						X				
4	P-89-1	WT	G			4/20/20	1130		3	1	1	1						X				
5	P-94A	WT	G			4/20/20	1205		3	1	1	1						X				
6	P-56	WT	G			4/20/20	1240		3	1	1	1						X				
7	P-101A	WT	G			4/20/20	1315		3	1	1	1						X				
8	P-101B	WT	G			4/20/20	1340		3	1	1	1						X				
9	P-43	WT	G			4/20/20	1410		3	1	1	1						X				
10	P-66	WT	G			4/20/20	1450		3	1	1	1						X				
11	P-42	WT	G			4/20/20	1510		3	1	1	1						X				
12																						

CM 4/20/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature] Pace	4/20/20	1600	Dan Anderson/Pace	4/20/20	1600	
	Dan Anderson/Pace			Dan Anderson/Pace	4/22/20	1145	
				[signature] Xcel	4/22/20	1145	

pH strip: MP05402
Trip MC00841

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chris Pelosi
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 4/20/20

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

*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.

F-ALL-C-010-rev.00, 09Nov2017

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Page: 2 of 3

2277987

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 MP-7	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: ShercoPonds, Spring 2020	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Requested Analysis Filtered (Y/N)

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: GW-D	GW-CCR+GW-D	GW-CCR	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	P-22	WT				4/20/20	1005		4	1	1	2									✓			
2	P-155						1110		2	1		1										✓		
3	P-01A-1						1200		4	1	1	2									✓			
4	P-156						1310		2	1		1										✓		
5	P-23						1500		4	1	1	2									✓			
6	Rinse CCR-BAP						1510		2	1		1										✓		
7	P-157						1600		2	1		1										✓		
8	Duplicate CCR-BAP	✓				✓	1600		2	1		1										✓		
9	Rinse CCR-P3	WT				4/21/20	0755		2	1		1										✓		
10	P-150						0845		2	1		1										✓		
11	Duplicate CCR-P3						0845		2	1		1										✓		
12	P-151	✓				✓	1000		2	1		1										✓		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	David Anderson / Pace	4/22/20	1145	Xcel	4/22/20	1145	
							2.2

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

pH Strip #: MD00402
Trip #400841

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: David Anderson

SIGNATURE of SAMPLER: David Anderson DATE Signed (MM/DD/YY): 4/21/20

*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.

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2277988

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 MP-7	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Sherco Ponds, Spring 2020	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: GW-D	GW-CCR+GW-D	GW-CCR	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	P-131	WT				4/21/20	1130		4	1	1	2							✓				
2	P-153						1230		2	1		1								✓			
3	P-154A						1345		2	1		1								✓			
4	P-132						1440		4	1	1	2							✓				
5	P-165						1535		2	1		1								✓			
6	P-130	↓				↓	1640		4	1	1	2							✓				
7	P-162	WT				4/22/20	0810		2	1		1								✓			
8	P-163						0905		2	1		1								✓			
9	P-164						0955		2	1		1								✓			
10	P-126						1100		3	1	1	1							✓				
11	Duplicate NPDES						1100		3	1	1	1							✓				
12	Rinse NPDES	↓				↓	1030		3	1	1	1							✓				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	David Anderson / Pace	4/22/20	1145	/Xcel	4/22/20	1145	

pH Strip Sl. MD00402
Lip M400841

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: David Anderson

SIGNATURE of SAMPLER: David Anderson

DATE Signed (MM/DD/YY): 4/22/20

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

*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.

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

May 27, 2020

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

RE: Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Dear Christopher Pelosi:

Enclosed are the analytical results for sample(s) received by the laboratory between April 20, 2020 and April 27, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

Revision 1 - This report replaces the May 18, 2020 report. This project was revised on May 27, 2020 to report results for samples P-17, P-152A, and P-158 that are also reported on Pace project 30359545 . (Greensburg, PA)

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

Sincerely,

Carin A. Ferris

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

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30360455001	**P-22**	Water	04/20/20 10:05	04/27/20 10:20
30360455002	**P-155**	Water	04/20/20 11:10	04/27/20 10:20
30360455003	**P-01A-1**	Water	04/20/20 12:00	04/27/20 10:20
30360455004	**P-156**	Water	04/20/20 13:10	04/27/20 10:20
30360455005	**P-23**	Water	04/20/20 15:00	04/27/20 10:20
30360455006	**Rinse CCR-BAP**	Water	04/20/20 15:10	04/27/20 10:20
30360455007	**P-157**	Water	04/20/20 16:00	04/27/20 10:20
30360455008	**Duplicate CCR-BAP**	Water	04/20/20 16:00	04/27/20 10:20
30360455009	**Rinse CCR-P3**	Water	04/21/20 07:55	04/27/20 10:20
30360455010	**P-150**	Water	04/21/20 08:45	04/27/20 10:20
30360455011	**Duplicate CCR-P3**	Water	04/21/20 08:45	04/27/20 10:20
30360455012	**P-151**	Water	04/21/20 10:00	04/27/20 10:20
30360455013	**P-131**	Water	04/21/20 11:30	04/27/20 10:20
30360455014	**P-153**	Water	04/21/20 12:30	04/27/20 10:20
30360455015	**P-154A**	Water	04/21/20 13:45	04/27/20 10:20
30360455016	**P-132**	Water	04/21/20 14:40	04/27/20 10:20
30360455017	**P-165**	Water	04/21/20 15:35	04/27/20 10:20
30360455018	**P-130**	Water	04/21/20 16:40	04/27/20 10:20
30360455019	**P-162**	Water	04/22/20 08:10	04/27/20 10:20
30360455020	**P-163**	Water	04/22/20 09:05	04/27/20 10:20
30360455021	**P-164**	Water	04/22/20 09:55	04/27/20 10:20
30360455022	**P-152A**	Water	04/14/20 10:50	04/20/20 09:05
30360455023	**P-17**	Water	04/14/20 13:35	04/20/20 09:05
30360455024	**P-158**	Water	04/15/20 10:55	04/20/20 09:05

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30360455001	**P-22**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455002	**P-155**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455003	**P-01A-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455004	**P-156**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455005	**P-23**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455006	**Rinse CCR-BAP**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455007	**P-157**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455008	**Duplicate CCR-BAP**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455009	**Rinse CCR-P3**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455010	**P-150**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455011	**Duplicate CCR-P3**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455012	**P-151**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455013	**P-131**	EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455014	**P-153**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455015	**P-154A**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455016	**P-132**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455017	**P-165**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455018	**P-130**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455019	**P-162**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455020	**P-163**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455021	**P-164**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455022	**P-152A**	EPA 903.1	CMC	1	PASI-PA
		EPA 904.0	CMC	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455023	**P-17**	EPA 903.1	CMC	1	PASI-PA
		EPA 904.0	CMC	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
30360455024	**P-158**	EPA 903.1	CMC	1	PASI-PA
		EPA 904.0	CMC	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

PROJECT NARRATIVE

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Pace-MN Field Services Division
Date: May 27, 2020

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

Additional Comments:

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

PROJECT NARRATIVE

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Pace-MN Field Services Division
Date: May 27, 2020

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

Additional Comments:

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

PROJECT NARRATIVE

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Pace-MN Field Services Division
Date: May 27, 2020

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

Additional Comments:

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

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-22 **Lab ID: 30360455001** Collected: 04/20/20 10:05 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.470 ± 0.440 (0.624) C:NA T:87%**	pCi/L	05/17/20 13:32	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.573 ± 0.360 (0.663) C:75% T:84%**	pCi/L	05/14/20 16:06	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**1.04 ± 0.800 (1.29)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: P-155 **Lab ID: 30360455002** Collected: 04/20/20 11:10 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.165 ± 0.324 (0.592) C:NA T:100%**	pCi/L	05/17/20 13:32	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.511 ± 0.377 (0.727) C:73% T:83%**	pCi/L	05/14/20 16:06	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.676 ± 0.701 (1.32)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: P-01A-1 **Lab ID: 30360455003** Collected: 04/20/20 12:00 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**-0.0687 ± 0.314 (0.740) C:NA T:85%**	pCi/L	05/17/20 13:32	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.592 ± 0.359 (0.661) C:75% T:92%**	pCi/L	05/14/20 16:06	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.592 ± 0.673 (1.40)**	pCi/L	05/18/20 11:04	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-156 **Lab ID: 30360455004** Collected: 04/20/20 13:10 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.124 ± 0.386 (0.747) C:NA T:89%**	pCi/L	05/17/20 13:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.199 ± 0.415 (0.915) C:76% T:87%**	pCi/L	05/14/20 16:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.323 ± 0.801 (1.66)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: P-23 **Lab ID: 30360455005** Collected: 04/20/20 15:00 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.276 ± 0.332 (0.507) C:NA T:84%**	pCi/L	05/17/20 13:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.849 ± 0.454 (0.821) C:79% T:84%**	pCi/L	05/14/20 16:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.13 ± 0.786 (1.33)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: Rinse CCR-BAP **Lab ID: 30360455006** Collected: 04/20/20 15:10 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.124 ± 0.297 (0.743) C:NA T:93%**	pCi/L	05/17/20 13:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.499 ± 0.722 (1.56) C:75% T:80%**	pCi/L	05/14/20 19:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.499 ± 1.02 (2.30)**	pCi/L	05/18/20 11:04	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-157 **Lab ID: 30360455007** Collected: 04/20/20 16:00 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.713 ± 0.717 (1.13) C:NA T:85%**	pCi/L	05/17/20 13:32	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.289 ± 0.563 (1.24) C:79% T:80%**	pCi/L	05/14/20 19:03	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**1.00 ± 1.28 (2.37)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: Duplicate CCR-BAP **Lab ID: 30360455008** Collected: 04/20/20 16:00 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.139 ± 0.318 (0.513) C:NA T:86%**	pCi/L	05/17/20 13:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**-0.0879 ± 0.584 (1.37) C:74% T:78%**	pCi/L	05/14/20 19:03	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.139 ± 0.902 (1.88)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: Rinse CCR-P3 **Lab ID: 30360455009** Collected: 04/21/20 07:55 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.119 ± 0.273 (0.439) C:NA T:90%**	pCi/L	05/17/20 13:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**-0.379 ± 0.534 (1.32) C:75% T:80%**	pCi/L	05/14/20 19:04	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.119 ± 0.807 (1.76)**	pCi/L	05/18/20 11:04	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-150 **Lab ID: 30360455010** Collected: 04/21/20 08:45 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0600 ± 0.274 (0.442) C:NA T:93%**	pCi/L	05/17/20 13:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.256 ± 0.479 (1.05) C:77% T:85%**	pCi/L	05/14/20 19:04	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.316 ± 0.753 (1.49)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: Duplicate CCR-P3 **Lab ID: 30360455011** Collected: 04/21/20 08:45 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.378 ± 0.348 (0.205) C:NA T:83%**	pCi/L	05/17/20 13:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.165 ± 0.466 (1.05) C:74% T:87%**	pCi/L	05/14/20 19:04	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.543 ± 0.814 (1.26)**	pCi/L	05/18/20 11:04	7440-14-4	

Sample: P-151 **Lab ID: 30360455012** Collected: 04/21/20 10:00 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**-0.129 ± 0.311 (0.777) C:NA T:90%**	pCi/L	05/17/20 14:07	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.567 ± 0.555 (1.14) C:74% T:80%**	pCi/L	05/14/20 19:04	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.567 ± 0.866 (1.92)**	pCi/L	05/18/20 11:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-131 **Lab ID: 30360455013** Collected: 04/21/20 11:30 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.207 ± 0.359 (0.641) C:NA T:89%**	pCi/L	05/17/20 13:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.460 ± 0.554 (1.17) C:75% T:80%**	pCi/L	05/14/20 19:04	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.667 ± 0.913 (1.81)**	pCi/L	05/18/20 11:12	7440-14-4	

Sample: P-153 **Lab ID: 30360455014** Collected: 04/21/20 12:30 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0656 ± 0.340 (0.706) C:NA T:91%**	pCi/L	05/17/20 13:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.40 ± 0.722 (1.28) C:72% T:80%**	pCi/L	05/14/20 19:05	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**1.47 ± 1.06 (1.99)**	pCi/L	05/18/20 11:12	7440-14-4	

Sample: P-154A **Lab ID: 30360455015** Collected: 04/21/20 13:45 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.340 ± 0.612 (1.08) C:NA T:84%**	pCi/L	05/17/20 13:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.253 ± 0.477 (1.05) C:77% T:83%**	pCi/L	05/14/20 19:05	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.593 ± 1.09 (2.13)**	pCi/L	05/18/20 11:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-132 **Lab ID: 30360455016** Collected: 04/21/20 14:40 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0717 ± 0.327 (0.528) C:NA T:90%**	pCi/L	05/17/20 14:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.52 ± 0.682 (1.14) C:77% T:85%**	pCi/L	05/14/20 19:05	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**1.59 ± 1.01 (1.67)**	pCi/L	05/18/20 11:12	7440-14-4	

Sample: P-165 **Lab ID: 30360455017** Collected: 04/21/20 15:35 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0579 ± 0.264 (0.426) C:NA T:98%**	pCi/L	05/17/20 14:13	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.01 ± 0.670 (1.28) C:74% T:84%**	pCi/L	05/14/20 19:47	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**1.07 ± 0.934 (1.71)**	pCi/L	05/18/20 11:12	7440-14-4	

Sample: P-130 **Lab ID: 30360455018** Collected: 04/21/20 16:40 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.000 ± 0.445 (0.900) C:NA T:110%**	pCi/L	05/17/20 14:02	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.285 ± 0.581 (1.28) C:70% T:86%**	pCi/L	05/14/20 19:48	15262-20-1	
		Pace Analytical Services - Greensburg				
Total Radium	Total Radium Calculation	**0.285 ± 1.03 (2.18)**	pCi/L	05/18/20 11:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-162 **Lab ID: 30360455019** Collected: 04/22/20 08:10 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.134 ± 0.306 (0.493) C:NA T:84%**	pCi/L	05/17/20 14:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.566 ± 0.673 (1.42) C:75% T:85%**	pCi/L	05/14/20 19:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.700 ± 0.979 (1.91)**	pCi/L	05/18/20 11:12	7440-14-4	

Sample: P-163 **Lab ID: 30360455020** Collected: 04/22/20 09:05 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.158 ± 0.361 (0.582) C:NA T:77%**	pCi/L	05/17/20 14:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.37 ± 0.779 (0.990) C:74% T:82%**	pCi/L	05/14/20 19:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.53 ± 1.14 (1.57)**	pCi/L	05/18/20 11:12	7440-14-4	

Sample: P-164 **Lab ID: 30360455021** Collected: 04/22/20 09:55 Received: 04/27/20 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.193 ± 0.334 (0.597) C:NA T:82%**	pCi/L	05/15/20 13:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.141 ± 0.396 (0.942) C:76% T:78%**	pCi/L	05/13/20 11:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.193 ± 0.730 (1.54)**	pCi/L	05/15/20 14:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

Sample: P-152A **Lab ID: 30360455022** Collected: 04/14/20 10:50 Received: 04/20/20 09:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.309 (0.498) C:NA T:85%**	pCi/L	05/11/20 11:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.-0.00368 ± 0.413 (0.958) C:81% T:70%**	pCi/L	05/07/20 16:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.722 (1.46)**	pCi/L	05/27/20 14:18	7440-14-4	

Sample: P-17 **Lab ID: 30360455023** Collected: 04/14/20 13:35 Received: 04/20/20 09:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.430 ± 0.469 (0.737) C:NA T:89%**	pCi/L	05/11/20 11:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0583 ± 0.328 (0.774) C:93% T:76%**	pCi/L	05/07/20 16:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.430 ± 0.797 (1.51)**	pCi/L	05/27/20 14:18	7440-14-4	

Sample: P-158 **Lab ID: 30360455024** Collected: 04/15/20 10:55 Received: 04/20/20 09:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.316 ± 0.330 (0.891) C:NA T:84%**	pCi/L	05/11/20 11:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.353 ± 0.395 (0.828) C:83% T:77%**	pCi/L	05/07/20 16:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.353 ± 0.725 (1.72)**	pCi/L	05/27/20 14:18	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

QC Batch: 394301
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30360455021

METHOD BLANK: 1909670 Matrix: Water
Associated Lab Samples: 30360455021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.322 ± 0.422 (0.703) C:NA T:78%	pCi/L	05/15/20 12:54	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

QC Batch: 398081
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30360455022, 30360455023, 30360455024

METHOD BLANK: 1928361 Matrix: Water
Associated Lab Samples: 30360455022, 30360455023, 30360455024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.152 ± 0.434 (0.806) C:NA T:87%	pCi/L	05/11/20 11:19	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

QC Batch: 394300
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30360455021

METHOD BLANK: 1909669 Matrix: Water
Associated Lab Samples: 30360455021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0468 ± 0.288 (0.663) C:77% T:87%	pCi/L	05/13/20 11:03	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

QC Batch: 394303
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30360455001, 30360455002, 30360455003, 30360455004, 30360455005, 30360455006, 30360455007, 30360455008, 30360455009, 30360455010, 30360455011, 30360455012, 30360455013, 30360455014, 30360455015, 30360455016, 30360455017, 30360455018, 30360455019, 30360455020

METHOD BLANK: 1909673
Matrix: Water
Associated Lab Samples: 30360455001, 30360455002, 30360455003, 30360455004, 30360455005, 30360455006, 30360455007, 30360455008, 30360455009, 30360455010, 30360455011, 30360455012, 30360455013, 30360455014, 30360455015, 30360455016, 30360455017, 30360455018, 30360455019, 30360455020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.632 ± 0.406 (0.757) C:74% T:81%	pCi/L	05/14/20 16:05	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

QC Batch: 398082
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30360455022, 30360455023, 30360455024

METHOD BLANK: 1928365 Matrix: Water
Associated Lab Samples: 30360455022, 30360455023, 30360455024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.217 ± 0.341 (0.739) C:82% T:82%	pCi/L	05/07/20 14:09	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

QC Batch: 394302 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30360455001, 30360455002, 30360455003, 30360455004, 30360455005, 30360455006, 30360455007, 30360455008, 30360455009, 30360455010, 30360455011, 30360455012, 30360455013, 30360455014, 30360455015, 30360455016, 30360455017, 30360455018, 30360455019, 30360455020

METHOD BLANK: 1909671 Matrix: Water
Associated Lab Samples: 30360455001, 30360455002, 30360455003, 30360455004, 30360455005, 30360455006, 30360455007, 30360455008, 30360455009, 30360455010, 30360455011, 30360455012, 30360455013, 30360455014, 30360455015, 30360455016, 30360455017, 30360455018, 30360455019, 30360455020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.107 ± 0.258 (0.645) C:NA T:81%	pCi/L	05/17/20 13:32	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
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QUALIFIERS

Project: 20-03252 Xcel Energy-Revised Report
Pace Project No.: 30360455

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

WO# : 30360455

30360455

Section A Required Client Information:

Company:	Xcel Energy
Address:	c/o Pace MN Field
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Chris Pelosi
Copy To:	
Purchase Order No.:	
Project Name:	20-03252, Xcel Energy -
Project Number:	Sherco Ponds, Spring 2020

Section C Invoice Information:

Attention:	Ciara Ruikkie
Company Name:	Pace MN Field Services
Address:	
Pace Quote Reference:	Tom Halverson
Pace Project Manager:	Carin Ferris
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: RA-226 EPA 903.1	RA-228 EPA 904.0	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	P-22	WT				4/20/20	1005		2			2						✓	✓		01
2	P-155						1110		2			2						✓	✓		02
3	P-01A-1						1200		2			2						✓	✓		03
4	P-156						1310		2			2						✓	✓		04
5	P-23						1500		2			2						✓	✓		05
6	Rinse CCR-BAP						1510		2			2						✓	✓		06
7	P-157						1600		2			2						✓	✓		07
8	Duplicate CCR-BAP	↓				↓	1600		2			2						✓	✓		08
9	Rinse CCR-P3	WT				4/21/20	0755		2			2						✓	✓		09
10	P-150						0845		2			2						✓	✓		10
11	Duplicate CCR-P3						0845		2			2						✓	✓		11
12	P-151	↓				↓	1000		2			2						✓	✓		12

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
(1) Client needs to analyze for: Radium 226 + 228 pCi/L combined.	David Anderson/Pace	4/23/20	0800	[illegible] Pace	4/27/20	10:20	-	N	N	Y
(2) RA-226 EPA 903.1 RA-228 EPA 904.0										

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: David Anderson

SIGNATURE of SAMPLER: David Anderson — DATE Signed (MM/DD/YY): 4/24/20

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

*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.

F-ALL-C-010-rev.00, 09Nov2017

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

2277985

Section A Required Client Information:

Company: Xcel Energy
Address: c/o Pace MN Field
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Chris Pelosi
Copy To:
Purchase Order No.:
Project Name: 20-03252, Xcel Energy - Sherco Ponds, Spring 2020
Project Number:

Section C Invoice Information:

Attention: Ciara Ruikkie
Company Name: Pace MN Field Services
Address:
Pace Quote Reference: Tom Halvorson
Pace Project Manager: Catin Ferris
Pace Profile #:

REGULATORY AGENCY

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

Site Location STATE:

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: RA-226 EPA 903.1	RA-228 EPA 904.0	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	P-131	WT	G			4/21/20	1130		2			2						✓	✓		013
2	P-153	WT	G				1230		2			2						✓	✓		014
3	P-154A	WT	G				1345		2			2						✓	✓		015
4	P-132	WT	G				1440		2			2						✓	✓		016
5	P-165	WT	G				1535		2			2						✓	✓		017
6	P-130	WT	G			↓	1640		2			2						✓	✓		018
7	P-162	WT	G			4/22/20	0810		2			2						✓	✓		019
8	P-163	WT	G				0905		2			2						✓	✓		020
9	P-164	WT	G			↓	0955		2			2						✓	✓		021
10																					
11																					
12																					

@ 4/23/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
1. client needs to analyze for: Radium-226+228 pCi/L combined.	~~Chris Pelosi~~ DJA Pace 4/20/20	1400								
	David Anderson / Pace	4/23/20	0800				-	N	N	Y
2. RA-226 EPA 903.1 RA-228 EPA 904.0										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: ~~Chris Pelosi~~ David Anderson

SIGNATURE of SAMPLER: ~~Chris Pelosi~~ David Anderson DATE Signed (MM/DD/YY): ~~4/20/20~~ 4/22/20

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

*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.

F-ALL-C-010-rev.00, 09Nov2017

ORIGINAL

Page 25 of 26

2277985 #

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Xcel Energy Project # # 30360455

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

Label MG
LIMS Login MG

Tracking #: 1686 7302 1753

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

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

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

Temp should be above freezing to 6°C

pH paper Lot# 10B491 Date and Initials of person examining contents: MG

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: NT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed: MG 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: MG Date: 4/22/2021

Client Notification/ Resolution:

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

Comments/ Resolution: 3 Cooler Project

☐ **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 2020 Assessment Monitoring Event
Field Datasheets and Laboratory Reports

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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

Well depth 416.84 Feet *

Static water level measurement before purging 37.73 Feet } D.K 11/9/20

Static water level measurement at time of sampling 37.73 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 11/12/20 Water Column 9.11 Feet

Time Purged 1315-1345 One Casing Volume 1.48 Gallons

Pump Rate 0.5 GPM / LPM Volume Purged 4.5 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 1350

Sampling Equip. Pump + Filter

Meter ID MPS-7

Analyzed by RDJ

Field Parameter Measurements of Sample

pH 7.2 (units) D.O 7.7 (mg/l)

Spec. Cond. 690 (µmhos/cm) Turbidity 2.6 (NTU)

Temp. 9.9 (°C) Eh 203 (mV)

Other NA

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

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

Weather Conditions During Sampling: 28°F, Cloudy, W @ 10MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1325	7.3	700	9.9	8.1	NA	198	1.5
1335	7.2	690	9.9	7.9	NA	200	3.0
1345	7.2	690	9.9	7.7	NA	203	4.5
				RDJ 11/12/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobson Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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
Well depth	48.55	Feet * D.K. 11/9/20
Static water level measurement before purging	35.40	Feet
Static water level measurement at time of sampling	35.40	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 11/12/20 Water Column 13.15 Feet

Time Purged 1105 - 1138 One Casing Volume 2.14 Gallons

Pump Rate 0.2 GPM / LPM Volume Purged 6.6 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 1140

Sampling Equip. Pump + Filter

Meter ID MPS-7

Analyzed by RJJ

Field Parameter Measurements of Sample

pH 7.6 (units) D.O 8.4 (mg/l)

Spec. Cond. 460 (µmhos/cm) Turbidity 2.3 (NTU)

Temp. 9.2 (°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: 27°F, cloudy, WSW, 14MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1116	7.6	460	9.3	8.7	NA	191	2.2
1127	7.6	460	9.2	8.5	NA	190	4.4
1138	7.6	460	9.2	8.4	NA	190	6.6
				RJJ 11/12/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobsen Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

Monitoring Point ID P-132 Labeled P132

Inside Diameter 2 (inches) Key # 2.10L2 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation NA Feet

Well depth 36.51 Feet } D.K. 11/9/20

Static water level measurement before purging 30.07 Feet }

Static water level measurement at time of sampling 30.07 Feet

Static Water Level Elevation Before Purging NA Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 11/12/20 Water Column 6.44 Feet

Time Purged 0830 - 0851 One Casing Volume 1.05 Gallons

Pump Rate 0.15 (GPM) / LPM Volume Purged 3.15 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 0855

Sampling Equip. Pump + filter

Meter ID MPS-7

Analyzed by RDJ

Field Parameter Measurements of Sample

pH 7.4 (units) D.O 8.4 (mg/l)

Spec. Cond. 610 (µmhos/cm) Turbidity 1.7 (NTU)

Temp. 9.5 (°C) Eh 191 (mV)

Other NA

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

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

Weather Conditions During Sampling: 26°F, cloudy, W@6MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0837	7.5	610	9.5	8.5	NA	190	1.05
0844	7.4	610	9.5	8.5	NA	191	2.10
0851	7.4	610	9.5	8.4	NA	191	3.15
				RDJ 11/12/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobson Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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
Well depth	36.66	Feet * DK 11/9/20
Static water level measurement before purging	33.09	Feet
Static water level measurement at time of sampling	33.09	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 11/12/20 Water Column 3.57 Feet

Time Purged 1200 – 1212 One Casing Volume 0.58 Gallons

Pump Rate 0.15 GPM / LPM Volume Purged 1.8 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 1215

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RDJ

Field Parameter Measurements of Sample

pH 7.6 (units) D.O 7.7 (mg/l)

Spec. Cond. 590 (µmhos/cm) Turbidity 2.0 (NTU)

Temp. 9.8 (°C) Eh 194 (mV)

Other NA

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

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

Weather Conditions During Sampling: 27°F, Cloudy, WE12MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1204	7.7	600	9.8	8.0	NA	192	0.6
1208	7.6	590	9.8	7.9	NA	193	1.2
1212	7.6	590	9.8	7.7	NA	194	1.8
				RDJ 11/12/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobsen Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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
Well depth	20.16	Feet
Static water level measurement before purging	12.35	Feet
Static water level measurement at time of sampling	12.35	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method ~~Dedicated Bladder Pump~~ Whale Pump Pump ID ~~BAE-1~~ NA

Date Purged 11/12/20 Water Column 7.81 Feet

Time Purged 1420 - 1432 One Casing Volume 1.27 Gallons

Pump Rate 0.5 (GPM) / LPM Volume Purged 6.0 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 1435

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RDJ

Field Parameter Measurements of Sample

pH 7.9 (units) D.O 8.1 (mg/l)

Spec. Cond. 320 (µmhos/cm) Turbidity 4.3 (NTU)

Temp. 13.6 (°C) Eh 181 (mV)

Other NA

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

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

Weather Conditions During Sampling: 28°F, Cloudy, WSW 12 MPH

Sample Description: clear no odor

Observations: Bladder Pump did not work, unsure of reason. used whale pump.

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1424	8.0	310	13.5	8.5	NA	181	2
1428	8.0	310	13.6	8.3	NA	181	4
1432	7.9	320	13.6	8.1	NA	181	6
				RDJ 11/12/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobson Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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
Well depth	42.18	Feet } D.K 11/9/20
Static water level measurement before purging	37.93	Feet } D.K 11/9/20
Static water level measurement at time of sampling	37.93	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 11/12/20 Water Column 4.25 Feet

Time Purged 1450-1505 One Casing Volume 0.69 Gallons

Pump Rate 0.15 (GPM) / LPM Volume Purged 2.25 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 1510

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RJJ

Field Parameter Measurements of Sample

pH 7.6 (units) D.O 9.5 (mg/l)

Spec. Cond. 340 (µmhos/cm) Turbidity 1.6 (NTU)

Temp. 9.2 (°C) Eh 194 (mV)

Other NA

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

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

Weather Conditions During Sampling: 26°F, cloudy, NW @ 13MPH

Sample Description: clear no odor

Observations: BAP, BAP2 and P3 DUPLICATES + RINSE all collected @ this well (6 samples) RINSE collected @ 1515

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1455	7.6	340	9.1	9.9	NA	196	0.75
1500	7.6	340	9.2	9.7	NA	195	1.50
1505	7.6	340	9.2	9.5	NA	194	2.25

RJJ 11/12/20

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobson Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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
Well depth	23.63	Feet * } D.K. 11/9/20
Static water level measurement before purging	16.75	Feet }
Static water level measurement at time of sampling	16.75	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 11/12/20 Water Column 6.88 Feet

Time Purged 1020 - 1044 One Casing Volume 1.12 Gallons

Pump Rate 0.15 (GPM) / LPM Volume Purged 3.6 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 1050

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RDJ

Field Parameter Measurements of Sample

pH	8.2 (units)	D.O	9.1 (mg/l)
Spec. Cond.	160 (µmhos/cm)	Turbidity	1.0 (NTU)
Temp.	12.6 (°C)	Eh	162 (mV)
Other	NA		

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

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

Weather Conditions During Sampling: 28F, Cloudy, W@16MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1028	8.2	170	12.5	9.0	NA	161	1.2
1036	8.2	170	12.6	9.0	NA	161	2.4
1044	8.2	160	12.6	9.1	NA	162	3.6
				RDJ 11/12/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobsen Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

Monitoring Point ID P-154A Labeled 8062316

Inside Diameter 2 (inches) Key # 21062 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Well depth	49.53	Feet * D.K 11/9/20
Static water level measurement before purging	33.44	Feet
Static water level measurement at time of sampling	33.44	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method Dedicated Bladder Pump Pump ID BPC-1

Date Purged 11/12/20 Water Column 16.09 Feet

Time Purged 0920-1002 One Casing Volume 2.62 Gallons

Pump Rate 0.2 (GPM) / LPM Volume Purged 8.4 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 1005

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RJJ

Field Parameter Measurements of Sample

pH 7.7 (units) D.O 5.2 (mg/l)

Spec. Cond. 490 (µmhos/cm) Turbidity 2.2 (NTU)

Temp. 9.0 (°C) Eh 179 (mV)

Other NA

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

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

Weather Conditions During Sampling: 28°F, Cloudy, WSW 9MPH

Sample Description: clear no odor

Observations: none

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0934	7.8	490	9.1	4.9	NM	181	2.8
0948	7.7	490	9.0	5.2	NM	180	5.6
1002	7.7	490	9.0	5.5	NM	179	8.4
				RJJ 11/12/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobsen Date: 11/12/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client: Xcel Energy Project: Sherco Ponds, Fall 2020 Project No.: 20-03972

Monitoring Point ID: P-162 Labeled: 822156

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

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

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Well depth	166.00	Feet
Static water level measurement before purging	149.00	Feet
Static water level measurement at time of sampling	149.00	Feet
Static Water Level Elevation Before Purging	NA	Feet

Well depth, Static water level measurement before purging: Approximated 11/11/20 RJS

Purge Method: Dedicated Keck Pump Pump ID: NA

Date Purged: 11/11/20 Water Column: 17.00 Feet

Time Purged: 1220 - 1238 One Casing Volume: 2.77 Gallons

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

Field Sampling Data

Date Sampled: 11/11/20

Time Sampled: 1240

Sampling Equip.: Pump

Meter ID: MPS-7

Analyzed by: RJS

Field Parameter Measurements of Sample

pH: 7.7 (units) D.O: 5.8 (mg/l)

Spec. Cond.: 710 (µmhos/cm) Turbidity: 4.1 (NTU)

Temp.: 9.5 (°C) Eh: 189 (mV)

Other: NA

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

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

Weather Conditions During Sampling: 29°F, Sunny, SE 12 MPH

Sample Description: Clear no odor

Observations: ~~none~~ Used Past Water level Datum

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1224/1227	7.8	680	9.5	5.2	NA	185	2.8
1227/1234	7.7	700	9.5	5.6	NA	187	5.6
1234/1238	7.7	710	9.5	5.8	NA	189	8.4
1238							
(Pump) 11/11/20				RJS 11/11/20			

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

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobsen Date: 11/11/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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
Well depth	176.00	Feet
Static water level measurement before purging	158.00	Feet
Static water level measurement at time of sampling	158.00	Feet
Static Water Level Elevation Before Purging	NA	Feet

Approximate ROS 11/11/20

Purge Method Dedicated Keck Pump Pump ID NA

Date Purged 11/11/20 Water Column 18.00 Feet

Time Purged 1255 - 1319 One Casing Volume 2.93 Gallons

Pump Rate 0.4 (GPM) / LPM Volume Purged 9.6 Gallons

Field Sampling Data

Date Sampled 11/11/20

Time Sampled 1325

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RJJ

Field Parameter Measurements of Sample

pH 7.2 (units) D.O 7.0 (mg/l)

Spec. Cond. 920 (µmhos/cm) Turbidity 4.3 (NTU)

Temp. 9.7 (°C) Eh 189 (mV)

Other NA

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

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

Weather Conditions During Sampling: 32°F, Partly Cloudy, SE 8MPH

Sample Description: clear no odor

Observations: ~~Acuse~~ Used Past Water Level Data

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1303	7.3	900	9.7	7.4	NA	190	3.2
1311	7.2	920	9.7	7.2	NA	189	6.4
1319	7.2	920	9.7	7.0	NA	189	~~8.6~~ 9.6
				RJJ 11/11/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jac Date: 11/11/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

Monitoring Point ID P-164 Labeled 822158

Inside Diameter 2 (inches) Key # 21016 ☒ Locked ☐ Not Locked

Casing Material: ☒ PVC ☐ Steel ☐ Stainless Steel

Depth Measurement and Elevations (from top of well casing)

Top of Casing Elevation	NA	Feet
Well depth	166.00	Feet
Static water level measurement before purging	152.00	Feet
Static water level measurement at time of sampling	152.00	Feet
Static Water Level Elevation Before Purging	NA	Feet

Approximate RDS 11/11/20

Purge Method Dedicated KECK Pump Pump ID NA

Date Purged 11/11/20 Water Column 14.00 Feet

Time Purged 1340 - 1358 One Casing Volume 2.28 Gallons

Pump Rate 0.4 (GPM) / LPM Volume Purged 7.2 Gallons

Field Sampling Data

Date Sampled 11/11/20

Time Sampled 1400

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RDJ

Field Parameter Measurements of Sample

pH 7.7 (units) D.O 7.8 (mg/l)

Spec. Cond. 500 (µmhos/cm) Turbidity 3.7 (NTU)

Temp. 11.1 (°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: 31°F, cloudy, SE 8MPH

Sample Description: clear no odor

Observations: ~~none~~ Used Past Data for Water Level

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
1346	7.7	500	11.1	8.4	NA	172	2.4
1352	7.7	500	11.1	8.0	NA	167	4.8
1358	7.7	500	11.1	7.8	NA	164	7.2
				RDJ 11/11/20			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jacobsen Date: 11/11/20

Pace Analytical® Field Services Division

Well Sampling Field Data Log Sheet

Well Description and Presampling Information

Client Xcel Energy Project Sherco Ponds, Fall 2020 Project No. 20-03972

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
Well depth	40.32	Feet } D.K. 11/9/20
Static water level measurement before purging	32.23	Feet }
Static water level measurement at time of sampling	32.23	Feet
Static Water Level Elevation Before Purging	NA	Feet

Purge Method ~~Dedicated Bladder Pump~~ (1) Pump ID BPC-1

Date Purged 11/12/20 Water Column 8.09 Feet

Time Purged 0740 - 0807 One Casing Volume 1.32 Gallons

Pump Rate 0.15 GPM / LPM Volume Purged 4.05 Gallons

Field Sampling Data

Date Sampled 11/12/20

Time Sampled 0810

Sampling Equip. Pump

Meter ID MPS-7

Analyzed by RDJ

Field Parameter Measurements of Sample

pH 7.5 (units) D.O 8.8 (mg/l)

Spec. Cond. 490 (µmhos/cm) Turbidity 5.4 (NTU)

Temp. 9.9 (°C) Eh 186 (mV)

Other NA

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

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

Weather Conditions During Sampling: 26°F, Cloudy/light Snow, WC@6MPH

Sample Description: clear no oder

Observations: (1) Bladder Pump did not work, used Monsoon Pump, unsure as to the cause of pump failure

Stabilization Test

Time	pH (units)	Specifc Conductance (µmhos/cm)	Temp (°C)	D.O. (mg/l)	Turbidity (NTU)	Eh (mV)	Volume Purged (cumulative gal)
0749	7.6	470	9.8	9.5	NA	197	1.35
0758	7.5	490	9.9	9.2	NA	192	2.70
0807	7.5	490	9.9	8.8	NA	186	4.05
				RDJ initials			

Samples chilled immediately after collection: ☒ Yes ☐ Other

Form Revised: 09/27/2017

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

Lead Technician Signature: Riley Jac Date: 11/12/20

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

14 December 2020

Eric Ealy

Environmental Services-Water Minneapolis

250 Marquette Plaza

Minneapolis, MN 55401

cc:

RE: Sherco Pond 3 CCR

Enclosed are the results of analyses for samples received by the laboratory on 11/13/2020 09:10. If you have any questions concerning this report, please feel free to contact me.

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

Sincerely,

Steve Davis

Project Manager

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Sample Qualifier	Laboratory ID	Matrix	Sampled	Received
P-130		MFK0098-04	Water	11/12/2020 13:50	11/13/2020 9:10
P-131		MFK0098-05	Water	11/12/2020 11:40	11/13/2020 9:10
P-132		MFK0098-06	Water	11/12/2020 8:55	11/13/2020 9:10
P-150		MFK0098-07	Water	11/12/2020 12:15	11/13/2020 9:10
P-151		MFK0098-08	Water	11/12/2020 14:35	11/13/2020 9:10
P-152a		MFK0098-09	Water	11/12/2020 15:10	11/13/2020 9:10
P-153		MFK0098-10	Water	11/12/2020 10:50	11/13/2020 9:10
P-154a		MFK0098-11	Water	11/12/2020 10:05	11/13/2020 9:10
P-162		MFK0098-14	Water	11/11/2020 12:40	11/13/2020 9:10
P-163		MFK0098-15	Water	11/11/2020 13:25	11/13/2020 9:10
P-164		MFK0098-16	Water	11/11/2020 14:00	11/13/2020 9:10
P-165		MFK0098-17	Water	11/12/2020 8:10	11/13/2020 9:10
Duplicate CCR-P3		MFK0098-22	Water	11/12/2020 15:10	11/13/2020 9:10
Rinse CPR-P3		MFK0098-23	Water	11/12/2020 15:15	11/13/2020 9:10

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

P-130

MFK0098-04 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:17	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:17	EPA 300.0	CRL
Sulfate	11.3	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:17	EPA 300.0	CRL
Wet Chemistry										
pH	8.11		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 9:23	SM 4500-H+ B	CRL
Total Dissolved Solids	430	25.0	mg/L		1	BFK0310	11/16/20 8:57	11/16/20 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0309	11/16/20 6:49	11/16/20 6:49	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:11	EPA 200.8	CRL
Barium	95.1	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:11	EPA 200.8	CRL
Chromium	1.05	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:11	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:11	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:11	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:32	EPA 200.7	HRD
Calcium	120	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:30	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

P-131

MFK0098-05 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	18.3	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:37	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:37	EPA 300.0	CRL
Sulfate	16.4	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:37	EPA 300.0	CRL
Wet Chemistry										
pH	8.31		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 9:30	SM 4500-H+ B	CRL
Total Dissolved Solids	276	25.0	mg/L		1	BFK0310	11/16/20 8:57	11/16/20 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0309	11/16/20 6:49	11/16/20 6:49	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.698	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:14	EPA 200.8	CRL
Barium	73.1	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:14	EPA 200.8	CRL
Chromium	0.749	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:14	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:14	EPA 200.8	CRL
Selenium	0.564	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:14	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:38	EPA 200.7	HRD
Calcium	68.0	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:36	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

P-132

MFK0098-06 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	1.90	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:57	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:57	EPA 300.0	CRL
Sulfate	69.4	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 15:57	EPA 300.0	CRL
Wet Chemistry										
pH	8.17		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 9:37	SM 4500-H+ B	CRL
Total Dissolved Solids	394	25.0	mg/L		1	BFK0310	11/16/20 8:57	11/16/20 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0309	11/16/20 6:49	11/16/20 6:49	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:18	EPA 200.8	CRL
Barium	44.5	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:18	EPA 200.8	CRL
Chromium	1.62	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:18	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:18	EPA 200.8	CRL
Selenium	1.49	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:18	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.116	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:43	EPA 200.7	HRD
Calcium	94.2	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:41	EPA 200.7	HRD

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WI-999071150
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	12/14/2020 13:22

P-150

MFK0098-07 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	97.6	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:00	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:00	EPA 300.0	CRL
Sulfate	6.30	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:00	EPA 300.0	CRL
Wet Chemistry										
pH	8.25		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 9:40	SM 4500-H+ B	CRL
Total Dissolved Solids	336	25.0	mg/L		1	BFK0310	11/16/20 8:57	11/16/20 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0309	11/16/20 6:49	11/16/20 6:49	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.605	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:22	EPA 200.8	CRL
Barium	66.7	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:22	EPA 200.8	CRL
Chromium	0.837	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:22	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:22	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:22	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:48	EPA 200.7	HRD
Calcium	68.5	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:46	EPA 200.7	HRD

Minneapolis Testing Laboratory
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WI-999071150
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	12/14/2020 13:22

P-151

MFK0098-08 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	13.2	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:20	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:20	EPA 300.0	CRL
Sulfate	9.75	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:20	EPA 300.0	CRL
Wet Chemistry										
pH	8.47		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 9:43	SM 4500-H+ B	CRL
Total Dissolved Solids	182	25.0	mg/L		1	BFK0310	11/16/20 8:57	11/16/20 8:57	SM 2540C	HSD
Total Suspended Solids	27.1	7.14	mg/L		1	BFK0309	11/16/20 6:49	11/16/20 6:49	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.571	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:26	EPA 200.8	CRL
Barium	44.7	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:26	EPA 200.8	CRL
Chromium	1.40	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:26	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:26	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:26	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/25/20 14:27	EPA 200.7	HRD
Calcium	48.0	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/25/20 14:24	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

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MFK0098-09 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:41	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:41	EPA 300.0	CRL
Sulfate	7.67	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 18:41	EPA 300.0	CRL
Wet Chemistry										
pH	8.39		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 9:46	SM 4500-H+ B	CRL
Total Dissolved Solids	234	25.0	mg/L		1	BFK0317	11/17/20 8:56	11/17/20 8:56	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0316	11/17/20 6:47	11/17/20 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.503	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:30	EPA 200.8	CRL
Barium	37.6	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:30	EPA 200.8	CRL
Chromium	0.830	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:30	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:30	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:30	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:58	EPA 200.7	HRD
Calcium	55.9	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 14:56	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

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MFK0098-10 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 19:01	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 19:01	EPA 300.0	CRL
Sulfate	2.46	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 19:01	EPA 300.0	CRL
Wet Chemistry										
pH	8.40		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 9:48	SM 4500-H+ B	CRL
Total Dissolved Solids	120	25.0	mg/L		1	BFK0317	11/17/20 8:56	11/17/20 8:56	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0316	11/17/20 6:47	11/17/20 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.27	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:34	EPA 200.8	CRL
Barium	16.8	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:34	EPA 200.8	CRL
Chromium	0.832	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:34	EPA 200.8	CRL
Molybdenum	0.624	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:34	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:34	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:03	EPA 200.7	HRD
Calcium	26.9	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:01	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

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MFK0098-11 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	30.9	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 19:22	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 19:22	EPA 300.0	CRL
Sulfate	28.1	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 19:22	EPA 300.0	CRL
Wet Chemistry										
pH	8.27		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 10:02	SM 4500-H+ B	CRL
Total Dissolved Solids	302	25.0	mg/L		1	BFK0317	11/17/20 8:56	11/17/20 8:56	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0316	11/17/20 6:47	11/17/20 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	1.29	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:38	EPA 200.8	CRL
Barium	50.6	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:38	EPA 200.8	CRL
Chromium	0.771	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:38	EPA 200.8	CRL
Molybdenum	0.700	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:38	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:38	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:08	EPA 200.7	HRD
Calcium	73.9	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:06	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

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MFK0098-14 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	29.2	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 20:23	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 20:23	EPA 300.0	CRL
Sulfate	112	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 20:23	EPA 300.0	CRL
Wet Chemistry										
pH	8.19		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 10:12	SM 4500-H+ B	CRL
Total Dissolved Solids	524	25.0	mg/L		1	BFK0317	11/17/20 8:56	11/17/20 8:56	SM 2540C	HSD
Total Suspended Solids	10.6	5.00	mg/L		1	BFK0316	11/17/20 6:47	11/17/20 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.711	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:58	EPA 200.8	CRL
Barium	47.7	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:58	EPA 200.8	CRL
Chromium	5.21	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:58	EPA 200.8	CRL
Molybdenum	2.20	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:58	EPA 200.8	CRL
Selenium	6.66	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 10:58	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.160	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:43	EPA 200.7	HRD
Calcium	91.9	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:41	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

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MFK0098-15 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	15.7	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 20:43	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 20:43	EPA 300.0	CRL
Sulfate	227	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 20:43	EPA 300.0	CRL
Wet Chemistry										
pH	8.07		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 10:15	SM 4500-H+ B	CRL
Total Dissolved Solids	758	25.0	mg/L		1	BFK0317	11/17/20 8:56	11/17/20 8:56	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0316	11/17/20 6:47	11/17/20 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.563	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:02	EPA 200.8	CRL
Barium	78.5	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:02	EPA 200.8	CRL
Chromium	13.4	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:02	EPA 200.8	CRL
Molybdenum	0.736	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:02	EPA 200.8	CRL
Selenium	51.8	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:02	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.713	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:48	EPA 200.7	HRD
Calcium	168	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 15:47	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

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MFK0098-16 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	7.57	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 21:04	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 21:04	EPA 300.0	CRL
Sulfate	38.3	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 21:04	EPA 300.0	CRL
Wet Chemistry										
pH	8.19		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 10:19	SM 4500-H+ B	CRL
Total Dissolved Solids	328	25.0	mg/L		1	BFK0317	11/17/20 8:56	11/17/20 8:56	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0316	11/17/20 6:47	11/17/20 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:03	EPA 200.8	CRL
Barium	42.7	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:03	EPA 200.8	CRL
Chromium	6.76	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:03	EPA 200.8	CRL
Molybdenum	0.547	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:03	EPA 200.8	CRL
Selenium	3.17	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:03	EPA 200.8	CRL
Total Metals by ICP										
Boron	0.0515	0.0500	mg/L		1	BFK0305	11/14/20 8:37	11/25/20 12:42	EPA 200.7	HRD
Calcium	79.8	1.25	mg/L		1	BFK0305	11/14/20 8:37	11/25/20 12:40	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

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MFK0098-17 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	6.06	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 23:06	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 23:06	EPA 300.0	CRL
Sulfate	30.6	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/13/20 23:06	EPA 300.0	CRL
Wet Chemistry										
pH	8.17		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 10:23	SM 4500-H+ B	CRL
Total Dissolved Solids	328	25.0	mg/L		1	BFK0317	11/17/20 8:56	11/17/20 8:56	SM 2540C	HSD
Total Suspended Solids	14.0	5.00	mg/L		1	BFK0316	11/17/20 6:47	11/17/20 6:47	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	0.617	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:07	EPA 200.8	CRL
Barium	42.6	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:07	EPA 200.8	CRL
Chromium	9.35	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:07	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:07	EPA 200.8	CRL
Selenium	0.914	0.500	ug/L		1	BFK0306	11/14/20 8:39	11/19/20 8:07	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0305	11/14/20 8:37	11/25/20 12:48	EPA 200.7	HRD
Calcium	81.5	1.25	mg/L		1	BFK0305	11/14/20 8:37	11/25/20 12:45	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Duplicate CCR-P3

MFK0098-22 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/14/20 0:48	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/14/20 0:48	EPA 300.0	CRL
Sulfate	7.63	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/14/20 0:48	EPA 300.0	CRL
Wet Chemistry										
pH	8.31		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 10:40	SM 4500-H+ B	CRL
Total Dissolved Solids	230	25.0	mg/L		1	BFK0342	11/18/20 8:57	11/18/20 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0341	11/18/20 7:00	11/18/20 7:00	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:13	EPA 200.8	CRL
Barium	36.7	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:13	EPA 200.8	CRL
Chromium	0.799	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:13	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:13	EPA 200.8	CRL
Selenium	0.583	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:13	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 16:16	EPA 200.7	HRD
Calcium	56.4	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 16:15	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Rinse CPR-P3

MFK0098-23 (Water) - Chain of Custody Number: Pace

Analyte	Result	Reporting Limit	Units	Analyte Qualifier	Dilution	Batch	Prepared	Analyzed	Method	Analyst
Anions by Ion Chromatography										
Chloride	< 1.00	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/14/20 1:08	EPA 300.0	CRL
Fluoride	< 0.750	0.750	mg/L		1	BFK0267	11/13/20 10:00	11/14/20 1:08	EPA 300.0	CRL
Sulfate	< 1.00	1.00	mg/L		1	BFK0267	11/13/20 10:00	11/14/20 1:08	EPA 300.0	CRL
Wet Chemistry										
pH	6.49		pH Units	M_TTT	1	BFK0266	11/13/20 9:59	11/16/20 10:43	SM 4500-H+ B	CRL
Total Dissolved Solids	< 25.0	25.0	mg/L		1	BFK0342	11/18/20 8:57	11/18/20 8:57	SM 2540C	HSD
Total Suspended Solids	< 5.00	5.00	mg/L	M_K-06	1	BFK0341	11/18/20 7:00	11/18/20 7:00	SM 2540D	HSD
Total Metals by ICPMS										
Arsenic	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:17	EPA 200.8	CRL
Barium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:17	EPA 200.8	CRL
Chromium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:17	EPA 200.8	CRL
Molybdenum	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:17	EPA 200.8	CRL
Selenium	< 0.500	0.500	ug/L		1	BFK0304	11/14/20 8:34	11/18/20 11:17	EPA 200.8	CRL
Total Metals by ICP										
Boron	< 0.0500	0.0500	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 16:23	EPA 200.7	HRD
Calcium	< 1.25	1.25	mg/L		1	BFK0303	11/14/20 8:32	11/19/20 16:20	EPA 200.7	HRD

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0267 - Wet Prep										
Blank (BFK0267-BLK1)				Prepared & Analyzed: 11/13/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BFK0267-BLK2)				Prepared & Analyzed: 11/13/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
Blank (BFK0267-BLK3)				Prepared & Analyzed: 11/13/2020						
Chloride	<1.00	1.00	mg/L							
Fluoride	<0.750	0.750	mg/L							
Sulfate	<1.00	1.00	mg/L							
LCS (BFK0267-BS1)				Prepared & Analyzed: 11/13/2020						
Chloride	25.539	1.00	mg/L	25.000		102	90-110			
Fluoride	2.2620	0.750	mg/L	2.5000		90.5	90-110			
Sulfate	49.684	1.00	mg/L	50.000		99.4	90-110			
LCS (BFK0267-BS2)				Prepared & Analyzed: 11/13/2020						
Chloride	25.855	1.00	mg/L	25.000		103	90-110			
Fluoride	2.4070	0.750	mg/L	2.5000		96.3	90-110			
Sulfate	50.455	1.00	mg/L	50.000		101	90-110			
LCS (BFK0267-BS3)				Prepared & Analyzed: 11/13/2020						
Chloride	25.525	1.00	mg/L	25.000		102	90-110			
Fluoride	2.3400	0.750	mg/L	2.5000		93.6	90-110			
Sulfate	49.719	1.00	mg/L	50.000		99.4	90-110			

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Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0267 - Wet Prep										
LCS (BFK0267-BS4)				Prepared: 11/13/2020 Analyzed: 11/14/2020						
Chloride	25.532	1.00	mg/L	25.000		102	90-110			
Fluoride	2.3630	0.750	mg/L	2.5000		94.5	90-110			
Sulfate	49.713	1.00	mg/L	50.000		99.4	90-110			
Duplicate (BFK0267-DUP1)		**Source: MFK0078-42**		Prepared & Analyzed: 11/13/2020						
Chloride	25.792	1.00	mg/L		25.801			0.0349	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	110.76	1.00	mg/L		110.09			0.608	20	
Duplicate (BFK0267-DUP2)		**Source: MFK0098-04**		Prepared & Analyzed: 11/13/2020						
Chloride	0.69600	1.00	mg/L		0.71900			3.25	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	11.337	1.00	mg/L		11.275			0.548	20	
Duplicate (BFK0267-DUP3)		**Source: MFK0098-24**		Prepared & Analyzed: 11/13/2020						
Chloride	0.66300	1.00	mg/L		0.68500			3.26	20	
Fluoride	<0.750	0.750	mg/L		<0.750				20	
Sulfate	10.459	1.00	mg/L		10.440			0.182	20	
Matrix Spike (BFK0267-MS1)		**Source: MFK0078-42**		Prepared & Analyzed: 11/13/2020						
Chloride	57.275	1.25	mg/L	31.250	25.801	101	90-110			
Fluoride	2.7988	0.938	mg/L	3.1250	<0.938	89.6	90-110			
Sulfate	170.60	1.25	mg/L	62.500	110.09	96.8	90-110			
Matrix Spike (BFK0267-MS2)		**Source: MFK0098-04**		Prepared & Analyzed: 11/13/2020						
Chloride	32.115	1.25	mg/L	31.250	0.71900	100	90-110			
Fluoride	2.8975	0.938	mg/L	3.1250	<0.938	92.7	90-110			
Sulfate	72.685	1.25	mg/L	62.500	11.275	98.3	90-110			

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250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0267 - Wet Prep										
Matrix Spike (BFK0267-MS3)		**Source: MFK0098-24**		Prepared & Analyzed: 11/13/2020						
Chloride	31.748	1.25	mg/L	31.250	0.68500	99.4	90-110			
Fluoride	2.8975	0.938	mg/L	3.1250	<0.938	92.7	90-110			
Sulfate	71.195	1.25	mg/L	62.500	10.440	97.2	90-110			
Matrix Spike Dup (BFK0267-MSD1)		**Source: MFK0078-42**		Prepared & Analyzed: 11/13/2020						
Chloride	57.231	1.25	mg/L	31.250	25.801	101	90-110	0.0764	20	
Fluoride	2.9125	0.938	mg/L	3.1250	<0.938	93.2	90-110	3.98	20	
Sulfate	169.94	1.25	mg/L	62.500	110.09	95.8	90-110	0.386	20	
Matrix Spike Dup (BFK0267-MSD2)		**Source: MFK0098-04**		Prepared & Analyzed: 11/13/2020						
Chloride	31.351	1.25	mg/L	31.250	0.71900	98.0	90-110	2.41	20	
Fluoride	2.8488	0.938	mg/L	3.1250	<0.938	91.2	90-110	1.70	20	
Sulfate	71.174	1.25	mg/L	62.500	11.275	95.8	90-110	2.10	20	
Matrix Spike Dup (BFK0267-MSD3)		**Source: MFK0098-24**		Prepared & Analyzed: 11/13/2020						
Chloride	31.591	1.25	mg/L	31.250	0.68500	98.9	90-110	0.493	20	
Fluoride	2.8975	0.938	mg/L	3.1250	<0.938	92.7	90-110	0.00	20	
Sulfate	71.058	1.25	mg/L	62.500	10.440	97.0	90-110	0.193	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0266 - Wet Prep										
LCS (BFK0266-BS1)				Prepared: 11/13/2020 Analyzed: 11/16/2020						
pH	4.1000		pH Units	7.0000		58.6	90-110			
LCS (BFK0266-BS2)				Prepared: 11/13/2020 Analyzed: 11/16/2020						
pH	4.1100		pH Units	7.0000		58.7	90-110			
Duplicate (BFK0266-DUP1)		**Source: MFK0078-41**		Prepared: 11/13/2020 Analyzed: 11/16/2020						
pH	8.5200		pH Units		8.5300			0.117	20	
Duplicate (BFK0266-DUP2)		**Source: MFK0098-01**		Prepared: 11/13/2020 Analyzed: 11/16/2020						
pH	8.5400		pH Units		8.5500			0.117	20	
Duplicate (BFK0266-DUP3)		**Source: MFK0098-11**		Prepared: 11/13/2020 Analyzed: 11/16/2020						
pH	8.2700		pH Units		8.2700			0.00	20	
Batch BFK0309 - Wet Prep										
Blank (BFK0309-BLK1)				Prepared & Analyzed: 11/16/2020						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BFK0309-BS1)				Prepared & Analyzed: 11/16/2020						
Total Suspended Solids	84.000	5.00	mg/L	100.01		84.0	70-130			
Duplicate (BFK0309-DUP1)		**Source: MFK0098-08**		Prepared & Analyzed: 11/16/2020						
Total Suspended Solids	26.667	8.33	mg/L		27.143			1.77	20	
Batch BFK0310 - Wet Prep										
Blank (BFK0310-BLK1)				Prepared & Analyzed: 11/16/2020						
Total Dissolved Solids	<25.0	25.0	mg/L							

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Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0310 - Wet Prep										
LCS (BFK0310-BS1)				Prepared & Analyzed: 11/16/2020						
Total Dissolved Solids	46.000	25.0	mg/L	50.030		91.9	70-130			
Duplicate (BFK0310-DUP1)		**Source: MFK0098-08**		Prepared & Analyzed: 11/16/2020						
Total Dissolved Solids	188.00	25.0	mg/L		182.00			3.24	20	
Batch BFK0316 - Wet Prep										
Blank (BFK0316-BLK1)				Prepared & Analyzed: 11/17/2020						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BFK0316-BS1)				Prepared & Analyzed: 11/17/2020						
Total Suspended Solids	84.000	5.00	mg/L	100.01		84.0	70-130			
Duplicate (BFK0316-DUP1)		**Source: MFK0098-24**		Prepared & Analyzed: 11/17/2020						
Total Suspended Solids	40.333	8.33	mg/L		37.500			7.28	20	
Batch BFK0317 - Wet Prep										
Blank (BFK0317-BLK1)				Prepared & Analyzed: 11/17/2020						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BFK0317-BS1)				Prepared & Analyzed: 11/17/2020						
Total Dissolved Solids	48.000	25.0	mg/L	50.030		95.9	70-130			
Duplicate (BFK0317-DUP1)		**Source: MFK0098-24**		Prepared & Analyzed: 11/17/2020						
Total Dissolved Solids	274.00	25.0	mg/L		250.00			9.16	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0341 - Wet Prep										
Blank (BFK0341-BLK1)				Prepared & Analyzed: 11/18/2020						
Total Suspended Solids	<5.00	5.00	mg/L							
LCS (BFK0341-BS1)				Prepared & Analyzed: 11/18/2020						
Total Suspended Solids	86.000	5.00	mg/L	100.01		86.0	70-130			
Duplicate (BFK0341-DUP1)		**Source: MFK0121-01**		Prepared & Analyzed: 11/18/2020						
Total Suspended Solids	9.5000	12.5	mg/L		11.200			16.4	20	
Duplicate (BFK0341-DUP2)		**Source: MFK0120-04**		Prepared & Analyzed: 11/18/2020						
Total Suspended Solids	6.8817	5.38	mg/L		7.4000			7.26	20	
Batch BFK0342 - Wet Prep										
Blank (BFK0342-BLK1)				Prepared & Analyzed: 11/18/2020						
Total Dissolved Solids	<25.0	25.0	mg/L							
LCS (BFK0342-BS1)				Prepared & Analyzed: 11/18/2020						
Total Dissolved Solids	62.000	25.0	mg/L	50.030		124	70-130			
Duplicate (BFK0342-DUP1)		**Source: MFK0121-01**		Prepared & Analyzed: 11/18/2020						
Total Dissolved Solids	522.00	25.0	mg/L		524.00			0.382	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
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Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0304 - EPA 200.2, EPA 3005										
Blank (BFK0304-BLK1)				Prepared: 11/14/2020 Analyzed: 11/18/2020						
Arsenic	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Chromium	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
LCS (BFK0304-BS1)				Prepared: 11/14/2020 Analyzed: 11/18/2020						
Arsenic	97.317	0.500	ug/L	100.00		97.3	85-115			
Barium	100.61	0.500	ug/L	100.00		101	85-115			
Chromium	100.80	0.500	ug/L	100.00		101	85-115			
Molybdenum	102.03	0.500	ug/L	100.00		102	85-115			
Selenium	98.245	0.500	ug/L	100.00		98.2	85-115			
Duplicate (BFK0304-DUP1)		**Source: MFK0098-04**		Prepared: 11/14/2020 Analyzed: 11/18/2020						
Chromium	1.1103	0.500	ug/L		1.0496			5.62	20	
Arsenic	0.53911	0.500	ug/L		0.49949			7.63	20	
Barium	91.047	0.500	ug/L		95.064			4.32	20	
Selenium	<0.500	0.500	ug/L		0.31564				20	
Molybdenum	0.18765	0.500	ug/L		0.090300			70.0	20	M_D-RL
Duplicate (BFK0304-DUP2)		**Source: MFK0098-05**		Prepared: 11/14/2020 Analyzed: 11/18/2020						
Molybdenum	0.18659	0.500	ug/L		0.19785			5.86	20	
Chromium	0.65645	0.500	ug/L		0.74884			13.2	20	
Barium	71.333	0.500	ug/L		73.059			2.39	20	
Arsenic	0.65263	0.500	ug/L		0.69805			6.73	20	
Selenium	0.47288	0.500	ug/L		0.56431			17.6	20	
Matrix Spike (BFK0304-MS1)		**Source: MFK0098-04**		Prepared: 11/14/2020 Analyzed: 11/18/2020						
Selenium	104.86	0.500	ug/L	100.00	0.31564	105	75-125			
Molybdenum	104.90	0.500	ug/L	100.00	0.090300	105	75-125			
Chromium	102.62	0.500	ug/L	100.00	1.0496	102	75-125			
Barium	202.59	0.500	ug/L	100.00	95.064	108	75-125			
Arsenic	103.31	0.500	ug/L	100.00	0.49949	103	75-125			

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0304 - EPA 200.2, EPA 3005										
Matrix Spike (BFK0304-MS2)		**Source: MFK0098-05**		Prepared: 11/14/2020 Analyzed: 11/18/2020						
Chromium	98.684	0.500	ug/L	100.00	0.74884	97.9	75-125			
Arsenic	101.79	0.500	ug/L	100.00	0.69805	101	75-125			
Molybdenum	101.74	0.500	ug/L	100.00	0.19785	102	75-125			
Selenium	104.89	0.500	ug/L	100.00	0.56431	104	75-125			
Barium	173.06	0.500	ug/L	100.00	73.059	100	75-125			
Matrix Spike Dup (BFK0304-MSD1)		**Source: MFK0098-04**		Prepared: 11/14/2020 Analyzed: 11/18/2020						
Molybdenum	106.41	0.500	ug/L	100.00	0.090300	106	75-125	1.43	20	
Selenium	105.40	0.500	ug/L	100.00	0.31564	105	75-125	0.516	20	
Chromium	100.54	0.500	ug/L	100.00	1.0496	99.5	75-125	2.04	20	
Barium	203.25	0.500	ug/L	100.00	95.064	108	75-125	0.327	20	
Arsenic	106.62	0.500	ug/L	100.00	0.49949	106	75-125	3.15	20	
Matrix Spike Dup (BFK0304-MSD2)		**Source: MFK0098-05**		Prepared: 11/14/2020 Analyzed: 11/18/2020						
Selenium	106.50	0.500	ug/L	100.00	0.56431	106	75-125	1.52	20	
Arsenic	104.08	0.500	ug/L	100.00	0.69805	103	75-125	2.22	20	
Barium	176.04	0.500	ug/L	100.00	73.059	103	75-125	1.71	20	
Chromium	103.68	0.500	ug/L	100.00	0.74884	103	75-125	4.94	20	
Molybdenum	103.16	0.500	ug/L	100.00	0.19785	103	75-125	1.39	20	
Batch BFK0306 - EPA 200.2, EPA 3005										
Blank (BFK0306-BLK1)				Prepared: 11/14/2020 Analyzed: 11/19/2020						
Chromium	<0.500	0.500	ug/L							
Barium	<0.500	0.500	ug/L							
Selenium	<0.500	0.500	ug/L							
Arsenic	<0.500	0.500	ug/L							
Molybdenum	<0.500	0.500	ug/L							

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Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0306 - EPA 200.2, EPA 3005										
LCS (BFK0306-BS1)				Prepared: 11/14/2020 Analyzed: 11/19/2020						
Arsenic	98.153	0.500	ug/L	100.00		98.2	85-115			
Barium	99.307	0.500	ug/L	100.00		99.3	85-115			
Molybdenum	95.703	0.500	ug/L	100.00		95.7	85-115			
Chromium	95.714	0.500	ug/L	100.00		95.7	85-115			
Selenium	97.562	0.500	ug/L	100.00		97.6	85-115			
Duplicate (BFK0306-DUP1)		**Source: MFK0098-17**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Molybdenum	0.43300	0.500	ug/L		0.35499			19.8	20	
Chromium	9.5596	0.500	ug/L		9.3479			2.24	20	
Barium	41.055	0.500	ug/L		42.638			3.78	20	
Arsenic	0.56242	0.500	ug/L		0.61748			9.33	20	
Selenium	0.96091	0.500	ug/L		0.91428			4.97	20	
Matrix Spike (BFK0306-MS1)		**Source: MFK0098-17**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Selenium	98.157	0.500	ug/L	100.00	0.91428	97.2	75-125			
Molybdenum	102.10	0.500	ug/L	100.00	0.35499	102	75-125			
Chromium	102.78	0.500	ug/L	100.00	9.3479	93.4	75-125			
Barium	147.81	0.500	ug/L	100.00	42.638	105	75-125			
Arsenic	102.64	0.500	ug/L	100.00	0.61748	102	75-125			
Matrix Spike Dup (BFK0306-MSD1)		**Source: MFK0098-17**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Chromium	107.96	0.500	ug/L	100.00	9.3479	98.6	75-125	4.92	20	
Barium	147.25	0.500	ug/L	100.00	42.638	105	75-125	0.385	20	
Molybdenum	98.923	0.500	ug/L	100.00	0.35499	98.6	75-125	3.16	20	
Selenium	105.30	0.500	ug/L	100.00	0.91428	104	75-125	7.02	20	
Arsenic	103.39	0.500	ug/L	100.00	0.61748	103	75-125	0.730	20	

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

Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0303 - EPA 200.2, EPA 3005										
Blank (BFK0303-BLK1)				Prepared: 11/14/2020 Analyzed: 11/19/2020						
Boron	<0.0500	0.0500	mg/L							
Calcium	<1.25	1.25	mg/L							
LCS (BFK0303-BS1)				Prepared: 11/14/2020 Analyzed: 11/19/2020						
Calcium	104.54	1.25	mg/L	100.00		105	85-115			
Boron	1.0120	0.0500	mg/L	1.0000		101	85-115			
Duplicate (BFK0303-DUP1)		**Source: MFK0098-01**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Boron	0.79476	0.0500	mg/L		0.81473			2.48	20	
Calcium	99.201	1.25	mg/L		92.263			7.25	20	
Duplicate (BFK0303-DUP2)		**Source: MFK0098-02**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Boron	0.81338	0.0500	mg/L		0.83171			2.23	20	
Calcium	90.605	1.25	mg/L		89.646			1.06	20	
Matrix Spike (BFK0303-MS1)		**Source: MFK0098-01**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Boron	1.8352	0.0500	mg/L	1.0000	0.81473	102	70-130			
Calcium	208.35	1.25	mg/L	100.00	92.263	116	70-130			
Matrix Spike (BFK0303-MS2)		**Source: MFK0098-02**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Boron	1.8582	0.0500	mg/L	1.0000	0.83171	103	70-130			
Calcium	200.13	1.25	mg/L	100.00	89.646	110	70-130			
Matrix Spike Dup (BFK0303-MSD1)		**Source: MFK0098-01**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Calcium	205.82	1.25	mg/L	100.00	92.263	114	70-130	1.22	20	
Boron	1.8407	0.0500	mg/L	1.0000	0.81473	103	70-130	0.299	20	
Matrix Spike Dup (BFK0303-MSD2)		**Source: MFK0098-02**		Prepared: 11/14/2020 Analyzed: 11/19/2020						
Boron	1.8816	0.0500	mg/L	1.0000	0.83171	105	70-130	1.25	20	
Calcium	195.76	1.25	mg/L	100.00	89.646	106	70-130	2.21	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFK0305 - EPA 200.2, EPA 3005										
Blank (BFK0305-BLK1)				Prepared: 11/14/2020 Analyzed: 11/25/2020						
Calcium	<1.25	1.25	mg/L							
Boron	<0.0500	0.0500	mg/L							
LCS (BFK0305-BS1)				Prepared: 11/14/2020 Analyzed: 11/25/2020						
Boron	0.97139	0.0500	mg/L	1.0000		97.1	85-115			
Calcium	102.95	1.25	mg/L	100.00		103	85-115			
Duplicate (BFK0305-DUP1)		**Source: MFK0098-16**		Prepared: 11/14/2020 Analyzed: 11/25/2020						
Boron	0.049510	0.0500	mg/L		0.051507			3.95	20	
Calcium	75.230	1.25	mg/L		79.837			5.94	20	
Matrix Spike (BFK0305-MS1)		**Source: MFK0098-16**		Prepared: 11/14/2020 Analyzed: 11/25/2020						
Boron	1.0572	0.0500	mg/L	1.0000	0.051507	101	70-130			
Calcium	186.38	1.25	mg/L	100.00	79.837	107	70-130			
Matrix Spike Dup (BFK0305-MSD1)		**Source: MFK0098-16**		Prepared: 11/14/2020 Analyzed: 11/25/2020						
Boron	1.0491	0.0500	mg/L	1.0000	0.051507	99.8	70-130	0.765	20	
Calcium	186.75	1.25	mg/L	100.00	79.837	107	70-130	0.199	20	

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Environmental Services-Water Minneapolis	Project Name/Location: Sherco Pond 3 CCR	
250 Marquette Plaza		**Reported:**
Minneapolis MN, 55401	Project Manager: Eric Ealy	12/14/2020 13:22

Qualifiers and Definitions

M_TTT	Sample received at the lab outside of required hold time.
M_K-06	The reporting limit has been increased, the reported result is acceptable. The maximum routine sample volume was used, but the amount of residue measured was below reference method limits.
M_D-RL	The RPD for the sample duplicate was outside of QC acceptance limits due to<RL.
Z	Non Accredited Analyte
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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CHAIN-OF-CUSTODY / Analytical Request Document

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

2

Page: 1 of 6

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	20-03972	Pace Project Manager:	Chris Pelosi
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Fall	Pace Profile #:	

REGULATORY AGENCY

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

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

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-CCR-BAP	GW-D	GW-CCR-BAP2	GW-CCR-P3	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	(REPORT) NPDES	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-01A-1	WT	G	---	---	11/11/20	1455		4	1	1	2							X	X			X			X		
2	P-22	WT	G	---	---	11/11/20	1040		4	1	1	2							X	X			X			X		
3	P-129	WT	G	---	---	11/11/20	1140		3	1	1	1								X						X		
4	P-130	WT	G	---	---	11/12/20	1350		4	1	1	2								X		X			X	X		
5	P-131	WT	G	---	---	11/12/20	1140		4	1	1	2								X		X			X	X		
6	P-132	WT	G	---	---	11/12/20	0855		4	1	1	2								X		X			X	X		
7	P-150	WT	G	---	---	11/12/20	1215		2	1		1										X			X			
8	P-151	WT	G	---	---	11/12/20	1435		2	1		1										X			X			
9	P-152A	WT	G	---	---	11/12/20	1510		2	1		1								X		X	X	X	X			
10	P-153	WT	G	---	---	11/12/20	1050		2	1		1											X		X			
11	P-154A	WT	G	---	---	11/12/20	1005		2	1		1											X		X			
12	P-155	WT	G	---	---	11/11/20	0940		2	1		1								X				X				

Additional Comments:

*GW-CCR-BAP, GW-CCR-BAP2, & GW-CCR-P3 Metals are all Total

*GW-D Metals are all Dissolved

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson / Pace	11/13/20	0910	[signature] / Xcel	11/13/20	0910

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 11/12/20

pH Strip #: MD00102 Temp M400841

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Xcel Energy	Report To:	Chris Pelosi	Attention:	Steve Davis
Address:	Environmental Services	Copy To:	Riley Jacobson	Company Name:	
	MP-7			Address:	
Email To:	Chris Pelosi	Purchase Order No.:		Pace Quote Reference:	
Phone: (612) 597-7254	Fax:	Project Number	20-03972	Pace Project Manager:	Chris Pelosi
Requested Due Date/TAT:	2 Weeks	Project Name:	Xcel Energy Sherco Ponds Fall	Pace Profile #:	

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

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

Section D Required Client Information

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

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

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: GW-CCR-BAP	GW-D	GW-CCR-BAP2	GW-CCR-P3	(REPORT) CCR-BAP	(REPORT) CCR-BAP2	(REPORT) CCR-P3	(REPORT) NPDES	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
1	P-156	WT	G	---	---	11/11/20	0850		2	1		1							X				X					
2	P-162	WT	G	---	---	11/11/20	1240		2	1		1									X			X				
3	P-163	WT	G	---	---	11/11/20	1325		2	1		1									X			X				
4	P-164	WT	G	---	---	11/11/20	1400		2	1		1									X			X				
5	P-165	WT	G	---	---	11/12/20	0810		2	1		1									X			X				
6	Duplicate BAP (P-152A)	WT	G	---	---	11/12/20	1510		2	1		1							X				X					
7	Rinse BAP	WT	G	---	---	11/12/20	1515		2	1		1							X				X					
8	Duplicate BAP2 (P-152A)	WT	G	---	---	11/12/20	1510		2	1		1									X			X				
9	Rinse BAP2	WT	G	---	---	11/12/20	1515		2	1		1									X			X				
10	Duplicate P3 (P-152A)	WT	G	---	---	11/12/20	1510		2	1		1									X			X				
11	Rinse P3	WT	G	---	---	11/12/20	1515		2	1		1									X			X				
12	P-04A	WT	G	-	-	11/11/20	1115		3	1	1	1								X								

Additional Comments:

*GW-CCR-BAP, GW-CCR-BAP2, & GW-CCR-P3 Metals are all Total

*GW-D Metals are all Dissolved

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Riley Jacobson / Pace	11/13/20	0910	Xcel	11/13/20	0910

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Riley Jacobson

SIGNATURE of SAMPLER: Riley Jacobson DATE Signed (MM/DD/YY): 11/12/20

pH strip of MW102 Temp in 400841